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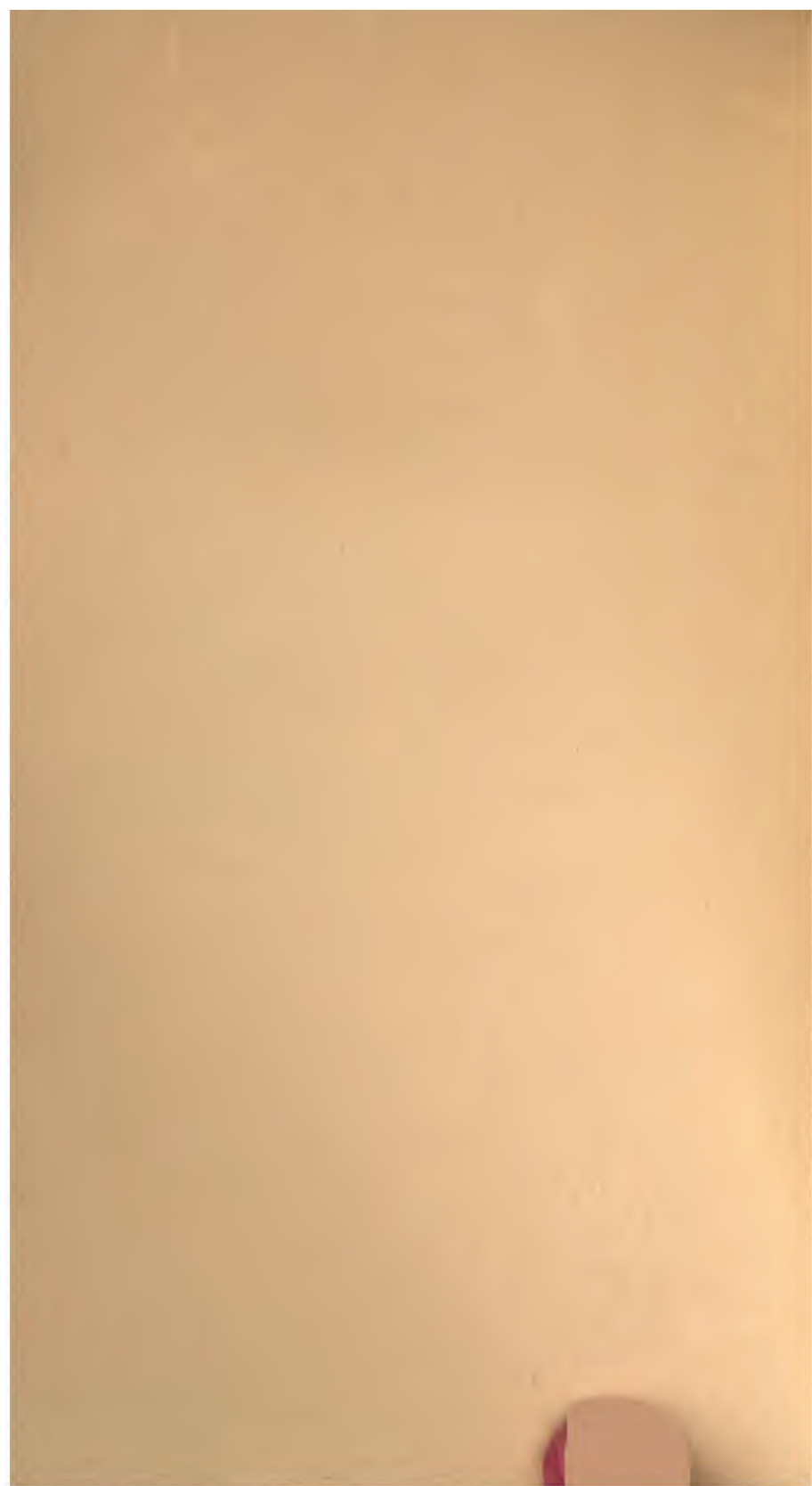
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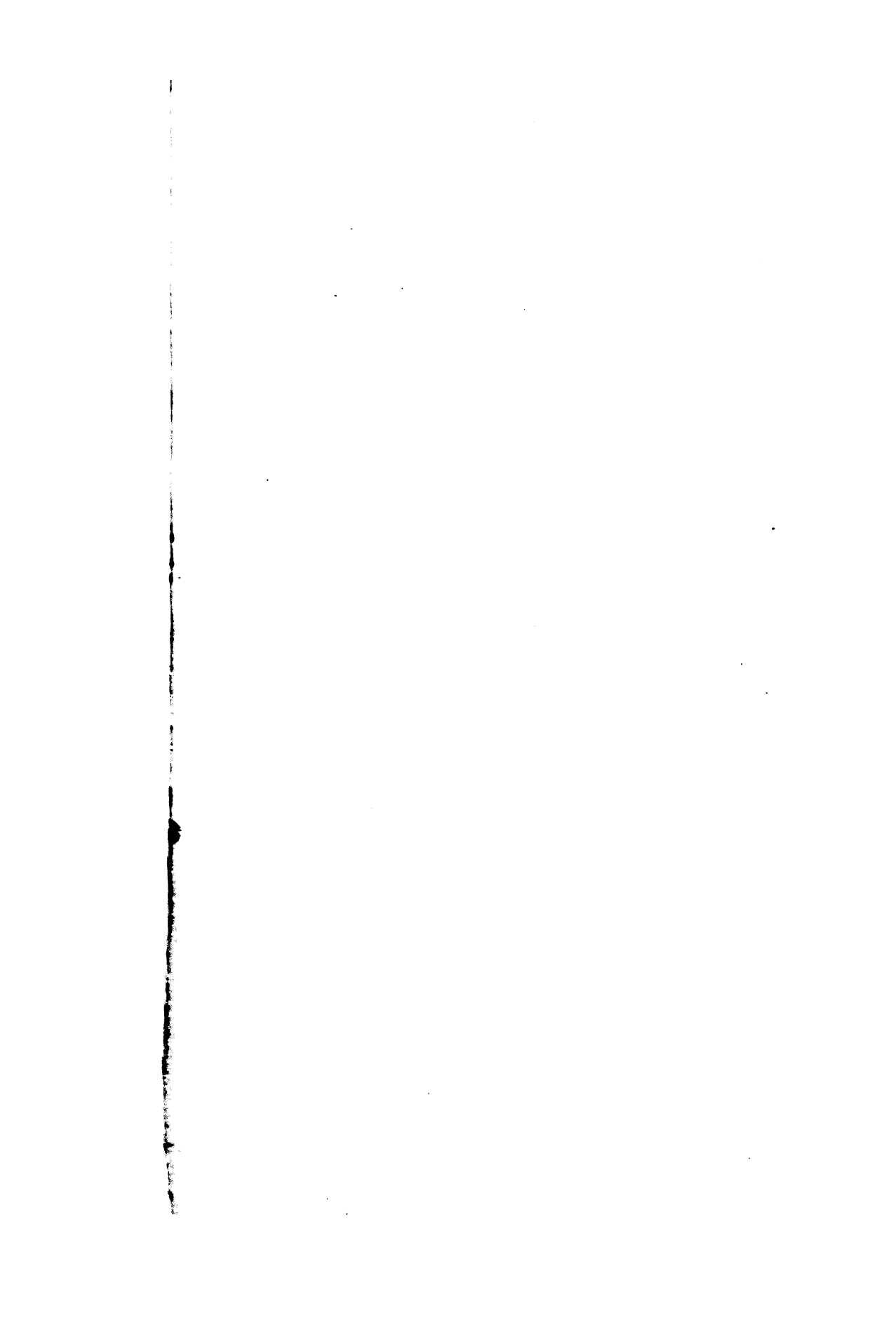
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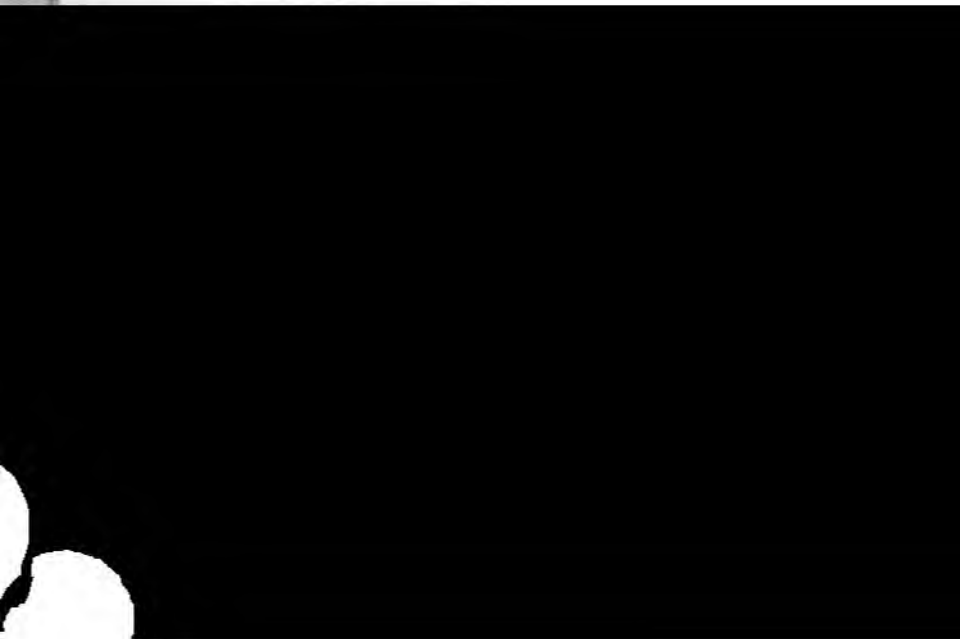


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A
CYCLOPÆDIA
OF
DRUG PATHOGENESY.

A
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OF
DRUG PATHOGENESY.

ISSUED UNDER THE AUSPICES OF
THE BRITISH HOMŒOPATHIC SOCIETY AND THE
AMERICAN INSTITUTE OF HOMŒOPATHY.

EDITED BY
RICHARD HUGHES, M.D. | J. P. DAKE, M.D.

WITH THE AID OF THE FOLLOWING CONSULTATIVE COMMITTEE:

Great Britain.
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R. E. DUDGEON, M.D.
A. C. POPE, M.D.

United States.
CONRAD WESSELHOEFT, M.D.
H. R. ARNDT, M.D.
A. C. COWPERTHWAIT, M.D.

VOL. IV.

Sabina—Zincum. Appendix. Supplement.

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P R E F A C E.

WE have now the pleasure of presenting to our colleagues the fourth volume of the *Cyclopædia*, and therewith completing our task,—save as regards the Repertorial Index, which must form a separate volume in itself.

The circumstances which led to this work being undertaken (in 1884) need only briefly be recalled. The “*Materia Medica*” of Homœopathy—the record of the pathogenetic effects of drugs with which it works its rule “let likes be treated by likes”—had long been scattered throughout our literature in divers languages, and was as a whole inaccessible to student and practitioner. In 1874 Dr. T. F. Allen undertook to remedy this defect; and in the course of the next six years presented us with our whole pathogenetic wealth, to no small degree enriched in the process, in ten convenient volumes. He thereby earned the gratitude of us all, and continues to enjoy it. But possession of our *Materia Medica* only accentuated, in the minds of most of us, the dissatisfaction with which we had long regarded both its matter and its form. Dr. Allen had thought it right to give us, unsifted, all that had been put forward in the way of provings; and to cast the whole (save for a few narratives in the appendix) into the framework of the Hahnemannic schema. We thus seemed saddled to perpetuity with a *Materia Medica* full of the objections to which it had always been liable,—impure in its substance, and so felt untrustworthy; unintelligible in its presentation, and hence repelling to its would-be students. Fortunately, a minute examination of the earlier pathogeneses, made by no one more faithfully than by the editor himself, revealed so many flaws in the execution, that the conviction forced itself upon most minds that the work must be done over again, and upon a more critical and altogether better plan.

It was this conclusion which led, after two or three years of discussion and tentative essays, to the work now completed. In leaving

it in our colleagues' hands, we would remind them that the *Cyclopædia* makes no common appeal to the homœopathic body. It is not the design of one man, however capable, or the venture of a publishing house, far-seeing as may be its provision for our needs. It is the fruit of the best thought and consideration of many minds during a long space of time; and it comes with the imprimatur of the two national Societies of the language, carried out under rules drawn up and by editors appointed at their hands. If, therefore, its method and plan should fail to commend themselves to those for whom it has been framed, all that can be said is that the problem is proved insoluble at present; and that further work on our *Materia Medica* had best be adjourned until all are agreed of what kind it should be. As regards the execution, it is not for us to prejudge in any way the verdict that may be given. We can only say that we have, conscientiously and earnestly, endeavoured to fulfil the injunctions given us; that we have worked mainly—habitually, indeed—from original material, and have done our best to secure faithful translation and accurate transcription; and that we have throughout invited help and criticism from all quarters, in order to make our volumes—with Hahnemann's, to which they are avowedly a supplement—the *Materia Medica* of Homœopathy.

For this, and nothing less, is what they claim to be. We have too long, authors and lecturers and students and practitioners, been working with second-hand material. That there must be manuals, epitomes, arrangements, analyses of our *Materia Medica*, we fully recognise. But we maintain that, to be trustworthy, they must be founded upon the rock of real provings and poisonings, as exhibited in the *Cyclopædia*; and should not be accounted genuine unless they are so based. No one, we further contend, should write upon *Materia Medica* in our Journals and Transactions without referring to such primary records as the authority for his statements. We maintain also that no student can properly learn the pathogenetic action of drugs, which lies at the foundation of homœopathic therapeutics, save by reading again and again the narratives we have furnished; and that, accordingly, all teachers of *Materia Medica* should make the *Cyclopædia* their text-book, and all their pupils should possess and diligently peruse it. Lastly, as all practitioners should be students, to them also we commend the work; and when its index shall have been framed to serve as repertory, we hope they will use it as their book of reference also.

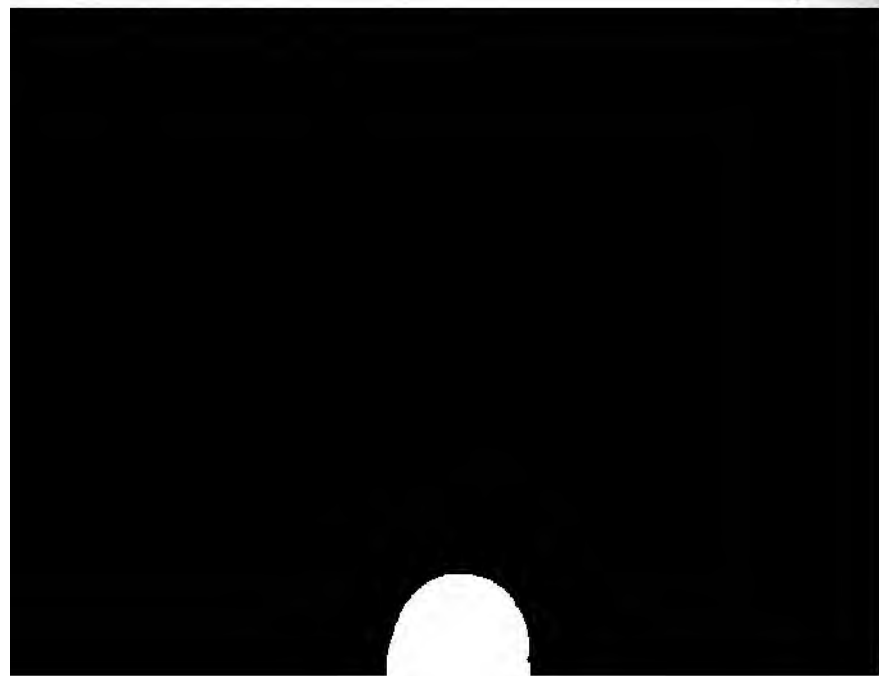
The inference is that every homœopathic physician, *in esse* or *in posse*, should have the *Cyclopædia* in his library. The editors could not thus urge its claims were they the authors of its pages, or had they

any pecuniary interest in its sale. Being without such disqualification they can speak freely. They have simply presented the original genuine material we all need for carrying out the homœopathic law ; and believing earnestly in that law, and unwilling that it should be swamped in the prevailing empiricism, they are anxious that their work should not be regarded as a luxury for the few, but should be possessed and utilised by all. We have been fed with peptonized food and clothed in "shoddy," till perhaps our digestive power has failed through disuse, and we hardly value true broadcloth when we see it. Only thus can the editors account for the difficulty found by the Treasurer of the American Institute in obtaining purchasers for the four hundred copies of each part subscribed for by that body. They can but trust that the *Cyclopædia* may itself in time excite a healthier taste ; and that then a sound pathogenesis will lead to more intelligent, more satisfying, and more successful practice.

In conclusion, the Editors have only to renew their grateful thanks to the members of their Consultative Committees, and to the other gentlemen they have already named (to whose list Dr. Winthrop Talbot, of Boston, U.S.A., should now be added), for the efficient help afforded them in their task.

R. H.
J. P. D.

November, 1891.



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PART XIII.
Sabina—Sulphur.

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1890.

This CYCLOPÆDIA is compiled under the following instructions, adopted jointly by the American Institute of Homœopathy and the British Homœopathic Society:

1. Give the scientific name and synonyms of each article, and in natural order.
2. Give a narrative of all provings, stating the symptoms in the order of their occurrence, with such condensation as completeness allows.
3. Give, in describing virulent drugs, such selected cases as may properly illustrate the various forms of poisoning by them, condensed as before.
4. Give the results of experiments on the lower animals, where of value; generally in abstract.
5. Trace all versions and copies to their originals, and verify, correct, or reproduce therefrom.
6. Include, as a rule, no drug that has not shown pathogenetic power in two or more persons.
7. Include in the narratives, as a rule, no symptoms reported as occurring from a drug administered to the sick.
8. Include no symptoms reported as occurring in the persons of provers under the influence of other drugs, or when in conditions or circumstances not allowing a clear reflection of the pathogenetic influence of the article under consideration.
9. Include symptoms reported as coming from attenuations above the 12th decimal only when in accord with symptoms from attenuations below.

In the articles on Sepia and Silica, rule 9 has had to be interpreted very liberally. The exceptional character of these substances will, the Editors trust, warrant the divergence from their general usage.

CONTENTS.

	PAGE		PAGE
PREFACE	v	Strophanthus	169
Sabina	1	Sulphur	171
Salicylica	12	Sulphur iodatum	250
Sambucus	26	Tabacum	252
Sanguinaria	27	Nicotinum	279
Sanguinarinum	34	Tanacetum	283
Sarracenia	37	Taraxacum	289
Sarsaparilla	39	Tellurium	290
Scilla	41	Terebinthina	297
Scrophularia	43	Teucrium	305
Scutellaria	45	Thuja	310
Secale	46	Trimethylaminum	372
Selenium	78	Uranium	373
Senecio	81	Urtica	378
Senega	83	Valeriana	380
Saponinum	92	Veratrum	390
Sepia	96	Veratrum viride	397
Silica	107	Veratrum alkaloids	414
Spigelia	118	Vinca	419
Spiræa	119	Verbascum	420
Spongia	123	Viburnum	420
Stannum	123	Viola	424
Staphisagria	131	Viscum	429
Delphininum	131	Xanthoxylum	430
Sticta	132	Zincum	439
Stillingia	133	Zinc compounds	458
Stramonium	136	APPENDIX	465
Daturinum	169	SUPPLEMENT	721



A
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DRUG PATHOGENESY.

VOL. IV.

SABINA.

Juniperus sabina, L. Savin. Nat. Ord., *Coniferae*.

I. *Proving*s.—I. HAHNEMANN. [Of this and the nine succeeding provings no account is given, save that they were made with a tincture prepared from the leaves.] Weakness of memory, he could not recollect what he had been doing during d. ; pressive stitching pain through brain ; pressive digging boring headache ; drawing headache, first in forehead then in occiput ; drawing headache in forehead and temples during d. only ; forehead painful when moving, she could hardly wrinkle it, it pained as though skin was grown fast ; clouds rise before eyes, trembling, these pass off in open air ; twitchings in upper eyelid ; eyes ache and discharge a biting fluid ; an efflorescence in cheek towards mouth and temple, sore and painful, worse from touching ; hardness of hearing ; pinching and nipping deep in ear ; stitches behind ear, also when at rest ; stitches from lower jaw to zygoma. Toothache in e. and n., awaking him, as if tooth would be forced out, a pressing outwards, better after getting up, worse from drinking and smoking, he could not bear the warmth of bed (2 e. in succession) ; toothache, excited almost only from chewing, began always in hollow tooth and then extended to others, lasting 5—6 m. ; an ulcer in gum of a front tooth, painful on touching ; front teeth feel blunt, drawing pain in all teeth ; drawing in fang of a hollow tooth, when drinking or eating either cold or warm things and when drawing breath through open mouth ; during eating and chewing, but chiefly afterwards, pain in lower row of teeth as if gums were swollen and teeth were standing out and loose ; externally in neck drawing pain ; bruised pain in muscles and vertebræ of neck, not aggravated from touching ; tongue coated

white and brownish, with insipid taste ; fine stitches in tip of tongue ; contractive and stitching pain from front to back through throat when not swallowing ; dryness in throat with drawing pain ; soreness in throat when swallowing, p.m. ; pressure in throat when swallowing saliva ; feeling of swelling in throat, it felt like swallowing over a foreign body ; saliva is quite white and foaming when speaking ; taste bloody and greasy,—saliva reddish ; foul smell from mouth, not noticed by herself ; nasty taste in mouth and throat, especially when expectorating, like phlegm from an old catarrh ; inclination to vomit early in bed, passing off after getting up ; violent stitches from pit of stomach right through back ; in scrob. cordis first pressure then stitches ; bruised pain over abdominal muscles, e. in bed ; pressive pain over navel ; strong stitches in hypogastric region from without inwards, e. in bed ; compressive pain in l. hypogastrium ; constrictive pain in region of womb ; stool first of soft then of hard fæces ; biting sore stitches in anus during stool ; jerking stitches in anus and in front of thighs on walking. Dull pressive stitches from glans backward through whole of penis ; violent stitching and pricking in glans in m. ; fig-warts become painfully tender ; burning soreness of fig-warts and glans, worse from touching ; the frenulum is swollen and too tight ; præputium painful, he cannot draw it back ; much milky vaginal discharge, with itching of genitals ; violent stitches deep in vagina backwards. Stuffy coryza ; shortness of breath, without pain, at rest and when moving ; tightness of chest amounting to stoppage of respiration ; continued sore stitching pain in xiphoid cartilage, worse from deep respiration and touch, most bearable in perfect rest, lasting a fortnight. When stooping a stitch enters his sacrum, leaving severe tension as if the parts were torn, he had to remain stooping for some time, afterwards in bed a violent rigor without thirst ; pain in r. shoulder-joint as if dislocated, even when not moving ; pressure in shoulder-joints ; stitch from axilla to tip of elbow, and at same time stitch from wrist to elbow, like electricity ; in forearm many quick stitches like needles, sitting ; weakness in hands while writing, could not guide his pen,—with chilliness ; drawing pain in vola and through fingers ; ring finger goes to sleep ; pain in r. hip-joint on rising in m., so that at first she could not walk, it passed off walking ; furuncle on upper part of nates, with sticking pain ; straining and drawing in thighs and knees ; stitches from lower part of tibia to toes, e. in bed ; many stitches as from needles in great toe ; cracking of joints ; feeling of pulsation in all vessels almost like twitchings ; heaviness and laziness in body, inducing to lie down ; general malaise all over body, as if he had danced and revelled for several n.,—whimsical with it ; after walking in open air feels hot ; short walk tires him so much that he has to lie down (after 10 d.). Restless sleep and dreams of many works begun but not finished ; tosses about in bed during n., says many irrelevant things in his sleep, and blows loudly with expiration ; dreams in n. as if people were falling down dead from a height. Frequent shudderings all over, including hairy scalp, before going to bed ; chilliness all d. ; on going to bed in e. rigor after rigor ; feeling of cold in r. leg as if it stood in cold water ; heat in face, with icy cold hands and feet ; always much flying heat in face, rest of the body fre-

quently chilly. Does not take part in any joy, but is not discontented ; cares for nothing, indifferent (after several d.); very fretful, crying aloud. (STAPP'S *Beiträge*.)

2. GROSS.—In l. tuber frontale painful pressure, involving eyeball, which seems compressed ; behind r. tuber frontale, about sutura coronalis, boring pain ; chapped-stitching pain, as if someone was thrusting a sharp knife several times from r. tuber frontale deep into brain (2 h.). Pressing, almost paralytic, pain in sphincter muscle of anus, a sort of urging almost all d. without having to go to stool,—some time after compelled to go to stool—the first time hasty and fluid, but later slow and hard. In r. chest under sternum several times during d. painless trembling (as if in substance of lung), tremulous motion with dull crackling or crepitating, almost like sound of treading on fresh ice (8 d.); under manubrium sterni, l., painful dull stitches ; cutting in chest over scrob. cordis. Pain in front of l. thigh, only when walking, tensive-tearing, making him limp (48 h.) ; thighs feel bruised and painful in front of centre, not felt going upwards, but only on level or going downwards,—also when sitting, and drawing-in legs ; a tension and pain on touch in thigh ; he cannot cower or squat for painful tightness of muscles of thigh, feeling as if too short ; on back of tibia over ankles painful tensive pressure (sitting) ; in planta of r. heel violent dull stitches during n. General uneasiness without being able to localise it ; heaviness in all limbs, tired and languid, with great depression of spirits ; peevish and depressed. (*Ibid.*)

3. F. HAHNEMANN.—Bitter taste in mouth, of food, milk and coffee ; biting in urethra when passing water ; pain in frenulum, intermitting ; dark redness of glans ; fever, especially towards e., first much chilliness, then heat in whole body, much perspiration in n. ; night sweats, several n. ; peevishness and feeling in body of impending or actual coryza. (*Ibid.*)

4. HARTMANN.—Oppression of whole head, most in forehead down towards nose, where it is more of a tearing, with feeling in l. nostril as if blood was going to flow ; pressive heaviness in whole head, as if she had taken much strong drink (whole m.) ; pressive painful heaviness in whole head (6 h.), lasting till bedtime ; sudden piercing pressure in l. frontal eminence ; pressive stunning feeling in forehead ; pressing squeezing in l. forehead ; pressing tearing in r. frontal eminence ; pressing feeling of heaviness in whole of l. side of head, sometimes with transient stitches (1 h.) ; shooting pressure in l. half of brain ; tearing in whole of r. half of brain from occiput to forehead ; painful feeling of pressing asunder in r. tuber frontale and r. temple, springing up suddenly, disappearing gradually, and returning frequently ; vertex tender to pressure, causing pressive pain in head ; painful drawing in l. temple on closing eyes, together with painful pressure on l. upper eyelid (1 h.) ; painful feeling of outward pressure in r. temple ; dull pressure both sides of occiput ($\frac{1}{2}$ h.) ; painful oppressive heaviness in occiput, lessened from pressing it strongly on a firm cushion ; pressing painful feeling in r. occiput, arising and disappearing gradually ($\frac{3}{4}$ h.) ; feeling in l. side of occiput as if a keen wind was piercing it, degenerating into pressing-boring pain ; feeling in r. temple as of a weight pressing inwards, with

painful stitches rapidly coming and going in l. frontal eminence; pressing tight pain outwards in whole head, coming on rapidly, disappearing slowly; pale face and dull eyes, as in a convalescent from grave disease (1 h.), lasting several d.; tearing in l. ear, almost like earache (after $1\frac{1}{2}$ h.); burning sensation at margin of l. ear and lobule, the latter redder than the r., but without noticeably increased heat ($1\frac{1}{2}$ h.). Choking pressive feeling in l. side of throat, without swallowing; repeated empty risings, immediately after medicine and lasting; water-brash, with frequent yawning; squeezing pressive feeling in scrob. cordis, independent of inspiration or expiration; pressive pinching in small spot r. of scrob. cordis; when sitting bent, continual feeling like flatulent distension of region of stomach, causing annoying pressure there, sometimes relieved for short time by eructation,—when remaining longer in this posture very painful and descending to l. side of abdomen, disappearing again at once when sitting upright; writhing and pinching in abdomen about navel, repeatedly occurring and each time worse, with feeling as if it would cause vomiting,—without nausea ($1\frac{3}{4}$ h.); painful drawing in r. side of abdomen towards genitals. Tensive pressive feeling in l. testicle, repeatedly returning; trivial excitements cause violent and lasting erections, but still aversion to coition; drawing pressure deep in abdomen towards genitals as if menses would appear (2nd d.); painfully pressing feeling of heaviness deep in abdomen, worse from pressing externally (2nd d.), as it was always with her the first d. of her menses; painful drawing in sacrum, especially when bending backwards, as always before menses set in. Frequent sneezing first three d.; stuffy cold in r. nostril; pressure into chest as from wind, seeming to expand it, yet causing momentary oppression (24 h.); fleeting stitches in l. breast; pressive tensive pain in middle of sternum, increased neither by inspiration nor expiration; spasmodic pressive pain in front of chest above scrob. cordis, extending across like a band, increased by inspiration; after much walking, pressive burning in lower false ribs of r. side; pressive pain just over margin of l. scapula, in soft parts, while at rest, disappears on moving in e.; pressing under l. scapula in a small spot, not felt when moving arm ($2\frac{1}{2}$ h.); pressure in muscles of neck, l. side; tearing pressing feeling in l. axilla ($\frac{3}{4}$ h.); feeling of weakness and want of power in whole of l. arm, not lasting; tremulous feeling of weakness in l. forearm; heaviness and bruised feeling in both forearms when bending them inwards, and anxietas, so that he has to change their position frequently to get some relief (16 h., after coitus); stitching in l. elbow, outer side, not perceptible on moving ($2\frac{1}{2}$ h.); pressive tearing drawing from middle of r. metacarpal bone to wrist (7 h.); feeling in l. palm as if it were going to be contracted spasmodically; tearing pain in r. carpal bones (2 h.); burning tearing in third metacarpal bone of l. hand ($2\frac{1}{2}$ h.); tearing pain in 2nd and 3rd joints of little finger and 3rd joint of 4th finger of r. hand; burning tearing stitches in muscles of first joint of 4th finger of r. hand (4 h.); drawing tearing in fourth finger of r. hand ($6\frac{1}{2}$ h.); tearing in knuckle of l. metacarpal bone of little finger; transient painful pressure from middle of r. thigh down to knee, where it is worst, spreading out,—it then gradually subsides; tearing pain close over l. knee in soft parts

(4½ h.); painful heaviness in r. foot, beginning a hand's breadth above malleolus and extending downwards; burning tearing pain in hollow of r. foot at rest; droning pressing stitching on outer side of hollow of r. foot (1½ h., sitting); tearing pain in metacarpal bones of l. little and fourth toes (¾ h.). As soon as he gets into open air all symptoms at once subside; after entering room they begin again. Overtired, awakes after midnight, cannot go to sleep again, compelled now to stretch, now to bend legs, and to shift from one side to other; e. in bed, greatest restlessness of blood, must constantly shift position and cannot get to sleep; restlessness and anxiety, e. in bed, with chilliness and goose-skin, preventing him from going to sleep; restless sleep with confused dreams, frequent waking, after which much tossing about before getting to sleep again. Unbearable burning heat in whole body, with great restlessness, must constantly shift position of limbs, without externally perceptible heat or thirst,—after dinner. (*Ibid.*)

5. HERRMANN.—Violent giddiness while standing, as if about to fall forwards; constant giddiness with fog before eyes (2 h.); violent vertigo, even when sitting, with great weakness as if he would collapse, and as if eyes would close; whole of head pressive and dull, especially forehead, as after intoxication (1 h.); pressive tearing pain in l. occiput externally curving as far as l. forehead, more violent when touched; pressive pain on temporal bones (3 h.); prickings under cartilage of lower eyelid (7 h.); paralytic pain in r. cheek-bone; pressive pain in l. cheek-bone, increased from touch; pressive tearing pain at angle of r. lower jaw in masticator muscles, increased from touch (2 h.). Blunt stitching pain l. side of lower jaw; tearing pain in fangs of molar teeth, near gums; tearing in muscles of neck; pressive tearing pain l. side of neck between mastoid process and angle of lower jaw; repeated empty eructations. Eructations with slight nausea; at once, and later, cutting in bowels, with rumbling in abdomen; pain as if bowels were contracting. Since medicine began to act (8 d.), frequent passing of a quantity of urine, with very slight thirst, he awakes at n. to pass urine, which often is turbid when discharged. Pressive pain over whole sternum, much aggravated from inspiration, feels as if sternum was too narrow and twisted inwards (6 d.), breast-bone pains at every touch; sharp stitches under sternum, aggravated by inspiration,—it feels as if it were too narrow, and so impeded respiration; pressive pain near l. nipple (1 h.); intermitting stitches in collar-bone; sharp stitches in last true ribs, r. side, towards sternum, only during inspiration; prickings in l. side at last 2 false ribs; rheumatic tearing in muscles of nape, l. side, frequently recurring (1½ h.), tearing pressive pain in lumbar muscles and lowest dorsal vertebræ with adjoining ribs, especially on bending body (8 h.); sharp stitches at dorsal vertebræ, aggravated by inspiration; stitching pain in dorsal vertebræ (3 h.); tearing pain in l. axilla and above l. nipple, aggravated from touching. Pressive pain on muscles of upper arm inwards, aggravated by touching; paralytic tearing in r. upper arm to hand (28 h.); fine stitches from without inwards in both upper arms near elbow-joint (1 h.); pressive pain in both upper arms, near elbow-joint, inwards, worse from touching and moving (8 h.); stitching pain in outer tuberosity of humerus, both arms

(10 h.); pressive pain on r. radius, worse from moving and touching (6 h.); spasmodic contractive pain in l. palm, when extending it it involuntarily contracts again, pain is worse when stretching hand than when closing it (10 h.); painful tearing in middle bone of r. index; tearing stitching pain in muscles of index and middle fingers of l. hand (1 h.); tearing in finger-joints of both hands (10 d.); pressive pain in r. hip; blunt stitches in l. hip, only during inspiration (4 h.); pressive pain in middle of thigh inwards (5 h.); burning pain in thigh downwards and inwards; tearing in back of foot, worse from touch; pressive tearing pain in metacarpal bones of feet; tearing in front joints of toes of r. foot (26 h.); painful drawing in joints of r. toes, worse from walking; intermittent pressive pain below l. heel, while sitting (6 h.); annoying itching mixed with fine stitches at l. heel and sole, compelling scratching, burning afterwards, almost like chilblains; sharp stitches in heels from within outwards (12 h.). Anxious dreams waking him frequently from sleep, which is specially disturbed towards m. Great peevishness, disinclined to speak; great anxiety, as if some evil were impending. (*Ibid.*)

6. VON PLEYEL.—Dizziness, with ebullition and heat in head; heaviness of occiput and nape, descending over whole of back to sacrum; desire for acids, especially lemonade; pressive pain in region of stomach and liver; crawling in anus; frequent liquid, mucous stools; frequent micturition; dry coryza; dry coughing and tickling in trachea, on d. following expectoration streaked with blood; perceptible swelling of breasts; tickling in nipples with voluptuous feeling; drawing sacral pains to pudendal region; tearing stitches in all joints with feeling as if swollen, with stitching and drawing through long bones; sleep restless with circulatory agitation, heat and profuse perspiration. (*Ibid.*)

7. ROCH.—Feeling of scraping scratching in palate and uvula, worse from empty swallowing ($\frac{1}{2}$ h.); repeated transient nausea and inclination to vomit ($\frac{1}{4}$ h.); feeling of warmth and burning in stomach, about cardiac region, inclination to eructate, with actual eructations tasting of the medicine,—soon after frequent tasteless eructations, after each eructation burning in stomach lessened (10 m.). Paralytic pressive pain in muscles of l. scapula, with feeling of burning in that part, extending gradually over thorax of same side, not influenced by either rest or movement; paralytic drawing in head of l. humerus, with feeling of lassitude there on moving; drawing paralytic pain through l. arm, from head of humerus to elbow ($\frac{1}{2}$ h.); sore pain as from a wound in and about r. hip-joint, worse from turning and moving thigh, after a while subsiding from sitting and lying (12 h.); stitching tearing in tibia below knee; dull tearing to and fro in l. calf to malleoli; crawling drawing tearing with intercurrent fugitive stitches in lowest part of tendo Achillis in rest, subsiding during movement and extension of tendon (5 h.); tickling fugitive stitches in ball of l. big toe, shaking whole body like slight electric currents,—sitting. As soon as he enters open air all symptoms subside, immediately after entering room they appear again; dull tearing pain in bones of upper and lower extremities, beginning from the middle and extending to joints, where it is felt for some time, more acute and lasting while resting and moving in room,

but it disappears in open air (4 h.); state of hypererethism of nerves, music was quite distasteful and unbearable, piercing to very marrow of bones,—therewith pressive pain in occiput, feeling of lassitude, exhaustion, and inclination to sweat, especially on back,—after $\frac{1}{2}$ h. this state of things subsided during active movement in open air (1 h.). (*Ibid.*)

8. VON SONNENBERG.—Giddiness with stupor; throbbing headache with heaviness and stupor; heat in eyes; thirst for milk; pressive pain in stomach and liver; muco-bloody discharge from anus; retention of urine with discharge in drops and burning; 3 d. after menses (26 h.) profuse menstruation occurs again, with violent tormina and labour-like pain—blood was partly thin, partly lumpy, also diminished discharge of red urine, with strangury and mucous vaginal discharge; crawling over back beginning at nape; drawing sacral pain to regio pudenda; tearing stitches in all joints, with feeling of swelling, and stitching pains through long bones; sleep disturbed with agitation of blood, heat, and profuse perspiration. (*Ibid.*)

9. STAPP.—She feels full and bloated in stomach, as if she had eaten too much, with rumbling in abdomen; dreams of quarrelling with somebody, awakes over it sobbing and weeping; peevishness, indifference to jesting; depression for several days; she is taciturn, peevish, depressed, cheerless, with feeling of exhaustion in all limbs. (*Ibid.*)

10. W.—Pressive pain in r. forehead; pressive pain in l. temporal bone, from within outwards; painless drawing from r. temple to forehead (4 h.); blue rings round eyes; feeling as if internal and lower eye-muscles were too short when looking upwards; external pressure over r. ear; blunt stitches in neck at rest. Increased salivation; after milk bitter taste in mouth; repeated eructations with taste like the medicine; nausea and sense of fulness; nausea with cough (2 h.); sickness and inclination to vomit, saliva collects in mouth; retching immediately after medicine; vomiting of pure bile; nausea and vomiting of food taken previous d., the vomited milk is chopped and tastes sour ($\frac{1}{2}$ h.); heartburn; whole region of stomach bloated and tight; pressive pain in region of stomach, on pressure internal pain as from a blow; integuments of abdomen tight (2 h.); extreme bloatedness of integuments of abdomen, she thinks she is going to burst; drawing abdominal pain with tension of integuments; bellyache as if he had taken cold and was going to have diarrhœa, on passing flatus the aching ceased, but returned at different periods of the d.; painless diarrhœa with rumbling in bowels, for 4 d.; stool 8 h. earlier than usual; diarrhœa with discharge of much flatus. Indescribable uneasiness in lumbar vertebræ, feels drawing from behind forward like slight labour pain (2 h.); irresistible urging to urinate; strong urging to urinate, yet but little passed, but she felt afterwards as if she had to pass more ($\frac{1}{2}$ h.); menses set in during n. without pain, but 3 to 4 times more copious than usual, after rising lumps of blood passed; during menses os uteri open, blood red, and copious by starts, especially during movement; passes big lumps of coagulated blood; menses last 9 d., and are very copious. Crawling and tickling in larynx, inducing cough and mucous expectoration, also dry cough; in m. frequent hawking of

mucus, which loosens easily but does not come up, feels constantly something adhering, which from time to time only induces hawking; feels full in chest, with cough; burning stitches in l. chest; stitches in l. nipple (2 h.); paralytic sacral pain, especially l. side; rheumatic pain in l. shoulder-joint; after stripping the shrub, dislocative pain in l. wrist, increasing so much that in a few d. hand could no longer be moved; stiffness of l. wrist, with some slight dislocative pain,—after a few d. pain changed into tearing, stitching, and swelling of the joint, prover constantly crying and beside herself, compelled to move painful hand with the other from side to side, or to keep it straight, could not let it hang down, no stitches,—lasted several d., relieved by aconite; drawing pain in l. metacarpus; stitching pain in tip of l. thumb; intermitting stitches at inner side of thigh; rheumatic pains in l. thigh, then along r. tibia, then in l. forearm, at rest; itching in calf, against which scratching does not avail for long; itching now on r. now on l. calf, had to scratch violently, pimples appear on the scratched spot, which ache and smart; painful stitches in ball of l. big toe; gouty pain in r. big toe, it is red, shining, swollen, with violent boring-stitching pains, she could not move either toe or foot, or suffer anything on it—neither stocking nor bedding; after foregoing had lasted for some d. came pain in r. wrist, hand was stiff, she could not take hold of anything with it,—it then changed from r. to l. hand; perspiration of feet, extending above ankles, early in bed (18 h.); icy cold feet (2 h.). Legs feel like breaking down, she has to sit down and rest frequently, with it drowsiness and yawning, and exhaustion as after tedious illness, with trembling of arms and whole body. Shiverings over whole body, blackness before eyes, followed by sleepiness (2 h.); shivers with goose-skin, not lasting long, but returning frequently. Disinclined to speak. (*Ibid.*)

II. HARTLAUB and TRINKS.—*a.* Confusion of head, after dinner; inward pressure under vertex, do.; transient pressive pain over r. temple (3 h.); early in m., headache as if mastoid processes were pressed towards each other (2nd d.); small vesicles about root of nose; a red space on cheeks near *alæ nasi*, somewhat swollen, which pains when pressed upon; pain in a small spot behind angle of lower jaw when touched and pressed forwards; single jerks through l. lower jaw into hollow teeth, while walking out after a meal; between chin and under lip pimples containing a hard substance, which when their contents are squeezed out become small ulcers, lasting several d. (7th d.); comedones that can be easily expressed in cheeks near nose. Dryness of under lip for some d.; early in m. swelling of gum about a hollow tooth, whitish, painful to touch, accompanied with heaviness in tooth and jaw (8th d.); every m. tongue has thick yellowish coat, especially at back (12th d.); acidity in stomach after every meal, occasional hiccup, then slight heartburn (1st days); painful, anxious, grasping feeling in pyloric region, which is sensitive to deep pressure, especially before food; a kind of bubbling at border of short ribs, in region of epigastric curve, on stooping, with feeling as if cartilages were bent outwards and raised,—he has some *anxietas* with it, and is compelled to sit upright; pressive intermitting pain in r. renal region; rumbling in abdomen, e., so loud that bystanders can hear it,—a very fine high tone. Stool intermitting for a d., then after feeble straining he has thick pappy discharge, in small quantity, several times towards e. (8th d.); stool becomes harder, painful, followed by bleeding from anus, which smarts on pressure (12th d.); hæmorrhoidal tumours, which pain especially early in m. Fleeting burning pains in vesical region (1st days); intermitting, almost painful urging to micturate (4th h.); increased emission of dark yellow urine; drawing-pressive intermitting pains in r. spermatic cord; crushed pain in r. testicle; hardish

swelling on dorsum of penis not far from glans, of cartilaginous feeling, skin moveable over it, it is flattened towards median line but has a swollen border externally, quite painless, even to pressure,—during an erection it becomes harder, more visible and sensible, with a peculiar dull tensive feeling (lasted 8 weeks). Early in m. frequent hawking of mucus, which is loosened but does not come up; during deep inspiration, to which he is urged—almost to yawning—by need of relieving chest from a slight oppression, there comes at length every time, with some dyspnoea, a stitch on l. side of lower chest, superficial (after chewing berries). Heart-beat increased, more violent, intermitting, and pulsation of vessels throughout trunk, but not in head or limbs,—therewith drowsiness, but inability to sleep (p.m.); pain in small spot on r. of neck, increased by pressure, which after continuing some time went off for a while on walking in open air (3rd d.).

b. Hot ears, *e.* (2nd d.); heart-beats stronger, at times somewhat quicker, for some beats fuller, felt over a larger space (3 h.), weaker after siesta; fixed sacral pain, obliging him to bend back inwards; paralytic pain in sacrum, he must stretch himself, bending backwards also relieved; paralytic pain in l. arm about elbow-joint, worse when leaning arm on anything,—a few d. after this had gone off, some pimples appeared without redness or areola, itching violently, especially at tip of elbow, leaving scab after scratching, which disappears after 5 d.; paralytic drawing on inner side of l. wrist; paralytic tearing in l. index; paralytic pain in l. thigh above knee, internally, but not as if in bone, drawing from below upwards, coming and going,—also once in r. radius above wrist; tension in inner muscles of l. thigh, several d.; fine drawing pains internally in l. knee (1 h.); squeezing pains in r. tendo Achillis, becoming tearing (3rd d.); single jerks in l. toes; paralytic pains in joints, especially after exertion; in m. violent itching in a spot on outer aspect of r. leg, below the middle, after scratching skin appears excoriated, burns painfully and exudes, remaining thus till 3rd d., when it is covered with a thick scab which lasts 8 d., it itches at its edges, and when scab is scratched off bleeds easily and copiously, for a long time there remains a sensitive red cicatrix (similar places on top and inside of l. ear) (12th d.); during n. itching on legs, relieved by scratching; in m. a small scratched-off place on inner aspect of l. leg is raw, and as if ulcerated, on 2nd m. paining and itching,—on scab which forms being removed there is a dirty base, in *e.* there is a small but itching and painful areola, growing redder daily in m., but paler towards *e.*, when also ulcer is less painful (it went off on ceasing to take drug); continual dreaming, full of invention and mental exertion; pulse somewhat tense, and now quicker, now slower. (*Arzn.*, i, 323.)*

12. A healthy girl took 4 times 100 dr. tinct., which caused violent pain in sinciput, vertigo with mist before eyes, dryness of mouth and gullet, nausea, inclination to vomit after food, shooting tearing in stomach, pinching above navel. In bed, m., pinching and griping in abdomen, mostly on l. side, creeping in larynx as though something were crawling up it, crawling in throat, shooting pains below calf, especially m., as after dancing. Tearing pain in r. arm when writing, so that she must stretch it out, sleep restless, on rising so giddy that she thought she must lie down again. (BUCHNER, *A. h. Z.*, xx, 304.)

13. *a.* Dr. VAN DE WARKER took 10 min. of oil at 2.10 p.m. In 10 m. heat and flushing of face; circumscribed pain in each temporal region; heat in stomach; ideas slightly confused as if from alcohol; flatulence. At 4 took 5 min. more, and at 8.55 10 min. In 5 m. after latter dose there was present the circumscribed pressive sensation in each temporal region, painful heat and congestion of face, confusion of ideas, headache, flatulence, borborygmus. N. was very restless, and

* No information is given as to how the above symptoms were obtained. They have also no name attached; but those we have classed as 11, *b.*, have Hering's name written after them in our copy of H. and T.'s work, and are mostly identical with those given as his by Noack and Trinks from the *Prakt. Mittheilungen*, which is not accessible to us.—EDS.

he had most severe headache on following d., with slightly congested conjunctivæ.

b. Took 15 min. at 10 a.m. 10.20, semi-intoxication; sense of painful stricture over temples, pulse beating with great force, heat and weight at stomach. 11, intoxication nearly passed off; eructations, borborygmus, headache; urine passed twice in an h., copious. 1 p.m., repeated dose. 1.20, intoxication and headache more marked than in m. 10.40, nausea and umbilical pain; face painfully congested. 2.30, free evacuation of bowels, with great pain in track of colon and burning at anus. Urine passed in small quantities, often high-coloured. 3.10, slight nausea and pain in bowels; pulse full and strong; intense headache; conjunctivæ congested. Temp. 100.2°. 3.30, these symptoms still present; another stool. 5, headache less severe; nausea and pain in bowels gone. Passed an almost sleepless n.; severe headache all next d., appetite poor, nausea after breakfast; no stool this d. (Sphygmographic tracings showed "great increase in heart force and lessened arterial tension.") (*Criminal Abortion*, Boston, 1872.)

II. *Poisonings*.—1. A young servant, æt. 18, was in good health, but catamenia had not appeared for some time. On e. and during n. of Jan. 6th, 1854, she complained of some pain in abdomen. Next m. she refused to rise and dress, but said she was very well. During m. there was slight sanguineous vaginal discharge, and bedclothes were saturated with urine. She cried when her mistress spoke of sending her home, but did not speak after 7 a.m. Mr. May saw her at 2 p.m.; she took no notice of him, and could not be got to answer his inquiries. On his placing his hand, however, on the abdomen she contracted the muscles, and resisted attempts to examine *per vaginam*, beginning also to cry. At 3 p.m. vomiting set in, and continued during n. (savin powder being found in ejecta), and she died at 3 next m. At autopsy (56 h. later) stomach was found reddened in patches, and here and there perforated (evidently post mortem). Kidneys, uterus, and ovaries slightly congested; she was not pregnant. There was no congestion of the rectum. (*Assoc. Med. Journ.*, 1854, p. 224.)

2. Mr. GOWER was sent for between 5 and 6 p.m. on Sunday, and found a young woman (24) sitting by the fire with a face of great anxiety, and pulse of 150. Her symptoms were such as might belong to latter stage of typhus or gastro-enteritis. He was told she had been vomiting for a week previously, and she could not keep down the medicines he gave. On Wednesday m. labour came on. It was natural, but she sank fast after it, and died next m. Powdered leaves or tops of *S.* were found in stomach post mortem. There was inflammation of œsophagus, stomach, and duodenum, less in jejunum and ileum, more again in transverse colon. All intestinal glands were enlarged. Peritoneum was generally inflamed, as also were the kidneys; there was no urine in bladder. Uterus and r. ovary were normal, but l. ovary was reddened, turgid, and adherent by recent bristles of lymph to sigmoid flexure of colon. Peritonitis seemed to have spread from above downward. (*Lond. Med. Gaz.*, N. S., i, 646.)

3. A young woman (21), far advanced in pregnancy, awoke her mother at 3 a.m. complaining of violent pain in stomach. She was

very sick, and her mother gave her brandy and water. This did not diminish the sickness, and she soon became insensible. Mr. Newth found her at 11 a.m. foaming at mouth, countenance turgid, eyes closed, pupils much contracted; limbs were also convulsed. He found first stage of labour present, and at 3 p.m. a child of 7 to 8 mos. was extracted, the mother having ceased to breathe just previously. *P.M.* was made 24 h. later. Cerebral vessels were gorged with black fluid blood; other organs healthy, save some red patches in stomach, in which savin was detected. (LETHEBY, *Lancet*, 1845, i, 677.)

4. *a.* A quantity of a strong infusion was taken on a Friday and again on following m. by a pregnant woman to induce abortion. She suffered from violent pain in belly and distressing strangury, aborted on the Sunday, and died on the ensuing Thursday. Autopsy discovered extensive peritoneal inflammation, unequivocally indicated by effusion of fibrinous flakes; inside of stomach had red tint, chequered with patches of florid extravasation.

b. In another case a girl was seized with violent colicky pains, vomiting, tenesmus, dysuria, and fever. After suffering several d. she died. Stomach and intestines were inflamed, former in parts black, and at lower curvature perforated. (Savin was found in stomach.) (CHRISTISON, *op. cit.*)

5. A healthy female had reached about 7th mo. of pregnancy. She was very well on Friday, but was seized with vomiting on Saturday, which continued through Sunday, and was of a green colour. She was first seen by Mr. Lord on Sunday e., when symptoms were those of gastro-enteritis, great anxiety, pulse 150. Vomiting continued at intervals; there was no violent purging. Labour came on on Wednesday; child was born living, but soon died; mother died on Thursday. *P.M.*, lining membrane of œsophagus reddened, with ecchymosed patches; in stomach a large patch of redness from greater curvature towards pylorus; no ulceration or erosion in either; interior of duodenum, especially towards pylorus, intensely inflamed; and patches of inflammation were found in other portions of canal. There was some peritonitis, chiefly on upper parts of intestines and omentum. Kidneys were inflamed, and of dark red colour. Powdered savin was found in large quantity in stomach and duodenum.* (TAYLOR, *op. cit.*)

6. A woman, æt. 30, who wished to produce abortion, took an infusion of herb. sabin., which was followed by violent vomiting. After some d. she had severe pain, and at length she miscarried with great metrorrhagia, and died. *P.M.* showed the gall-bladder burst, the bile escaped, and the bowels inflamed. (MOHRENHEIM, *Versuche*, ii, 245, in Wibmer.)

7. A pregnant girl took sabina repeatedly; she did not miscarry, but after a time had hæmoptysis. (HALLER, *Hist. stirp. Helv.*, ii, 321, in Wibmer.)

III. *Experiments on animals.*—1. ORFILA applied ʒij of powder to an incised wound in the leg of a dog. Inflammation and serous infiltration of the limb took place, and death occurred in about 36 h. Lungs and stomach were healthy, but duodenum showed near pylorus

* Probably same as II, 2; though observer's name is different.—EDS.

a circular blackish spot formed by extravasated blood, mucous membrane below it being dark red throughout its substance. There were also several dark red spots in lining of rectum. ζ iv introduced into stomach of another dog, œsophagus being tied, caused death in 13 h.; stomach was inflamed, though not very red, and rectum showed some reddish spots. (*Toxicologie*, sub voce.)

2. HILDEFELD gave ζ j of oil to a male cat. It caused flow of saliva, anxiety, frequent discharge of urine, dulness, trembling, and, in $1\frac{1}{4}$ h., bloody urine. The animal having been strangled, bladder was found ecchymosed, and coagulated blood in its cavity. (WIBMER, *op. cit.*)

3. LETHEY gave ζ ij of powder mixed with food to a small terrier. In $2\frac{1}{2}$ h. it began to vomit, and continued to do so at intervals for $1\frac{1}{2}$ h. It then lay down exhausted, and 2 h. later was found in same position, insensible and comatose, with slow labouring pulse. In this condition it remained for 8 h., passing a good deal of blood by stool. In 14 h. from taking dose animal died. Brain was found gorged with blood; lower bowels were highly congested, and contained blood. (*Lancet*, 1845, i, 677.)

4. MITSCHERLICH'S experiments prove that the oil is a powerful poison. It is absorbed into the system, for its odour can be detected in the cavities of the body and in the blood, as well as in the breath and urine. The intestinal lesions it produces are not in themselves mortal, for they seldom extend beyond vascular congestion and an abundant exfoliation of epithelium. Kidneys are greatly congested. Muscular irritability continues for a long time after death. During life respiration and circulation were hurried; in one experiment urine was several times voided, dulness and insensibility supervened, extremities were paralysed, breathing laboured, pulse could not be counted, and death took place after a very protracted struggle. (STILLÉ, *op. cit.*)

SALICYLICA.

Including *Salix*, willow; *Salicinum*, $C_{13}H_{18}O_7$, an alkaloid derived therefrom; and *Salicylic acid*, obtained from this and other sources ($HC_7H_5O_3$), with the alkaline salicylates.

I. *Provings*.—1. Dr. T. C. DUNCAN, July 17th, 1867, chewed a small piece of bark of *Salix purpurea*, L. (which had a peculiar astringent taste), and at 8.30 p.m. took ζ j of an infusion; in a few moments after latter full dizzy feeling in head, commencing just in front of ears and passing up to vertex like a wave. It only lasted a few m., but he had to sit down and keep quiet till it passed off. At 9 repeated dose with same result but in lesser degree. He rested poorly that n., woke often; first too hot, then chilly, at last—towards m.—in a profuse perspiration. Very nervous and despondent all next d.; aching in r, acetabulum; taste of undigested food; flatulence; pain in abdomen; dulness of intellect; swelling of r. parotid; urine slightly acid (showed excess of triple and earthy phosphates and some epithelium); bowels loose (twice); circulation torpid. (*N. Y. State Hom. Soc. Trans.*, 1870, p. 328.)

2. Dr. D. gave same dose of infusion to a patient with hæmorrhoids (which it removed). She felt same peculiar head symptoms as himself; and all next d. was nervous and very irritable, bowels moving twice, with gripings in abdomen. (*Ibid.*)

3. Dr. E. D. WRIGHT took in one d. ζ ss of tinct. of *Salix nigra*, L. He noticed, on 1st d., soreness of gums and looseness of bowels; on 2nd d. muscles were sore and lame, and skin over temples tender to touch; he was feverish, and disposed to lie down and sleep. (*Amer. Obs.*, 1875, p. 177.)*

4. RANKE took 96 grms. of *Salicine* in 3 d., and at another time 220 grms. in 3 weeks. Only effect noticed was flickering before eyes, and, on 3rd d. of first experiment, persistent ringing in ears. (*ALLEN'S Encyclopædia*, viii, 473.)

5. BUSCH gave a woman 8 doses of 0.3 grm. each; they produced confusion of head, and fog and sparks before eyes for 5 d. (*Ibid.*)

6. I took 10 gr. one afternoon, and in e. suffered from malaise and chilliness. I slept well, and woke in m. apparently all right. By 10 a.m., however, I felt the malaise coming on again. There was headache; fugitive pains all over body; and fever. At noon my temp. was over 101°. This continued all d. I slept well at n., and next d. was quite well. On another occasion, about a month after, I brought on a less severe attack of the same kind with a similar dose. (*NANKIVELL, Annals of Brit. Hom. Soc.*, viii, 364.)

7. We tested the effects of *Salicine* in 3 sets of experiments, each on 3 healthy lads. To the first two we gave large doses and produced decided symptoms; to the third we gave at first smaller doses, and increased them gradually till he took ζ ij daily, producing scarcely any symptoms.

a. Lad, æt. 10, convalescent from belladonna poisoning. Observation from Aug. 7th to 9th without medicine showed pulse to range between 68 and 88, resp. between 16 and 24; average temp. of 3 d. was 98.4°, 98.7°, 98.7°. On 10th he took 30 gr. in ζ j of water. Felt sick almost directly, and had hard work to keep from vomiting; this sensation, however, soon passed off. He complained also of frontal headache. 10.50, repeated dose. Again immediate nausea, soon passing off; then (11.10) severe frontal headache, so bad that he shut his eyes, and buried his face in his arm; face was much flushed and conjunctivæ slightly injected; there was also giddiness. At 11.40 these symptoms had almost left him, and at 12.30 he made a good dinner. Pulse and resp. were unaffected. Temp. remained more stationary than on previous days; and instead of rising after dinner and tea it slowly and continuously declined (but only 0.4°). The day's average was 98.3°. 11th.—At 9.40 a.m. took 60 gr. in ζ ij of water. 9.52, flushed; complains of frontal headache. 9.55, headache severe; flushes readily; dull, heavy, with apparent muscular weakness; tingling, like pins and needles, in r. ankle. 10.4, pain only over l. brow; still dull and heavy, and inclined to flush. 10.15, headache same, worse on movement; is very dull, says he feels rather sleepy; decided muscular

* There seems some reason to believe that *S. nigra* has antaphrodisiac properties. (*N. York Med. Times*, Jan., 1889.)

weakness; lies in a semi-stupid state, with eyes closed, and answers questions slowly; pulse much softer; twitchings of leg and (slightly) of arm, which he cannot control. 10.30, in much the same state, but there is no headache now, and pulse is a little fuller and stronger. 10.45, still dull and weak; crying, but has no pain; pulse recovered. By noon the boy was lively, and looked himself again. Pulse and resp. continued normal. Temp. fell from time of taking dose till at 11 fall was 0.8° ; by 12 it had recovered; but again there was no rise after dinner, and one of 0.2° only after tea. On 12th no medicine was taken, but the slight depression in temp. continued, day's average being 98.2° , and no rise being caused by dinner.

b. Lad, *æ.t.* 9, convalescent from pneumonia, temp. having become normal 10 d. previously. He was kept in bed, and his temp. taken hourly in rectum. For 2 d. he took no medicine, and condition was normal; pulse ranged from 66 to 84, resp. 18—28. On 3rd d., Sept. 21st, he took 30 gr. 6 times, but without any appreciable effect; temp. fell after 1st dose 0.4° in $1\frac{1}{2}$ h., and remained depressed for about 3 h., when it rose to its original height in spite of continuance of medicine. On 22nd he took same dose 8 times, at hourly intervals from 10 a.m. Between 1 and 2 it was noticed that his face was flushed and perspiring; he looked dull, and there was some tremor when his hand was held out; pulse was large, soft and compressible. These symptoms continued for rest of d., tremors being more marked in e. Next m. at 5 he vomited twice, bringing up remains of food. He took no breakfast. At 9 a.m. looked heavy and dull; was deaf, and could only hear watch when laid on ear; tingling in r. ear near surface; no tinnitus, and no headache; did not seem to understand questions as well as formerly; a little tremor of lips in speaking, and voice thick; breathing laboured, and trunk shook a little during act; hands trembled while held out, and small spasmodic movements of whole upper limb occurred at intervals, also slight jerks and tremors of lower limb when raised from bed. 9.30, feels sick but does not vomit; grasp of hands weaker (on previous e. it was strong); speech a little jerky, voice husky, words not well laid hold of, lips and tongue not being used with natural freedom; eyes heavy and half shut; mouth wide open; rather thirsty; pulse soft and compressible. 1.30 p.m., great muscular irritability, on tapping muscles they contract. 4, pulse of better quality; expression brighter; much less deafness; breathing less laboured, more thoracic than diaphragmatic. 8, less irritability of muscles; manner still dull, and boy is heavy and sleepy. Pulse, which was 88 on m. of 22nd, had by 1 p.m. become 104, and for rest of d. ranged between 108 and 116; on m. of 23rd it was 112, whence it mounted up till at 1 p.m. it had reached 140, it then steadily declined to 116 in e. (5—8 p.m.), and 96 at midnight. Resp. varied in proportion. 24th.—No more drug taken. 10 a.m., deafness less, still looks dull, and unless spoken to lies with eyes half closed, and very often is asleep; muscular irritability still present, though less than yesterday. 3 p.m., pulse still compressible; breathing less laboured but thoracic; tremor of hands and arms when held out; boy looks brighter, and can now hear watch at 4 in. Appetite fair. Pulse to-day began at 100, and rose to 108 at

2—3 p.m., falling by night to 82; resp. corresponded. 25th.—Boy looks much brighter, but his face is very pale; there is a little tremor of hands when held out, and a trace of irritability in muscles of back; less deafness; eyes less heavy-looking. 4 p.m., can now hear watch at 1—2 ft. Three stools between 3 a.m. and 1 p.m. Pulse 74—100; resp. 22—26. 26th.—Condition to-day practically normal. Effect on temp. was a very slight and temporary depression on 1st d. of taking drug, not maintained by its continuance; on 2nd d. no depression, but a rise of 0.6° between 9 a.m. and 1 p.m.; same on 3rd d., and on both a lessening of diurnal range (at expense of usual evening fall). By 4th d. temp. had returned to its condition before experiment had been begun.* Urine, several times examined, was neutral or only slightly acid, and contained abundance of S., and on 26th a dense white precipitate of phosphates.

c. To a lad aged 10 S. was given for 26 d. in increasing doses 4 times daily, beginning with 20 gr., and going on till 180 gr. were taken during d. Boy got up and spent d. about ward. These large doses had no appreciable effect on temp., but pulse was quickened (88—100). On 5th d. he complained of slight deafness, and on 10th d. it is noticed that the deafness had increased a little, but 2 d. later it had disappeared. Beyond these disturbances of pulse and hearing, medicine produced no apparent effects, the boy eating well, sleeping well, and indeed appearing in all respects quite well. (RINGER and BURY, *Journ. of Anat. and Phys.*, xi, part 4.)

8. Dr. LEWIS dissolved about 2 gr. of the 1st trit. of *Salicylic acid* in a small tumbler two thirds full of water, and took a mouthful of the solution, June 17th, 8 p.m. After 1 h. slight difficulty of swallowing. Went to bed at 10.30 and fell asleep. At 3 a.m. woke with strong inclination to swallow, which was rather difficult. Felt a great longing for fresh air, which caused him to open the window. Gradually the pain of swallowing, especially on r. side, increased, combined with a painful shooting drawing out from the mouth about the region of the Eustachian tube to the external orifice of the ear and the concha. At the same time he felt a swelling of the r. tonsil beneath and to the side of the angle of the maxilla, which was painful to touch, and there was increased heat of the whole region. The pain out at the ear became so intense that he could not sleep, that he got out of bed, and the pain got to such a height that he took as an antidote 2 dr. of nitr. ac. 6x at 4 and 7 a.m. About $\frac{1}{2}$ h. after the 1st dose great drowsiness came on, and he went to bed and slept for 1 h. On rising the pains continued in the same degree, pulse 78, contracted. After the 2nd dose at 7 a.m. the symptoms diminished, and between 8 and 9 a.m. he found it difficult to speak. At 10 a.m. he got a colleague to examine him, who found swelling and redness of the m. m. of the throat and back of palate, also swelling of r. tonsil outwards, and a slight membranous deposit the size of a pin's head. After the 2nd dose of nit. ac., at

* This shows that even very large doses depress temp. very little, and subsequently, instead of lowering temp., the drug produces slight fever. . . . This slight fever may, we think, be due to catarrh of the stomach caused by the medicine, which, in so many instances, excites vomiting.

8 a.m. when working, there came by retching a cheesy substance the size of a fly's body of penetrating odour, covered with bluish-red blood, and along with it some blood-tinged saliva. This substance evidently came from the affected tonsil, and its discharge gave him momentary relief. The retching and inclination to vomit recurred repeatedly when speaking. For this he took apis 6x. This relieved the retching, but the other symptoms continued and increased towards e. In the early m. he could only take cocoa and sopped bread on account of the pain, especially on r. side, on swallowing and chewing. At midday he could swallow better, but could not drink anything cold. On attempting to drink beer in e. the pain and heat of the r. side increased. He passed a good n., but the pain in throat on swallowing and the ear symptoms continued in slighter degree on the 19th and m. of the 20th, but all went off in the afternoon of that d. (*N. Z. f. hom. Kl.*, xx, 106.)

9. Dr. H. L. CHASE got no marked symptoms from doses of 5 gr. of the crude acid, but from doses of the 3x dil. he experienced soreness and pain in r. deltoid and gastrocnemius, changing next d. to l. wrist and forearm. There was some soreness to touch, and great soreness on moving the limb. No heat. On following d. same pain on palmar surface of l. forefinger. When pain appeared in a new part it left that previously affected. (*N. Engl. Med. Gaz.*, xii, 564.)

10. A boy, æt. 8, was convalescent from an attack of acute rheumatism complicated with pneumonia; temp. had been normal for 7 d. before we commenced, and he appeared quite well. Throughout the experiment we took his temperature in the rectum hourly, from 9 a.m. till 12 p.m., noting pulse and resp. each time. For first 2 d. we gave no S. acid. Course of temp. on these d. was peculiar, possibly owing to the previous illness. From 9 a.m. to 1 p.m. it fell about 1°, then rose, and remained at normal height till e. fall began, which happened later than usual in boys of his age, and amounted to as much as 2·7°. On next 3 d. we gave him S. ac. hourly, in 5 or 10 gr. doses 1st d., and 10 gr. 2nd and 3rd. On 1st d. he took 110 gr., on 2nd 155 gr., on 3rd 160; in all 425 gr. These doses had but very slight effect on temp., and not in the direction of depression, but rather the other way. The acid also produced no symptoms, the boy seeming, in all respects, just the same as usual. During his rheumatic attack we treated him with same medicine in 10 gr. doses hourly, with the production of symptoms so marked that after he had taken 130 gr. we found it necessary to discontinue its administration. (*RINGER, Therap.*, 10th ed., p. 606.)

11. Mr. NORTH observed his temp. (under tongue) May 6th—23rd, and again Aug. 5th—7th. It was subnormal early in d., 96°—97°, but rose gradually, and reached 98°, 99°, or 100° in e., especially after rowing or strong walking exercise. On Aug. 8th took 0·5 grm. of S. ac. at 3 p.m., and 1 grm. at 5 and 11 p.m. It apparently produced no effect save slight nausea and sick headache, and this (he thinks) might be attributed to heat of laboratory in which he was working. No alteration in temp. On 9th he woke with sense of numbness in fronto-parietal region; no headache. Took 1 grm. at 10.45, 1, 3,

and 6. After 1st dose irritability of bladder, buzzing in ears and slight deafness. 2 p.m., slight dizziness and headache. 5.40, hearing decidedly indistinct, singing in ears very annoying; considerable depression and languor. 9, conversation sounds distant and subdued; pupils considerably dilated; slight nausea; numbness and insensibility of scalp very marked. E. temp. did not rise above 98.4 till 9.30, when it reached 99.2°. On 10th and 11th took no medicine. Scalp was still insensible on 10th, but hearing greatly improved. E. temp. was 98.8° at 7 and 98.9° at 11; on 11th it was 99° and 99.2° at these h. On 12th took 1 grm. at 4.57 p.m. Just before, 10 m. rapid walking had raised temp. to 99.1°, but at 5.16 same exercise brought it only to 98.5°, and it did not again reach this point in e. (*Practitioner*, xxiii, 184.)

12. MARAGLIANO experimented on action of Salicylate of soda on heart. He made a triple series of observations. In the first, patients who were taking the drug regularly were examined sphygmographically before, during, and after the m. and e. dose. In the second the pulse-curve, and in the third the arterial pressure, of other persons was taken during and after the exhibition of a single 5 grm. dose. The result showed—1st. As the dose was gradually increased in patients of the first class, the pulse became progressively stronger and the systolic line of the tracing higher. 2nd. After the single dose pulse was stronger, systolic line higher, and arterial pressure increased,—all this coming on in about 1 h., and lasting about 3 h. (*Centralbl. f. med. Wiss.*, Dec. 2nd, 1882.)

13. REISS gave S. of soda in doses of 5 to 7.5 grm. to adults, 2.5 grm. to children between 6 and 12. The experiment was made on a large number of persons (number not stated). Most had no symptoms, a few had slight confusion of head, moderate sweat, transient roaring in ears, also amblyopia. A diminution of temperature was always observed. With the exception of one case the temp. after 5 grm. fell on an average 0.9 in 4 to 6 h. If the med. was taken for a series of days the temperature was persistently subnormal. In one case, a convalescent from cystitis who got daily 5 grm. at the same hour, the following was observed:

1st d.	from 37.9°	to 36.7°	in 5 h.
2nd	„ 37.3°	„ 36.4°	„ 3 „
3rd	„ 37.2°	„ 35.6°	„ 6 „
4th	„ 37.0°	„ 35.9°	„ 7 „
5th	„ 37.0°	„ 36.2°	„ 4 „
6th	„ 37.1°	„ 36.9°	„ 3 „
7th	„ 37.4°	„ 35.6°	„ 7 „
8th	„ 37.5°	„ 36.4°	„ 7 „
9th	„ 37.5°	„ 36.4°	„ 5 „
10th	„ 37.6°	„ 36.5°	„ 5 „

(*Berlin klin. Wochensch.*, 1875, 674.)

14. KOLBE made experiments on himself and 8 colleagues with 1 grm. of S. acid daily for several d. without any effect whatever. (*Centralblatt f. prakt. Chemie*, N. F., xi, 21; in *Lancet*, 1876, ii, 681.)

II. *Poisonings*.—1. Rebecca Horn, æt. 15, a robust, healthy-looking

girl, had undergone, on Jan. 11th, resection of l. ankle-joint on account of chronic fungous arthritis with fistulous opening on both sides. On the 15th January there was some fever, the wound looked bad and smelt ill. On 19th and following days she got *natr. salicyl.* 1 grm. every hour without any effect. From 22nd, her temp. being $38\cdot6^{\circ}$, she got 4 grm., when temp. was $39\cdot4^{\circ}$ and upwards she got 6 grm. Very little effect.—25th. By mistake she got the following doses in the temp. indicated. 6 a.m., temp. $38\cdot4^{\circ}$, 4 grm.; 12 noon, temp. $38\cdot8^{\circ}$, 4 grm.; 2 p.m., temp. $39\cdot6^{\circ}$, 6 grm.; 4 p.m., temp. $39\cdot4$, 6 grm.; 6 p.m., temp. $39\cdot4^{\circ}$, 6 grm.; 8 p.m., temp. 39° , 4 grm.; 10 p.m., temp. $38\cdot6$, 4 grm. The last 2 doses were vomited. Thus from 6 a.m. till 6 p.m. she took 26 grm. When seen in forenoon of 26th she had a very anxious expression, was very restless, face red, pupils very dilated, very little sensitive to light, marked strabismus divergens. Respiration 60 in the minute, but not superficial; pulse hardly affected. Sensorium free, speech very difficult. At 6 a.m., temp. $37\cdot2^{\circ}$; at 8, 37° ; at 10, $37\cdot4^{\circ}$. At noon she commenced to be delirious. Temp. $38\cdot4^{\circ}$. Got brom. of pot. 2 p.m., temp. 39° (brom. of pot. 2 grm.); 4 p.m., temp. $38\cdot8^{\circ}$ (brom. of pot. 2 grm.); 6 p.m., temp. $38\cdot6$.—7 p.m. Patient has become quieter. There is a constant variation in her condition; sometimes she has hallucinations, sometimes she is half asleep, sometimes she is rational for a short time, knows those about her (she seems not to see distant objects well) and answers questions. Speech hoarse, indistinct, stammering, some words she cannot pronounce. Eyes have a peculiar sparkle. Respirations 40, deep and noisy. Pulse very irregular, sometimes very quick, sometimes of nearly normal velocity, small, weak. Injection of ol. camph. 1 grm. Since afternoon a swelling of l. inguinal glands, sensitiveness to pressure of thigh on its inner side where the middle and lower third meet—nothing to be seen. Ice-bag and cold compresses to head and body. 8 p.m., temp. $38\cdot2^{\circ}$; 10 p.m., $38\cdot1^{\circ}$. Resp. 30, pulse still irregular but rather fuller. Kal. brom. 2 grm.—27th. 1 a.m., temp. $37\cdot8^{\circ}$. Kal. brom. 2 grm.; 6 a.m. $37\cdot6^{\circ}$, kal. brom. 2 grm.; 8 p.m., $38\cdot5^{\circ}$; 10 p.m., 39° , resp. 36. Pulse small and irregular, 120. No sleep at n. Wound looks bad. Urine dark dirty brown, contains about 2 per cent. albumen. 12 noon, temp. $38\cdot4^{\circ}$, kal. brom. 2 grm.; 2 p.m., 38° ; 4 p.m., $37\cdot8^{\circ}$; 6 p.m. $38\cdot3^{\circ}$; 7 p.m., complained of great thirst and feeling of dryness in mouth and throat. On forehead and rest of face, on neck and legs, the skin is very red in several circumscribed patches; the redness disappears on pressure, but immediately returns; the spots are neither elevated nor painful. Mydriasis and strabismus less. 8 p.m., temp. $37\cdot2^{\circ}$; 10 p.m., $38\cdot2^{\circ}$.—28th, 8 a.m., temp. $39\cdot4^{\circ}$; 9 a.m., $39\cdot2^{\circ}$; 10 a.m., $38\cdot6^{\circ}$. The redness of skin has partly left the original spots and gone to other parts. A decubitus the size of half a crown in the middle of the sacrum; after removing the slough it is dressed with benzoin and compress. Resp. still 30, pulse irregular, sometimes slow and strong, sometimes quick and small. Wound still looks bad. Has had no restful sleep. Urine still dark coloured, contains about 1 per cent. albumen. 12 noon, temp. $38\cdot1^{\circ}$; 2 p.m., $38\cdot6^{\circ}$; 4 p.m., $39\cdot1^{\circ}$; 6 p.m., $38\cdot4^{\circ}$; 7 p.m., hoarseness increased, relieved by application

of hot sponges to neck. 10 p.m., temp. $38\cdot6^{\circ}$.—29th, 7 a.m., temp. 39° ; 9 a.m., $38\cdot4^{\circ}$; 10 a.m., $38\cdot2^{\circ}$. Slept soundly for several h. in n., feels pretty well. Sensorium clear more frequently and for longer periods, less apathetic. Resp. nearly normal, pulse more regular and stronger. Strabismus and mydriasis gone. Speech better, hoarseness in throat diminished. Feels well all d. in spite of higher temperature. Noon, $38\cdot8^{\circ}$; 2 p.m., $39\cdot3^{\circ}$, kal. brom. on account of restlessness; 3 p.m., $39\cdot2^{\circ}$; 4 p.m., 39° ; 5 p.m., $38\cdot8^{\circ}$; 6 p.m., 39° ; 10 p.m., 39° , kal. brom.—30th, 2 a.m., temp. $38\cdot4^{\circ}$, kal. brom.; 7 a.m., $38\cdot3$; 9 a.m., $38\cdot4^{\circ}$; 10 a.m., $38\cdot4^{\circ}$. Slept well last n. Mind generally clear, but has occasional hallucinations. The redness of skin gone, albumen in urine diminished. Inguinal glands still swollen, the place on thigh still sensitive to pressure. 11 a.m., temp. $38\cdot2^{\circ}$; 1 p.m., $38\cdot5^{\circ}$; 3 p.m., $38\cdot4^{\circ}$; 5 p.m., $38\cdot2^{\circ}$; 7 p.m., $38\cdot5^{\circ}$; 10 p.m., $38\cdot5^{\circ}$.—(The remainder of the case has reference to the operation, the decubitus, and an attack of erysipelas in operated leg.) (PETERSEN, *Deutsche med. Wochensch.*, Jan. 13th, 1877.)

2. A strong otherwise healthy man suffered from gout, for which he got Sal. ac. in considerable doses. His gout was gradually relieved, but the following symptoms appeared: First there was confusion of head, and unsteady feeling and slight vertigo. He felt as though he had suddenly risen up after having long been lying. Then he imagined he heard music; this wakes him up repeatedly. Sometimes the sounds he heard were like the humming of swarming bees or of flies in the open air when all is silent. (He had at this time red urine with great sediment, and profuse sweats, but these might have been only the usual gouty symptoms.) After 3 or 4 d. of taking the medicine he complained of severe and persistent pressure in abdomen with the sensation of incarcerated flatulence. The seat of this tiresome pressure was sometimes in the hypochondria, sometimes in the hypogastrium. There was also constipation for several d. Since commencing the medicine he had not had a proper stool. There was also a persistent pressure on one side of the sternum on a place the size of a hand, with a feeling as if the bone was painful. The patient complained of a bitter bilious taste the whole time he was taking the medicine, though he took it in a form in which its taste was disguised.—Some patients while taking Sal. ac. experience a smell of musk, and in some it causes constant sneezing when inhaled or applied externally. It has also been observed that women taking it have their menses too early, too profusely, and lasting too long. (GOULLON, *A. h. Z.*, xcvi, 68.)

3. S. acid (with its sodium salt) is to be classed with the drugs which most frequently and extensively produce undesired effects. Some of this class of symptoms seem to be typical attendants on the antifebrile action of the drug, and therefore very frequently follow its use. To this category belong certain phenomena manifested by the central nervous system. Other symptoms, such as changes on the skin and disturbances of the functions of internal organs, appear but seldom, and are probably dependent upon an individual predisposition on the part of the patient affected. They all have this in common, that they disappear rapidly, without leaving injurious results behind.

a. On taking S. acid, there is experienced a repulsive taste, with burning and itching in mouth and throat. After absorption, as Stricker first stated, there may occur buzzing in the ears with difficulty in hearing, and profuse sweating—symptoms which do not contra-indicate the continued use of the drug. Still more important nervous symptoms have been observed by other authors. Thus Riegel, after doses of 4—6 grm., noticed in addition to the above symptoms headache, giddiness, and (very temporary) delirium; and Schuhmacher observed besides hallucinations of vision, which caused great anxiety. According to Riess, there may be also weakness of vision, as well as specks before eyes. Müller observed, after the daily use for 9 d. of 15 grm. of S. of sodium in a case of diabetes, a condition of psychological depression with violent headache and mental weakness. Patient also complained of weakness of legs, uncertainty in motion, and paretic inclination of body to r. side; though his sight was good, he ran against objects while walking. The symptoms disappeared within 5 d. after use of drug was discontinued, and returned when it was again taken in smaller doses. Goltdammer observed conditions of collapse of different degrees several times, after 5 grm. doses of S. of sodium.

b. Besides occasional local irritation of stomach and intestines, it would seem that this drug, though rarely, is capable of irritating the kidneys. Lürmann reports the occurrence, after taking 4 grm. of S. of sodium, of albuminuria, with œdema of forearms and legs, which disappeared when drug was stopped, and returned when it was again administered. After larger doses, Müller witnessed diminution in amount of urine, and albuminuria.

c. The changes in the skin occasionally observed after the use of S. of sodium are erythematous, urticarious, or petechial, and are usually attended with intense itching. After 4 grm., Heinlein witnessed, in a case of articular rheumatism, the appearance, accompanied by unbearable itching, of a diffuse redness of l. half of face, lower extremities, and r. side of chest, with slight œdema of both eyelids, upper lip, and legs as far as middle of thighs. All these symptoms disappeared within 24 h. after discontinuance of drug. When 4 grm. were again administered, there appeared a diffuse erythematous redness, with itching, while whole abdomen, as well as lower extremities, became covered with wheals seated on a reddened base. The latter disappeared spontaneously after an h., the other manifestations on following d. Leube also saw an urticaria appear after 4 grm. Freudenberg saw a petechial eruption in an individual suffering from marasmus, after 5 grm. had been taken daily for 5 d. The petechiæ, which were the seat of intense itching, and some of which were as large as a florin, were originally seated upon the back, but spread on following d. over breast, shoulders, upper arms, hips and thighs. In the course of 8 d. the spots became pale, and the epidermis was cast off in great scales from the affected parts. After complete recovery, 5 grm. of S. ac. were administered in capsules, with a similar result. (LEWIN, *op. cit.*)

4. a. If we take 2 to 3 grm. of S. ac. at once and repeat this dose, it often produces the same d. nausea and vomiting, sometimes with sensation of burning in œsophagus and stomach. The most constant

effect of the salicylic preparations is the rapid occurrence of noises in the ears from doses of 5 to 6 grm. of the acid, or 10 grm. of the Sal. of soda. These noises are heard in ears and all through head; patients compare noises to distant rollings, undulations, they say they feel the blood circulating in their skulls, but these sensations are not accompanied by anything like vertigo; the most they experience is a kind of incertitude in their gait. There is often a diminished sensitiveness of the hearing, sometimes amounting to deafness. This occurs at the end of 2 or 3 d. of the use of 6 grm. acid or 10 to 12 of soda salt. On leaving off the medicine these symptoms generally cease immediately.

b. After large or too frequently repeated doses there is sometimes observed a calm delirium without hallucinations or excitement; rarely violent delirium resembling delirium tremens, still more rarely convulsions of a tetanic character.

c. No alteration of temperature was observed from daily doses of 6 grm. acid or 10 grm. soda salt. The pulse and respiration are not affected by such doses. (SÉE, *Bull. de l'Acad. de Méd.*, vi, 698. 1877.)

5. A woman, æt. 40, whose hearing was unimpaired, and who was not subject to giddiness, for acute rheumatism began to take Jan. 26th gr. xxv of S. of soda every 3 h. On 28th she complained of noises in ears, deafness, and giddiness, which had increased so much next d. that medicine was omitted. On following d. giddiness was much less, and on 31st had almost gone. On Feb. 6th same doses were resumed; and on 7th same symptoms were complained of. Noises in ears were constant; watch was heard only at 2 in. from either ear, and was not heard at all on either side when in firm contact with zygoma or mastoid process. Tuning-fork on vertex was heard fairly well, but sound was not increased by closing ears. Giddiness was slight and indeterminate as long as she lay still, but was very constant and definite when she raised her head or sat up. Objects before her all seemed moving to r. On 8th these symptoms continued, and she could hear watch at 6 in. from either ear, and also, though faintly, when in contact with zygoma or mastoid process, but not when in contact with parietal eminence. Another resumption of the drug, on the 23rd, was followed by the same results. When patient was convalescent, a careful examination of the state of hearing revealed very little abnormality. (GOWERS, *Brit. Med. Journ.*, April 21st, 1877.)

6. A girl of 16, with acute rheumatism, had taken ʒj of S. of soda in 10 h. In 3 h. after last dose she awoke from sleep totally blind, with considerable mydriasis. There was no alteration of conjunctival or corneal sensibility, and no visible change in fundus oculi; urine also showed no albumen. Deafness co-existed. 10 h. later, on waking, found sight completely restored; but mydriasis, and also deafness, continued for some time. (*Lancet*, 1880, ii, 778.)

7. After taking 11 grm. of S. acid patient's mind became very stupid, it was difficult for him to collect his ideas; then he laughed without cause, talked incessantly and disconnectedly, frequently looking about him, with apparent hallucinations. This condition lasted 24 h. (ALLEN's *Encyclopædia*.)

8. Immediately after taking a 10 gr. powder patient began to sweat

profusely. As he repeated them, perspiration increased and strength so visibly diminished that his wife was unwilling to give him the 4th. He insisted, however, and after taking it vomiting and an agonizing headache set in, which continued all n. In m. he seemed unconscious, and simply groaned loudly. Only for a moment did his mind seem clear, when he cried out, "My head! my head!" to the physicians present. All treatment was futile, and he died in 40 h. after taking the 1st powder. No *P.M.* examination was permitted. (*Ibid.*)

9. Mrs. W—, æt. 28, of a consumptive family, suffered last winter some time from cough with bloody sputa, and was attacked March 8th with left-sided pleuritis and copious exudation. On account of the continued fever she took for several e. 5 grm. of S. of soda, and still the thermometer in the mornings showed, *in ano*, 38°. I was suddenly called to her on e. of 17th, as she took that afternoon, by mistake, 15 grm. instead of 5. She was unconscious, sometimes delirious; when roused, complained of heat, dyspnoea, and difficulty of hearing. She had not perspired. Temp. *in ano* 38.4, pulse 120 (d. before with same temp. pulse was only 92), resp. 28; breathing very noisy, so that it could be heard in the street. With anguish in her face she gasped for breath in a half-sitting position, and expelled and inhaled air with the same force. The whole mode of breathing, *minus* the frequency, reminded one of the panting of a hunting dog. In vain I looked for some objective symptoms for this dyspnoea, as retraction of the chest in the fossa clavicularis or hypochondria. After 1½ h. she felt somewhat easier (she had vomited); pulse 122; breathing heavy, deep, and with exertion. 18th.—7 a.m., temp. 37.4°, pulse 104, resp. 32. Breathing as yesterday, but less forced; some diarrhoea; complains of great thirst and difficulty of hearing. No sweat. Temp., noon, 38.4°; 5.30 p.m., 38.8°; breathing still panting. 19th.—Breathing and hearing better. Dulness caused by the pleuritic exudation has diminished greatly, and was entirely gone by 22nd. (WEKERLING, *Deutsch. Archiv f. kl. Med.*, xix, 319.)

10. Dr. JAMES RUSSELL reports 55 cases of acute rheumatism treated with S. of soda or ammonia in doses of 10 gr. and upward. In 9 vomiting occurred after the larger doses; in 6 there was delirium, protracted in 2, fatal in 1. The following cases are detailed:

a. Boy, æt. 15, of weak mind, took 10 gr. every 4 h. for 6 d. with great relief, though there was occasional vomiting. On 6th n. he screamed for some time, and died suddenly in m., temp. then being 99.6°. Lungs were found much congested and highly œdematous; r. auricle gorged.

b. A nervous man took 10 gr. every 2 h. for 2 d. without relief; dose was then doubled, and 2 d. later was raised to 25 gr. Pains being then relieved, dose was lowered to 12 gr. that e., and 8 gr. next m. He was depressed and delirious during n., severely delirious during d., and died suddenly in following n. Temp., which had fallen to 100°, rose to 111.5° just before death. R. side of heart was found full of dark tar-like blood, and there was considerable ecchymosis under serous membrane. (*Brit. Med. Journ.*, 1882, i, 459.)

11. A stout, well-nourished woman, æt. 25, was treated for acute

rheumatism with Salicine, in 10 to 30 gr. doses every h. or two. During the 5 d. she was under treatment she must have taken about 1400 gr. Nevertheless (?) on 3rd d. temp., which had been 103° — 104° , began to rise, and after a fall on 4th d. (when there was vertigo, with tinnitus), on 5th m. was again 104.8° . S. was now given in 30 gr. doses every 2 h., but as temp. continued to rise, and patient complained of burning sensation, it was stopped; this was at 4 p.m. Symptoms of delirium began to show themselves, though pains were apparently relieved. At 9 p.m. she was restless and wandering; face flushed, eyes bright; tongue and skin dry, with eruption of miliaria; pulse 145, temp. 105° . Next m. at 2 patient was moribund, and at this time temp. was 111° . The autopsy found all organs healthy, save that mucous membrane of stomach showed several patches of ecchymosis. (*Lancet*, March 3rd, 1877.)

12. A girl, æt. 17, had taken for acute rheumatism 15 gr. of S. ac. every 3 h., 60 gr. in all. At 6 p.m. temp. was 100.4° , pulse 120. At 9 p.m. pulse was same; but at 3.45 a.m. it had risen to 160, and she died quietly and suddenly. Heart was found enlarged and slightly fatty; there was pericarditis, but without effusion.—Reporter had seen in the course of treatment of this disease by S. acid 3 sudden unexpected deaths. All the patients were girls and in their first attack. (*GOODHART, Med. Times and Gaz.*, 1880, i, 105.)

13. EMPIS gave S. acid to a patient at 5th—6th d. of a very severe and painful attack of rheumatic fever. He took 7 grm. on 1st d., 5 grm. on 2nd, 3 grm. on 3rd. After the 5th dose the pains disappeared as if by magic; but on the third d. the patient all at once felt a violent pain in the epigastric region, and suddenly expired. There was no autopsy. (*Bull. de l'Acad. de Méd.*, 1877.)

14. C. W—, æt. 55, was admitted at 2.30 p.m. Nov. 3rd, 1886. By mistake, she had for 17 h been taking (for subacute rheumatism) 30 gr. of S. of soda every 4 h., *i. e.* 120 gr. in all. She complained of buzzing noise in ears, some headache, and great deafness (she was naturally slightly deaf); pupils were extremely contracted; urine contained a large quantity of S. acid and albumen, about $\frac{1}{10}$ of latter depositing after boiling with a little nitric acid. A saline purge was administered. Next d. all symptoms had considerably abated; urine still contained a large quantity of S. ac. and a trace of albumen. On 5th albumen had quite disappeared; and on 6th S. ac. was no longer discoverable, and pupils had resumed their normal size. (*Brit. Med. Journ.*, 1877.)

15. In the *Guy's Hospital Reports* for 1886–7 I adduced some reasons in support of the view that other hæmorrhages besides epistaxis, which had been so frequently observed, were occasional accidents during the administration of large doses of Salicylate of soda in the treatment of acute rheumatism. The cases there recorded at length to illustrate this fact were one of retinal hæmorrhage and two of hæmaturia. During the last year there have occurred at Guy's Hospital two instances of a similar result of this treatment, in both of which the bleeding was from the gums. By the courtesy of the physicians who had charge of the cases I am allowed to put them on record.

a. Annie P—, æt. 27, married, was admitted under the care of Dr. Goodhart on Sept. 13th, 1888, suffering from a first attack of acute rheumatism. There was a very good family history, and the patient had never been laid up with any illnesses except her confinements. Her present illness began one week before admission, and appeared, when the patient was first seen, to be a typical attack of acute rheumatism. Several joints were red and swollen; there was no cardiac complication and no albuminuria. The temp. was 101° , and did not exceed this at any time during the disease. She was at once ordered 20 gr. of S. of soda in a mixture of liquor ammoniæ acetatis and water every 3 h. The pain and fever were so far subdued by this treatment that on the 17th the medicine was ordered to be given every 6 h. On the 21st it was altered to 3 times a d. At this time the patient suffered slightly from deafness, singing in the ears, and hallucinations of hearing. On the 24th profuse bleeding from the nose and gums began. The bleeding continued in varying quantity until the 28th, that from the gums being the more severe. Altogether she lost a large amount of blood, becoming pale and weak, with a small rapid pulse. Large clots collected in her mouth, and her motions were blackened, apparently from swallowed blood. When the hæmorrhage began, the salicylate was stopped, a solution of tannic acid was ordered as a mouth wash, she was given ice to suck, and a mixture containing 25 minims of tincture of hamamelis and 10 minims of tincture of perchloride of iron was prescribed. On the next d., with the view that the hæmorrhage might be a manifestation of a purpuric or scorbutic tendency, lemon-juice was ordered. As before mentioned, the hæmorrhage entirely ceased on the 28th, and from that time the patient did well until Oct. 5th, when a slight relapse of the articular inflammation occurred, there being pain in one wrist, with a temperature of 99° . Ten gr. of S. of soda were ordered 3 times a d. The next d. at noon the bleeding from the gums began again. It was not nearly so severe as on the previous occasion, and ceased on the evening of the same d., the salicylate having been stopped and similar measures taken to arrest it. The patient left the hospital on Oct. 9th, quite well. The patient stated that she did not remember that her nose or gums had bled on any previous occasion. In the intervals between the attacks of hæmorrhage the gums were not spongy nor easily made to bleed. At no time were purpuric spots observed upon her legs.

b. William H—, æt. 26, a porter, was admitted into Guy's Hospital, under the care of Dr. Pavy, on May 23rd, 1888. He had previously enjoyed good health except for slight headaches. The family history was good. The present illness began a fortnight before admission with pains in the limbs, and when the patient was first seen he presented the symptoms of a moderately severe attack of acute rheumatism, there being inflammation of the knees, shoulders, and hips, with a temperature of 102.4° . There was no cardiac complication, and no albuminuria. The patient was at once ordered 20 gr. of S. of soda in peppermint water every 4 h., and on the 25th the medicine was ordered to be given every 2 h. On the 26th it was noted that the patient was sweating profusely, that there were inflamed sudamina on

his chest, and that he was very deaf; so that, in the course of the d., the medicine was prescribed every 4 h., as at first. On June 1st Salicine in 20 gr. doses was substituted for the salicylate, the mixture being taken every 3 h., and on the next d. the following note was made:—"The patient is breathing noisily 25 times per m., his face is cyanosed, and there is abundant perspiration on his forehead and chest. His gums are spongy, and bleed on the slightest pressure. The tongue and palate are covered with large hard crusts of blood, which has evidently been oozing for some time. The pulse is soft and regular, 88 per m." This hæmorrhage from the gums continued till June 6th, when it was noted that the clots of blood had disappeared from the tongue, though the gums still bled on pressure. On this date the Salicine was ordered to be given every 6 h. From this time the patient made a slow recovery, having a slight relapse on the 14th, on account of which the Salicine, which had been for some days taken only 3 times daily, was again taken every 6 h. Two d. after this change the patient had a slight return of the bleeding from the gums. This and the relapse of joint trouble lasted but a short time, and the patient was discharged cured on June 16th. For a few days during his stay in the hospital a soft systolic bruit was heard at the apex of the heart. (LAURISTON SHAW, *Lancet*, 1889, i, 114.)

16. A girl, æt. 17, affected with chorea, was treated with S. ac., 6 grm. in d. After 2nd d. she had headache and buzzings in ears, then some fever, cause of which could not be discovered, and which caused a suspension of treatment. The fever fell the next d. but one, and patient's choreic movements were manifestly less intense. (*Lond. Med. Record*, 1877, p. 11.)

III. *Experiments on animals*.—1. Drs. CHIRONE and PETRUCCI publish an account of a number of experiments on the action of S. ac. and S. of soda on dogs, rabbits, and frogs. They sum up in the following conclusions:

a. The biological action of S. ac. and of S. of soda is identical; but with the former the local, with the latter the general effects are more marked.

b. Both, when administered in small doses, lower the temp., but within restricted limits; in somewhat large doses they not only fail to lower the temp., but sometimes considerably increase it.

c. Animals subjected to the daily use of these substances rapidly emaciate and lose weight.

d. The heart-beats are, in frogs, reduced in number, especially by S. of soda. In mammalia the latter sometimes retards, sometimes accelerates, the heart's action, independently of dose. With free S. ac. the number of heart-beats is, in most, constantly reduced.

e. S. acid almost constantly reduces the number of respirations; S. of soda ordinarily first increases and then diminishes the number. (*Ibid.*, 1878, p. 175.)

2. KOEHLER and DANIEWSKI found that warm-blooded animals succumb to concentrated solutions of natrum salicylate, given per os or by hypodermic injections, and die asphyxiated; and chemical analysis showed that the blood, in colour and loss of coagulability, is similar to

that found after suffocation. It is a regular death of poisoning by carbonic acid. It is also well known that salicylic acid and its preparations are a far stronger poison for carnivorous animals than for herbivora. (*Centralbl. f. d. med. Wiss.*, 1876.)

SAMBUCUS.

Sambucus nigra and *canadensis*, L. Elder. Nat. Ord., *Caprifoliaceæ*.

I. *Proving*s.—I. HAHNEMANN, *Mat. Med. Pura*, vol. v of original, vol. ii of translation. Contains 20 symptoms from self, and 99 from 5 others (from *S. nigra*).

2. a. Dr. A. ÜEBELACKER took 20 dr. of tinct. of buds, flowers, tender shoots, and leaves of *S. canadensis*. After 1 h., while driving out, there came on severe drawing in head, with fulness, motion causing feeling as if something were undulating therein, with unusual depression of spirits and undefinable apprehension; face was flushed, and mouth so dry and parched that he had to stop at a farmhouse and ask for a drink. After 2 h. back felt as if sprained; pressure in renal region, followed by frequent and profuse flow of clear urine; unaccountable heaviness and constriction in chest, as if a heavy load were pressing on it; heart began to labour heavily, and palpitation set in; sense of oppression made him gasp for breath at times; breathing was laboured as in asthma. After 3 h. perspiration, soon becoming profuse, which gradually relieved all symptoms; pulse had risen to 100, but became normal after the sweating. Next d. took 50 dr. After $\frac{1}{2}$ h. same drawing and fulness in head, followed by sharp darting pains through it. After 1 h. pain in back; sharp darting pains in hands and feet; frequent urination; oppression of chest and labouring palpitation of heart, as on 1st d.; face was so flushed that a friend meeting him on the road said, "Doctor, you'd better go home; your face is all broken out in blotches, and you look bad." Then came profuse sweat, with relief of all symptoms save feeling of exhaustion, which remained all the rest of d. On 3rd d. again took 50 dr. at bedtime. After $1\frac{1}{2}$ h. was aroused from sleep by terrible constriction of chest and heart, had to jump up in bed to get his breath, and could not lie down for fear of choking; there was also pressure in lumbar region, frequent urination, and darting pains in hands and feet. Profuse perspiration (less on head than elsewhere) again relieved all symptoms.

b. A week later prover took 20 dr. one d. and 30 dr. two d. later. All symptoms recurred; also throat and mucous lining of larynx and trachea felt dry and swollen, impeding free respiration; urine showed albumen to nitric acid test; respiration wheezing; there was feeling of soreness in chest and over heart, and in attack there was sharp pain in heart, which at times worked so strongly as to be perceptible through chest.

During all the provings a feeling of uneasiness and unrest was a very marked symptom. (*ALLEN'S Encyclopædia*, viii, 476.)

3. Aug. 22nd, 7 a.m., took $\frac{1}{2}$ teaspoonful of tinct. From 11 a.m.

several thin slimy stools, with much wind ; urging immediately after a stool ; abdomen distended, pressure in stomach and umbilical region. 9 p.m., the last thin stool. (LEMBKE, *A. h. Z.*, xlix, 179.)

II. *Poisonings*.—1. A weakly woman, æt. 54, who had been sick all d., was persuaded by her husband to take 2 tablespoonfuls of juice of fresh root, which he himself had dug up, shaved down, and pressed. The woman soon after complained of severe pain in abdomen, and bowels began almost immediately to act copiously. Next d. symptoms were those of enteritis, which proved fatal. No autopsy. (TAYLOR, *op. cit.*)

2. *a.* In afternoon of May 17th, 1828, two boys ate, one the flowers, the other the flowers and leaves, of the common elder. The first, æt. 8, was well enough when returning home to dinner 2 h. afterwards, but during meal began to complain of severe griping. In e. griping continued, he became also hot and feverish, and had excessive tenderness over whole belly. Next m. symptoms were unabated, belly excessively tender, tormina recurring violently every $\frac{1}{2}$ h., mouth and throat sore. On m. of 19th vomiting set in, which towards e. was tinged with blood. He was taken to hospital on 20th, and on 21st was found with above symptoms ; occasional hiccup ; pulse 140, full and rather sharp ; tongue furred in centre, and skin rather hot. Antiphlogistics and aperients relieved, and by June 1st he was well save for weakness.

b. Brother, æt. 11, did not complain till n., when he had violent headache ; next m. was very giddy on rising, and this increased to staggering during forenoon. A laxative caused vomiting and purging ; but headache returned violently at n., and on m. of 18th he was still so giddy that he could not walk. In course of d. he got gradually better, and next m. was quite well. (CHRISTISON, *Ed. Med. and Surg. Journ.*, xxxiii, 73.)

SANGUINARIA.

Sanguinaria canadensis, L. Blood-root, red-root, puccoon. Nat. Ord., *Papaveraceæ*.

I. *Proving*s.—1. *a.* Dr. DOWNEY took, 2 h. after breakfast, 20 gr. of fresh root. 10 m., burning in stomach ; 25 m., considerable nausea, which recurred at intervals for an h., face very pale with it (40 m.). Pulse was 76 before experiment ; 10 m., 78, full and strong ; 15 m., 80 ; 20 m., 84 ; 25 m., 86, very irregular and not so full ; 35 m., 87. It then fell gradually, varying in character according to nausea, till in 80 m. it was 72 ; 90 m., 74.

b. Same took 8 gr. of the "saponaceous or extractive matter." 20 m., slight nausea ; 40 m. disposition to vomit, short-lasting ; 50 m., nausea nearly gone. Pulse, 76 before experiment, after 20 m. was 79, diminished in fulness and force ; 30 m., same, very small ; 50 m., 81, considerably fuller. It thence fell, showing only a little irregularity, till at 75 m. it had reached its initial point.

c. Same took 8 gr. of resin. No symptoms. Pulse, 74 before ex-

periment, rose to 77 in 20 m., and was a little fuller. After 30 m. it declined again.

d. Same took 8 gr. of leaves made into pills. 15 m., warmth at stomach. 25 m., fulness of head, with slight vertigo. 30 m., wrists cold, and profuse sweat on forehead. 40 m., slight nausea. 55 m., slight involuntary motion of muscles; still fulness of head and vertigo, which in 80 m. merged into dull headache, with extreme languor, pain lasting some h. Pulse rose from 76 to 84 in 40 m., and was then small; it fell in 45 m. more to starting-point.

e. Same took 4 gr. of aqueous extract. 25 m., pleasant warmth at stomach; slight involuntary motion of muscles. 75 m., dull pain directly over eyes; extreme languor. 95 m., disagreeable sensation at stomach, which continued for remainder of *d.* Pulse rose from 76 to 86 in 35 m., and was then small, but with considerable tension. At 95 m. it was 73, and smaller than usual.

f. Same took 3 doses of a concentrated decoction of seed-vessels and seeds at 20 and 45 m. intervals. 35 m., glow of warmth over body; 50 m., perspired freely; 70 m., torpor of whole system, with very frequent yawning. He was not entirely free from effects for 2 h. Pulse rose from 76 to 83 in 30—35 m., thence sinking; at 70 m. it was 76, and extremely irregular; at 90 m. same, nearly as full as usual, but not so strong, and fluctuating. (ALLEN'S *Encyclopædia*, viii, 481.)*

2. *a.* Mr. YOUNG took 23 gr. of powdered root made into pills with honey. 15 m., burning in stomach; pulse very quick, without much fulness. 30 m., great nausea; 35 m., 6 or 7 full vomitings.

b. Same took 8 gr. of aqueous extract. 40 m., much nausea, shortly after relieved by free emesis. In both experiments there was some ardor urinæ. (*Ibid.*)

3. Mr. REES took 8 gr. of alcoholic extract of dry root. No symptoms. Pulse, 80 before experiment, rose to 89 during 65 m. (*Ibid.*)

4. Mr. BARTRAM took 8 gr. of gummy extract. No symptoms. Pulse rose from 78 to 83 in 30—35 m., thence declining. (*Ibid.*)

5. Mr. PRENDERGAST took 4 gr. of powdered leaves. 15 m., slight warmth at stomach. 40 m., great debility. 60 m., slight nausea, continuing several h., slight tremors, and very frequent yawning. Pulse rose from 76 to 82 in 30 m., thence declining. (*Ibid.*)

6. Mr. WOOLTON took 3v doses of decoction. 45 m., vision somewhat affected; pale face. 55 m., great languor, with irresistible propensity to yawn, lasting some little time. Pulse, 80 before experiment, at 15 m. was 84, very strong and full; at 20 m., 87, smaller but tense; then gradually but variably falling, and at 90 m. 78, nearly of natural fulness, but very irregular. (*Ibid.*)

7. Dr. JEANES, after decanting tinct. of root, and preparing 1st and 2nd dils., observing that he was affected by the drug, noted the following symptoms:—Nausea, as if vomiting was about to take place, and feeling as diarrhœa would ensue; slowly shooting pain in l. ear, forehead, sternum, l. chest near axilla, and r. chest about 7th rib; cramp and pain in l. calf; transitory and slight but peculiar sensation in fauces,

* The next 5 experiments are also reported by Dr. Downey.

as if something acrid had been swallowed. Discharge of flatus, and then of fæces, abated nausea, &c. ; but there followed prickling sensation in tongue and roof of mouth ; pain in one or more incisor teeth and in a decayed molar,—in latter slowly shooting and thrilling, passing off as a “grumbling pain.” (*Mat. Med. of Amer. Proving.*)

8. Dr. HUSEMANN gave to J. H— (woman) and F. H— (man) some globules of 6th dil. in e. and following m.

a. J. H— on waking in m. had crawling feeling at tip of tongue and acrid sensation extending over whole tongue ; rheumatic pain came on in r. shoulder, worse in forenoon, when she had retained arm long in same position, drawing down into elbow. Next m. woke with pain in carious tooth of r. upper jaw and in r. forehead extending to ear ; toothache aggravated by cold or hot drink, but relieved by warm. She had frequent hacking cough while eating and when lying down at n. for several d. ; and on 7th d. menses, right to time, were much more copious than usual, and with them there was pain in r. forehead and head with feeling as if eyes (especially r.) would press out of head.

b. F. H— felt prickling at tip of tongue 15 m. after dose. Next m., on waking (earlier than usual), feeling of dryness and rawness, as after acrid things, extending from r. side of tongue over whole organ ; two stools during d. ; in e., while walking in open air, sense of extreme weakness in lower extremities ; transient pressive pain in r. forehead, only when standing still, and therewith pain deep in l. ear. Next m. and the following, pain in a lower r. carious molar after cold drink ; in afternoons pain in forepart of head as from fulness ; pressure on head at vertex, disappearing while walking ; drawing in calves into instep, worse in r. than in l. ; pain in top of r. shoulder. On 2nd d. great weakness in lower limbs, and pain in loins, relieved by bending forward. On 3rd d. he remarked that by drawing tips of fingers lightly over r. cheek, crackling was felt in ear of that side (it was not so with the l.) ; about 2 p.m. feeling in eyes as if exposed to acrid vapour ; hiccup while smoking ; very weak in lower limbs while walking ; sticking on l. side of tongue ; heat in throat, inspiration of cold air pleasant and alleviating (e.) ; boring pain above in forepart of head ; p.m., hot burning streaming from r. clavicle and axilla towards hepatic region. On 4th d. stiffness and drawing in bend and sides of knees ; acute stitches in r. breast, in region of nipple. On 1st d. soft stool, later d. rather costive. The 8th d., p.m., twisting pain above l. groin at mid-point, worse while sitting, standing, or bending to r. side, increased by pressure, better whilst walking erect ; after a time pain went from this spot round to l. hip, and then upwards to back on short ribs. (*Ibid.*)

9. Dr. BUTE proved 1st dil., manner unknown. Extreme moroseness. Vertigo, with singing in ears (immediately) ; confused and dull feeling in head, relieved by flatulent eructation (soon) ; heaviness of brain ; determination of blood to head, with whizzing in ears, and transitory feeling of heat, then sensation as if vomiting was about to take place, instead of which followed slight cutting-drawings in abdomen, and then a stool ; dull pain in head ; headache while lying down ; —, with chill ; —, beating, worse from stooping and motion ; —, beat-

ing, with vomiting of bitter water ; —, with nausea and chill, then flying heat from head to stomach, lasting 6 h. ; paroxysmal headache in e., with tickling in throat and cough ; sensation as if head were drawn forward ; pain in all upper part of head ; severe, quick, darting pain in r. forehead and temple at 5 p.m., lasting about 5 m., repeated at 7, and at 11 sudden pain through forehead like a brief electric shock ; pressive drawing in forehead ; periodic stitches in l. temple ; pain in vertex ; enlarged veins on head ; scalp on one side seems loose ; soreness of scalp to touch. Dimness of eyes, p.m., with feeling as if there were hairs in them ; pain and tenderness in r. eye, with burning and profuse lachrymation, soon followed by fluent coryza, with flow of clear water from r. nostril,—two diarrhœic stools in e., with cessation of all symptoms (5 h.). Pains in ears, with headache ; every stroke of a hammer in a neighbouring blacksmith's shop is painful in r. ear ; beating under ears at irregular intervals, often only two strokes ; beating whizzing in l. ear. Fluent coryza, with frequent sneezing ; —, watery, acrid, making nose sore ; alternations of fluent and stuffy coryza ; heat in nose ; smell in nose as of roasted onions ; loss of smell and taste. Redness of face ; distension of veins of face, with excessive redness and feeling of stiffness ; feeling of fulness in face ; violent burning heat and redness of face. Sensation of dryness of lips (in 3 proverbs) ; stiffness of jaws ; jerking in both maxillary bones, extending towards eyes ; looseness of teeth, with salivation ; toothache when picking teeth ; pain in upper teeth ; pain in a hollow tooth, especially when touched by food ; tongue white coated, with loss of appetite ; a piece of sugar-cake tastes bitter, thereupon burning in fauces ; slimy taste in mouth ; in e., pain, with feeling of swelling in throat, worse on r. side, and most perceptible when swallowing ; for 1 h. feeling in throat as if it were swollen up and would suffocate him, with pain on swallowing, and aphonia (3 h.) ; dryness in throat, not relieved by drinking ; burning in œsophagus ; craving for he knows not what, with loss of appetite ; craving for piquant food ; disinclination for butter, which leaves a disagreeable after-taste ; frequent malodorous eructations, with disposition to vomit and paleness of face ; spasmodic eructations ; eructations of gas, followed by tickling in throat, producing cough (immediately) ; regurgitation and disposition to vomit ; extreme nausea with great salivation ; nausea after eating ; —, not relieved by vomiting ; —, on stooping ; —, periodic, with loss of appetite ; —, long continued, with chill ; qualmish nausea, obliging to vomit, followed by headache, with rheumatic pain and stiffness of limbs and nucha ; vomiting and diarrhœa ; vomiting, with craving to eat in order to quiet the nausea ; soon after eating feeling of emptiness in stomach ; pressing in stomach ; jerking in region of stomach, as from something alive ; great weakness of digestion ; severe and continual pain in hypochondria, with vertigo and debility ; all n. abdominal pain, like the menstrual ; paroxysmal pain in abdomen ; in m. colicky pain in upper abdomen, and then diarrhœic stool ; in n. digging colic, with pain in sacrum ; cramp in abdomen, passing from place to place ; violent pains like thrusts of a knife in abdomen, followed by diarrhœic stools as thin as water ; beating in abdomen ; repeated ineffectual desire for stool, with sensation as of a thick mass in

rectum; p.m., frequent pressure for stool, but flatus only passed; diarrhœic stools, with great flatulence; single watery stool after severe cutting pain in bowels (1 h.); 5 natural stools in a d.; food passes undigested in stool. Frequent micturition, also at n.; abdominal pains, as if menses would appear; menses a week too early, with black blood. Dry cough woke him from sleep, and did not cease till he sat up and discharged flatus upwards and downwards; cough, slight or hacking; pressive pain in chest and back; simple pain in thorax; sharp stitches in r. chest; stitches from l. chest to shoulder; stitches in l. short ribs on moving and turning body; nipples sore and painful; severe soreness under r. nipple, aggravated by touching; stitches in both breasts. Pain in l. nucha; soreness of nucha to touch; burning in soles and palms; pain in both shoulders; violent pain in l. shoulder, e., on every motion; sudden rheumatic pains in shoulder-joint; rheumatic pains in arms and hands; —, in r. forearm and l. foot, e.; redness of hands and severe burning; violent pain, as from a boil, in r. palm close to index; numb pain in ball of r. thumb; pain as from a boil at root of r. thumb-nail, then in l., and from these to all fingers in succession; rheumatic pain in r. ring-finger just above 2nd joint; cutting pain in 2nd joint of l. middle finger; stitches in tip of r. little finger; pain as from a bruise in l. hip-joint, while walking, but worse when rising from a seat; rheumatic pain in l. hip; continual stitches under r. outer malleolus as from a bee-sting; sticking pain in r. ankle; needle-like stitches in instep, m., in bed, and p.m. coldness of feet. Great weakness; pain in parts where bones are least covered by flesh, but not in joints, on touching painful spot pain shifted elsewhere; pulsation through whole body. Sleeplessness at n.; he wakes at n. with affright, as if he would fall; dreams of frightful and disagreeable character; —, of a sea voyage which he had undertaken. E., in bed, chill and shivering in bed; shaking chill with pain under scapula on motion. (*Ibid.*, and *N. Archiv*, ii, 2, 114.*)

10. (No information as to dose, &c.) Great pain on the top of the whole l. side of head, especially in eye; some pain in l. foot. Pressive pain in l. eye. Pricks in upper eyelid. Great quivering before eyes. Tongue as if scalded. Greasy taste. Violent pain in r. hand, the whole arm is painful even when lying quiet and warm in bed; he has also pain in l. foot, sometimes on the top, sometimes in heel, sometimes in toes. (*FREITAG, N. Archiv*, loc. cit.)

11. Dr. M. A. TINKER, health good, took, April 10th, 1866, at 3 p.m., 10 dr. of tinct. of dry root. 30 m., temples feel pressed together, with darting pains in eyeballs. 40 m., sense of constriction across chest, with inclination to breathe deeply, which much increases constriction, and causes tearing pain through breasts, especially r. 45 m., drowsiness, coming on gradually, causing indisposition to move or make any mental exertion; sharp piercing pain midway between sternum and r. nipple, surface feels tender on pressure. 1 h., head feels dull and inclined to ache in temples, r. most; sense of weariness and lassitude throughout system, yawning, disposition to lie down. 6 p.m., pain in r. breast, very permanent and increasing, extending to stomach and

* For the references of the symptoms the *N. Archiv* has been used; for their rendering the American version.—EDS.

causing sickening sensation. 9, dull heavy pain at root of nose, with dizzy sensation as from alcohol; also same feeling of lassitude, inducing her to retire early. 11th.—Pain in r. breast has persisted all n., also troublesome dreams and restless tossing about, with painful sighing respiration and considerable dyspnœa. 7 a.m., severe aching in temporo-frontal region, and dull heavy pain about root of nose, with considerable coryza and stinging sensation in nose; mouth clammy and feverish; appetite and taste much impaired; weight as from indigestion in stomach; dry cough, with considerable tickling in throat-pit, and crawling sensation extending down beneath sternum; pains through hips and down r. leg, very severe in 1st joint of r. great toe, like gout. Latter pain lasted $2\frac{1}{2}$ h.; cough became very severe, causing considerable pain beneath upper sternum, with no expectoration, and lasting 2 h. At noon repeated dose. Intense burning pain between breasts, most severe on r. side; feeling of weariness and lassitude all through system; dull pain at root of nose, with tingling sensation as in coryza; band-like constriction across forehead, just above eyebrows; pressing pains in both temples, with occasional darting pain through head; head feels dizzy, she cannot turn for fear of falling; sharp piercing pain in r. breast, just beneath nipple, very difficult to take a deep inspiration, and some dyspnœa; spasmodic constriction directly beneath lower jaw and across throat, very distressing (lasting 2 or 3 h.); again sickening pain from r. breast to stomach; shooting pains through bowels extending to lower extremities; very severe headache, now tearing, now boring, over and about r. eye, extending to temple; r. eyeball is very painful, especially on attempting to roll it outward and upward, sight dim, and considerable effort and rubbing of eye is required to see anything distinctly—a feeling somewhat like snow-blindness; inability to fix mind on any subject; some feeling as of indigestion; disposition to yawn and take deep inspirations, which cause intense tearing pain in r. breast (there is also pain in l. breast, but less severe), it extends downward to stomach and bowels, causing borborygmus, and upward to r. shoulder, making it difficult to lift arm to head; wandering rheumatic pains through both lower extremities, r. most severe; dryness in throat, with teasing dry hacking cough; moderate pain in back of head and neck, gradually extending downwards to region of kidneys, where it is very severe, dull, and heavy. 3 p.m., slight flushes of heat, followed by chills, and in less than an h. face flushed, with fever, hands hot, qualmish feeling with great lassitude and weakness all over; great increase of heat through r. shoulder and clavicle to r. breast, extending to stomach and bowels, pulse 86, resp. hurried; pain along inner border of r. scapula, with heat and chills alternating, and extending down to kidneys, where there is great heat and pain,—pain from thence seems to penetrate into r. iliac fossa, then to sigmoid flexure, then down into rectum, where it caused a very peculiar spasmodic pain of the most excruciating intensity for 15 m.; sharp pain in r. ankle, also in great toe-joint; rheumatic pain in lower extremities; sneezing very frequently, with tingling in nares; throat very dry, with tickling cough; headache, very severe through whole forepart of head, extending down into cheek-bones (for 2 h.); both eyeballs very sore, with frequent sharp piercing pain darting

through them, with dimness of sight. 9 p.m., recurrence more than once of pain through bowels to rectum; severe rheumatic pain in lower extremities, so severe in r. ankle and great toe-joint as to cause serious lameness in walking,—some swelling in toe-joint. 12th.—Very restless all n.; now (6.30 a.m.) severe headache; pain in chest, through loins, and in extremities, with very feverish state of system, severe dyspnoea, sighing respiration—in fact, all the principal symptoms increased, including the weariness and lassitude, so that she is scarcely able to keep on her feet; mouth foul and breath foetid; eyes feel very weak, lids smart on closing them tightly, tears start if opened to light, eyeballs tender to touch; dull heavy pain across kidneys, urine deeper-coloured, and not quite as easily voided; pulse quick, feeble, and compressible. On taking a little exercise, frontal headache increases, with nausea; pain very severe in l. temple, at times like clavus, with violent throbbing of temporal arteries. After a slight breakfast (eaten without appetite) dull heavy load in stomach as from something quite indigestible. Lassitude and restlessness increased, and she was hardly able to attend to anything; severe temporo-frontal headache, with soreness and beating; pain about root of nose, in cheek-bones, in breasts up to r. shoulder, down back (especially severe in loins) and legs to feet. 2 p.m., light chills, followed by hot flushes, for 15—20 m. (pulse 95), when burning fever set in, with exacerbation of all symptoms; bursting headache; painful coryza; eyeballs paining much on moving them; tearing burning pain beneath sternum; very irritable and morose, impatient at least trifle; severe dyspnoea; head very tender to touch, as also other spots where pain had been severe. 10 p.m., fever subsiding and pains abating; pulse 65, easily compressed; very languid, she had taken to bed since fever set in; urine very high coloured, depositing a reddish sediment; return at times of the spasmodic distress in rectum; considerable burning in stomach. 13th.—A very restless n., till towards m. perspiration broke out freely, when pains abated. Now (7 a.m.) head aches; throat feels raw (also mouth), with some dysphagia; still severe pain in r. arm (including scapula), in loins and down legs; head dizzy at times; vertigo and faintness on rising quickly from stooping posture or turning head suddenly. 10 a.m., faintness; no desire for food; less depressed. 12.30 p.m., mouth and throat still very sensitive, making it quite difficult to masticate; desire to take deep inspirations continues, with the tearing pain in r. chest; pulse 75; moving scalp still painful, eyeballs very tender to touch; sharp darting pains from temple to temple. Return of fever about 2.30, less severe than yesterday, passing off between 8 and 9.

The drug symptoms now died away one after another during the next few d.; the fever recurred for 4 or 5 d., subsiding in force, but always about 2—3 p.m.; pain beneath sternum and in r. chest, dyspnoea, inclination for deep breathing, and dry hacking cough, were most persistent. (*Trans. of Amer. Inst. of Hom.*, 1870, p. 408.)

II. *Poisonings*.—1. Four persons took “a good drink” at a demi-john of tinct. of S., supposing it to be brandy. They were soon seized with severe racking and burning pains in stomach and bowels, with

intense thirst; and all died the next d. (*Am. Journ. of Med. Sc.*, 1841, ii, 506.)

2. S. root sometimes powerfully excites the catamenial secretion, and occasionally it has been known to produce uterine hæmorrhage. In large doses, it nauseates strongly; but independently of this effect usually occasions a quickly diffused and transient, but very peculiar nervous thrill, which pervades the whole system, and often extends to the furthest extremity. When pushed to an improper extent, it sometimes occasions vomiting, but more frequently burning at stomach, faintness, vertigo, impaired vision, insensibility, coldness, extreme reduction of force and frequency of pulse, with great irregularity of heart's action and often palpitation, great prostration of muscular strength, and sometimes, though rarely, convulsive rigidity of limbs. In a few instances neuralgic pains have been produced in various parts of the system, and sometimes a violent but transient gastrodynia. In full emetic doses it speedily excites vomiting, but without producing much nausea or depression of strength; if pushed, however, in this capacity, it occasions great anxiety, and the above-mentioned symptoms of narcosis. (TULLY, *Bost. Med. and Surg. Journ.*, vi, 246.)

NOTE.—For Dr. Pilling's proving, see Appendix.

Sanguinarinum, alkaloid obtained from *Sanguinaria*, $C^{19}H^{17}NO^4$ (said to be identical with the "Chelerythrin" of *Chelidonium*).

I. *Proving*s.—1. a. I have repeatedly witnessed all the effects of S. root, save the neuralgic pains and the convulsive affections, from the use of tartrate of sanguinarine. In large doses at once, or large quantities in the 24 h., it produces vertigo, dilatation of pupils, appearance of a cloud before the sight, staring and protrusion of eyes, peculiar haggard expression of countenance, nausea, epigastric uneasiness, coldness of surface, particularly of extremities, cold sweats, irregularity and diminished frequency of pulse. From a single large dose, these symptoms begin in course of $\frac{1}{2}$ h., and disappear entirely in about 3 h.

b. After trying various doses, Dr. Terry took $\mathcal{O}j$ at once, with production of all the preceding symptoms. The mydriasis was very great, the strongest sunlight being incapable of producing the least contraction. While effects were at their maximum pulse was preternaturally full and flowing, without bounding, hardness, or any sign of irritation. About 20 h. after, stool passed in which there was a very unusual quantity of bright yellow bile. (TULLY, *loc. cit.*)

2. In doses of gr. $\frac{1}{12}$ — $\frac{1}{8}$, S. acts simply as an "expectorant," without disturbing the stomach. In those of gr. $\frac{1}{4}$ — $\frac{1}{2}$ every 2 h., it produces nausea and sometimes vomiting. In those of gr. $\frac{1}{2}$ in solution every 10 m., it almost uniformly causes vomiting after second or third dose. In those of gr. $\frac{1}{8}$ — $\frac{1}{6}$ every 3 h., continued for 2 d. or more, it generally reduces pulse by 5—15 beats per m. (THOMAS, *Proc. of Amer. Med. Assoc.*, 1863, p. 219.)

3. J. H. W.—proved nitrate of S., in 3x trit. He is 44, stout, and usually healthy. Dec. 12th, 1877, at 10 a.m. took a grain dry on tongue, which caused bitter taste and acrid burning. In 15 m. observed water trickling from r. nostril. Pain was soon felt in r. eyeball,

a sore aching, extending to supra-orbital region, then across forehead and to root of nose; watery mucus flowed freely from both nostrils, attended by violent sneezing every few m., with profuse lachrymation, dimness of sight as if he looked through gauze or mist, redness and soreness of inner corners of eyes, which feel swollen, tears flowed over cheek. In 4 h. secretions of nose, eyes, mouth and throat had considerably increased. Heat and burning of these parts (without thirst) was very marked. 2.30 p.m., repeated dose, with same local effects, which passed off in 15—20 m. There was increased flow of mucus and saliva, with sneezing and burning pain in forehead and root of nose, aching and soreness of eyeballs, increased lachrymation; pain became more severe on l. side of head, and there was slight aching, with soreness, all over head and scalp. 3.30, obstruction of nostrils, with soreness, roughness and rawness of r. tonsil, which became painful and caused dysphagia, obstruction of Eustachian tube, difficulty in distinguishing sounds, roaring in r. ear. 9, took a third dose. This time affection of nostrils and eyes seemed continuous with the local effects of the drug. Mucus from nose thicker, having sweetish taste and yellow colour; throat very uncomfortable. Retired at 10 and slept poorly; restless from feverishness and irritable condition; nothing but a red and irritable spot visible in throat. In m. raised great quantities of thick, yellow, sweet-tasting mucus; this continued all d., as did sorethroat, but latter was better towards e. In 6 d. all symptoms had disappeared. (OWENS, *Trans. of Amer. Inst. of Hom.*, 1878, p. 248.)

4. S. G. W—, a healthy woman of 23, took 1 gr. of same at 10 a.m. In $\frac{1}{2}$ h. burning in both nostrils, with watery secretion from them; pain in l. eyeball extending above orbit and to l. side of head; drawing in l. temple. In 2 h. watery discharge from nose had increased, attended with sneezing, burning had extended into forehead and probably frontal sinuses; eyes were suffused with tears, which flowed down r. cheek; redness of lids and conjunctiva. At 2 p.m. repeated dose, which was followed immediately by marked acrid effect on mouth; burning in nostrils; pain in eyeballs as if sore, and aching and pressure in eyes. There was heat and tension behind mid-sternum; sense of tightness in chest, inducing short hacking cough; she occasionally raises thin frothy mucus, which is very tenacious; burning in œsophagus and stomach. At 6 p.m. took a third dose, and at 10 a fourth. After former, watery coryza was greatly increased, also the burning of the mucous membranes; borborygmus and pain in abdomen, as if diarrhœa would set in. After last dose there was greater sense of dryness; cough became harsh, leaving soreness and rawness in throat and chest, with scraping raw sensation in pharynx; eructation of putrid flatus, though she had eaten nothing since m. She passed urine nearly every h. during n.; by m. quantity was found to be 28 oz., and a whitish sediment was deposited. There was also during n. frequent borborygmus with sharp cutting pain, as if stool or flatus would pass. As soon as she began to move in m. she raised a quantity of thick, yellow, sweetish-tasting mucus; this continued all d., with great apparent dryness of nose and throat. For 8 d. more there was free dis-

charge of same mucus from nose and air-passages, and slight dizziness therewith. (*Ibid.*)

5. Dr. OWENS (who personally observed the above), æt. 55, stout and healthy, inhaled an extremely minute quantity of the finely-powdered nitrate. It caused all the catarrhal symptoms experienced by the previous provers, with the aching in eyeballs and l. side of head, in him associated with stiffness in muscles of l. neck and shoulder, as if from exposure to cold or damp. This was in Feb., 1878. In Nov., 1877, he proved 3x trit. like the others, taking 1 gr. three times a d. Effects were identical, and did not extend beyond head and upper air-passages, save that after 1st n. urine showed a bright yellow sediment. (*Ibid.*)

III. *Experiments on animals.*—I. a. Dr. R. M. SMITH found the most marked feature in poisoning by S. to be complete prostration and adynamia, usually preceded by a state of excitement, in which occur clonic convulsions. In cold-blooded animals a small dose produces first hurried breathing and mydriasis; breathing then becomes slower, and convulsions usually occur, or a spasmodic rigidity of all the limbs takes their place. After a large dose the animal may pass into collapse immediately. On opening chest, heart is found either at rest in systole or beating feebly; it responds fully to electricity, but other muscles are more strongly irritable, save near point where poison was injected, where contractility is almost lost. Autopsy shows no lesion but venous congestion. In warm-blooded animals collapse always occurs sooner or later. Hypodermic injection causes local irritation and muscular inco-ordination. If thrown into stomach, the poison causes nausea and vomiting, and in some even where it is given hypodermically emesis is produced. Profuse and long-continued salivation is a constant symptom. *P.M.* examination reveals no lesion but venous congestion and entire abolition of intestinal peristalsis. Pupils are dilated.

b. Dr. Smith now made numerous experiments with a view to ascertain the meaning of these and other phenomena. He arrives at the following conclusions:—(1) S. destroys life through paralysis of the respiratory centre; (2) its clonic convulsions are of spinal origin; (3) it has no effect on motor or sensory nerves; (4) its adynamia and prostration result from its depressing action on the spinal ganglia and the muscles; (5) it decreases reflex excitability through irritation of Setschenoff's centre, and by ultimate paralysis (from large doses) of the spinal ganglia; (6) it produces in mammalia fall of pulse and blood-pressure—with latter preceded by temporary rise if small doses are given, such fall being due to paralysis (after, it may be, primary irritation) of the vaso-motor centre and of the heart itself, probably of its muscular tissue; (7) it slows respiration by prolonging pause after expiration, and this from loss of tonus of respiratory centre (here again small doses show primarily opposite effects); (8) it always dilates pupils and lowers temp.; (9) it diminishes muscular contractility when introduced into circulation, and completely paralyzes striped muscular fibre when applied locally. (*Lond. Med. Record*, 1879, p. 11.)

SARRACENIA.

Sarracenia purpurea, L. Huntsman's cup, pitcher plant. Nat. Ord., *Sarraceniaceæ*.

1. *Provingi.*—1. Dr. PORCHER proved (1847) dried root, which had been rolled into pills of 3 gr. each. Of these he took 60 between 10 and 12 p.m., upon a comparatively empty stomach. It caused frequent and copious emission of urine, which was limpid and colourless. There was, after an h., feeling of emptiness in stomach; and after going to bed ascending and descending colon felt as if in rolling motion, with much borborygmus. There was tenderness of epigastrium on pressure; also feeling of congestion about head, and irregularity of heart's action, lasting several d. Sleep that n. was much disturbed; pulse next m. 100. Appetite on following d. was unusually active, but there was pain in stomach as after inflammation, or like that felt in muscles after a limb has been overtaxed. (Dr. Porcher had previously taken 140 gr. of the fresh root, with very similar effects.) (HALE, *New Remedies*, and ed.)

2. a. Dr. T. C. DUNCAN, Sept. 11, 1866, took ʒss of cold infusion (1 to 10). Full feeling through head, just above ears; slight soreness of whole pectoralis major, and pain running up r. trapezius, with wave-like motion; heat in r. lumbar region; pulse 70, full; bloated feeling about umbilicus. 12th.—Pulse 76 on waking; pain in l. eye, as if congested, for 10 m.; dull heavy feeling in forehead for about 2 h., causing great depression of spirits; pain, also wave-like motion, in femoral muscles; sticking pains in ears, transient, but often recurring; a strange lameness in lower third of femur. 2 p.m., bone-pains in tibia and fibula, intermittent, with constant soreness on pressure, which at 4 was felt also for ¼ h. in frontal bone. 6, face feels hot; paroxysms of pain in r. shoulder-joint; pain in l. carpus and tarsus. 9, pulse 68; hands feel hot; warm all over, but fresh air makes him very chilly, and increases the bone-pains. 13th.—Awoke at 3 p.m. with urging to urinate,—urine already beginning to dribble, from fulness of bladder; felt hot and feverish, lips and mouth parched, head dull and heavy; pain and soreness in sacrum; bone-pains in arms. Woke again at 7.30 from very unrefreshing sleep feeling very feverish; pulse 80, small; sore all over, especially deep in bones; dull heavy headache, especially frontal; eyes felt swollen and sore; dulness of mind; much flatus. 2 p.m., very chilly in open air, feet and hands cold; head hot and sore, with full feeling; pain in back, very perceptible on ascending stairs; knees feel weak, arms and back tired and sore all over; disinclination to do anything, wants to lie down all the time; losing appetite. 6, a good deal of pain in back, deep-seated; brain very dull and memory poor; pain in angle of ribs, for ¼ h.; pain in hip-joints, felt most when standing up after lying. 14th.—N. better, he feels clearer and more buoyant; bone-pains still present in some degree; soreness at back of r. orbit for about 10 m. 15th.—Some dysenteric diarrhoea, with a good deal of tenesmus; took a dose of podophyllum, which quieted it. 17th.—Appetite extra good since 14th. Symptoms had gradually grown less, and to-day he felt quite well.

b. On 17th, D— took ʒj of decoction and ʒj of tinct.,* p.m. 18th.—Woke with dry mouth. At noon, some pains in condyles of femur; 3 p.m., aching sore pain in l. humerus; 9, warm sensation passing up back into head; pain in r. patella and metatarsal bones; some frontal headache; urine scanty, sp. gr. 1026; pulse 64, full. 19th.—Awoke in a fright; head hot and aching, a dull heavy feeling; tongue dry; skin feels hot and dry; pulse 68, small; soreness in all bones of extremities. 12 m., mind despondent; headache continues; pains in hip-joints; transient pains in bowels; coldness of extremities when idle or still; head and body warm; appetite poor; bones of both arms ache; dull heavy soreness in all bones; pulse 61, very small. Urine still scanty, sp. gr. 1024. 20th.—Tired and unrefreshed on waking; head dull, aching at coronal region; tongue coated brownish-white, mouth dry; urine acid, clear and pale, still scanty. 21st.—But little pain this m.; urine normal. (*Ibid.*)

3. a. C. THOMAS, æt. 17, in good health, took, June 18th, 1866, 10 dr. of same tinct. twice in d. without effect. 19th.—Took 4 such doses. Slight palpitation

* Tinct. was prepared by macerating dried root in alcohol for four weeks.

a.m. 20th.—Awoke at 5 a.m. (usual h.) unrefreshed; by 7 this sense of weariness had passed off. Borborygmus and some pain in bowels, with constipation; slight headache. Took 10 dr. again 4 times this d. 21st.—Woke at 4 feeling quite unrefreshed, though he had slept soundly; after being up an h. or two, felt better. Pulse, 68 on 2nd d., now 72; urine scanty, limpid, 1025; constipation continues. Took this d. 2 doses of 10 dr. each and 2 of 20 dr. 22nd.—Awoke at 4.30 feeling as yesterday; all symptoms *in statu quo*; pulse 74, urine 1028. Took 4 doses this d. of 25 dr. each. 23rd.—Awoke at 5 as before; urine copious and a little cloudy (from mucus), 1030; pulse 78. Severe headache p.m. for about 2 h. Doses were taken as yesterday, and same were repeated up to 26th inclusive. 24th.—Waking as before; pulse 78, strong; urine 1030, condition as yesterday; bowels moved to-day, first time since proving began, stool very hard, dark and covered with mucus. 25th.—Symptoms same in every respect; pulse 79; urine 1034; borborygmus; sensation of dryness in mouth and throat, not relieved by drinking. 26th and 27th.—Same waking; urine 1030; pulse 78-9. 28th.—Another stool; urine 1025, pulse 76; feeling much better. 29th.—Feeling well; pulse 70, urine 1020; bowels moved. July 2nd.—Well in every respect; pulse 68, urine 1019, bowels regular, sleep refreshing.

b. In July proved cold infusion (as II, *a*). On 1st d. took 15 dr. twice, and on 2nd d. same every 2 h., without effect. 3rd d.—Feeling unrefreshed, though sleep was sound. This d. and the two following took 20 dr. every 2 h. Lassitude all d. 4th d.—Sleep still unrefreshing, and very dreamful. Took 30 dr. every 2 h. Lassitude persists, general malaise; bowels freely opened to-day for first time. 5th d.—Still feeling dull and heavy; headache for an h.; free perspiration; difficulty in concentrating attention; forgetfulness. 6th d.—No new symptoms. 7th d.—Took 50 dr. every 2 h. Slight headache; felt very unfit for work and study. On 8th d. took 60 dr. every 2 h. and on 9th d. 75 dr. Same feelings, with little appetite. No stool from 4th till 10th d., when it was copious, dark and foetid. From 11th d. began to feel much better, and by 15th d. was quite well. (*Ibid.*)

4. Dr. G. H. BUTE gives following symptoms as results of a partial proving:—want of memory; dull feeling in head, as if stunned or stupefied, or as if benumbed; soon after taking drug headache and want of recollection, with numbness of arms and weakness of lower limbs on going upstairs, then sudden shock through head like an electric shock, after which senses feel as if paralysed; 12 h. after taking drug sudden "stroke" from r. side of head downwards to r. shoulder, and subsequent feeling of crawling, weakness and numbness in r. shoulder and arm; pain in forehead, with stitches over eyes; dull pain at back of head, e. in bed.; by drawing jaw towards l. side, feeling arises as if air streamed into l. ear, with whistling therein; feeling of pressing inward at pit of throat, accompanied by headache; just after taking drug, cramp-like pressure about lower œsophagus, as if it remained sticking there; pain in umbilical region; menses came on at once, prematurely; bruise-like pain of muscles and bones of chest; pain extending from l. shoulder downward to lower ribs; numb feeling in muscles of arms and hands; gnawing pain in bones of same; itching stitches on r. shin-bone; general feeling of being unwell, which causes restlessness; in sleep he dreams he hears music, and thereupon awakens and still seems to hear it. (*Hahn. Monthly*, ii, 424.)

5. Dr. OEHME took a few dr. of 1st dil. several times a d. for a few d. Frequent sensation of considerable pressure in stomach, lasting once for several h.; sense of fullness in abdomen, with slight pain in various parts, as if from flatus; frequent sensation just above inguinal ring as if hernia would protrude (he had an incomplete inguinal hernia, which however had never given him any inconvenience); sensation in anus as if stool would come. Same symptoms appeared during a proving of 2nd dil., made soon after the other; bowels also were irregular and costive. A week later, he took 3rd dil. in same manner as 1st, and same symptoms recurred; also disagreeable sensation in anus as if it were stopped up with a plug, or filled with wind. A proving 10 years later yielded similar results. (*Ibid.*, xi, 535.)

6. Dr. CIGLIANO obtained following effects from provings, but their manner and subjects are not stated:

Alternate apathy and intellectual activity, with heaviness of head; pressive pain in orbits, so that he could not keep head erect; bad taste, with loss of appetite; constipation for 10 d., fæces hard and voluminous when they do appear; pains in 3rd

and 4th ribs, with great apprehension of heart disease (lasting for about 3 mos. after suspension of drug); fixed pains in small of back (rachialgia); pains in diaphyses of all long bones, especially of humerus; wandering pains; exacerbation of all symptoms in stormy weather, about midnight and at 3 p.m., amelioration in fresh air and out of bed; eruptions similar to crusta lactea, on forehead and hands papular eruptions changing to vesicular, with the depression as in smallpox (lasting 7—8 d.); sleeplessness; sleepy in daytime, sleep disturbed by strange and frightful dreams; horripilations between shoulder-blades, p.m. or e.; chills, heat and sweat, at 5 p.m. (in a lady). (*Il Dinamico*, 1871.)

SARSAPARILLA.

Root of *Smilax officinalis*, Humb. and Bonpl., and other species of *Smilax*. Nat. Ord., *Smilacæ*.

I. *Proving*s.—1. HAHNEMANN, *Mat. Med. Pura*, vol. iv of original, vol. ii of translation. Contains 34 symptoms from self, and 111 from four others.

2. *IBID.*, *Chronic Diseases*, part v of original, vol. of translation. Contains the above, with additions from Nanning and Schreter (561 symptoms in all).

3. Dr. CROKER took repeated doses of tinct., without effect save numbness of fingers, especially 3rd and 4th of both hands. He found also that he could go all d. fasting while under influence of drug. (*BERRIDGE, N. Am. Journ. of Hom.*, 1872, p. 101.)

3. Mr. R. M. THEOBALD took 10 dr. of tinct. at bedtime. Woke at 1 a.m. with sharp cutting pain under thumb-nail of one hand, and afterwards of the other. Had a hurried action of the bowels before breakfast. (*IBID.*, *Am. Obs.*, 1875, p. 305.)

4. Miss —, æt. 12. On 1st d. took 10 dr. of tinct. at 9.30 a.m. In 5 m. slight giddiness and heat all over as if from a close air (it was a cold rainy day). In an h. aching pain in centre of chest, inclined to keep still in order to relieve it. At 1 p.m. twitching of r. side of upper lip. 2nd to 4th d.—Took 10 to 20 dr. In e. of 4th d. bleeding from r. nostril on blowing nose, light-coloured blood. In m. very much burning in œsophagus. 5th d.—Took 30 dr. 6th d.—Woke with fishy disagreeable taste in mouth, and dry obstruction of r. nostril. Took 2 doses of 20 and 40 dr. 8th d.—Headache in each temple; wanted to lie down. 10th d.—Phlegm in throat all d. which she could not detach or swallow. Coryza, especially on r. side. 4th d.—Bleeding from l. nostril when blowing nose. Mucus in throat tasting like blood. (*Ibid.*)

II. *Poisonings*.—1. A family of 4 children, who had for some time been taking "Bristol's Sarsaparilla" in teaspoonful doses n. and m., were attacked with herpes. In one it appeared as two small irregular shaped patches, $\frac{1}{2}$ inch or more in diameter, commencing beneath labial commissure and spreading towards mesial line of chin. The crusts were thick and of a dirty yellowish-brown colour, surrounded by an inflamed areola and suppurating border. In a week the two patches had coalesced, and covered entire chin. Several patches had also appeared on hip, extending from anterior iliac spine back-

wards and upwards towards lumbar region. The crusts had been detached by contact with the clothing, leaving an angry inflamed appearance. Eruption continued to spread for 2 mos.; itching was very troublesome and persistent. Another boy had a well-defined patch of herpes phlyctenodes, as large as palm, on l. side of neck from ear in front to the spine behind. The other two children had small irregular patches on l. arm and face, and wherever skin was abraded on hands suppurating pustules were to be seen. The three last children rapidly recovered under a few doses of camphor. The first one was left untreated and took longer to recover. (Dr. H. C. ALLEN, *Am. Obs.*, 1874, p. 234.)

2. S. has nauseating, drowsy, and racking effects. A negro took infusion from ꝑiv of Rio Negro S. It caused nausea and great prostration of strength, and a degree of torpor which caused him to lie on the ground unwilling to move or get up. He said it "made him sick as death, and broke all his bones." Pulse was, but only a little, retarded. (HANCOCK, *Trans. of Roy. Medico-Botan. Soc.*, 1829, p. 61.)

3. S. from the *Smilax aspera* causes a gnawing hungry sensation; abundant diuresis; tightness or pain in head. (ASHBURNER, *Lond. Med. Gaz.*, 1853, xii, 350.)

4. HJORT observed, as the effects of a saturated decoction, nausea, anorexia, constriction of throat, heaviness of limbs, weariness, and headache. (STILLÉ, *op. cit.*)

5. In several cases I have given the powdered root in very large doses, in order to ascertain its effects. Nausea, vomiting and temporary loss of appetite were alone observed. (PEREIRA, *op. cit.*)

Smilacinum, a white crystalline principle found in S. (chemical formula unsettled).

1. *Provings*.—1. PALOTTA took 2 gr. without effect, but found 6 gr. to occasion gastric uneasiness and slowing of pulse; from 8 gr. he had nausea and constriction of throat; 10 gr. further produced sense of general debility, and, after $\frac{1}{2}$ h., perspiration; 13 gr. gave rise to moderate vomiting of a bitter liquid, with irritation and constriction of throat, faintness, and general exhaustion. (*Journ. de Pharm.*, x, 543.)

2. BOECKER found that Sm. is neither diuretic nor diaphoretic; and similarly negative results were obtained by him from the root itself. (*Journ. f. Pharmacodynamik*, ii, 30.)

— 3. CULLERIER gave Sm. to 9 syphilitic patients. In doses of 6 gr. the stomach readily supported it, but 9 gr. caused weight at stomach and nausea. (*Journ. de Chim. Méd.*, 2nde sér., I, 45; from Pereira.)

SCILLA.

Urginea Scilla, Steinheil. Squill, sea onion. Nat. Ord, *Liliaceæ*.

1. *Provings*.—1. HAHNEMANN, *Mat. Med. Pura*, vol. iii of original, vol. ii of translation. Contains 86 symptoms from self, 172 from 7 associates, and 30 from authors.

2. Dr. HAMMOND took 2 gr. of the dried bulb 3 times a day for 3 d. to ascertain effects on urine. It was found to act similarly to digitalis and juniper, causing increase in water of urine and inorganic solids, but reduction in amount of organic matter—the latter considerably greater than with the other two substances. (Urine, from 1358 c.c., rose to 1493—1572, and inorganic solids from 27 grm. to 30—31; organic solids fell from 42 grm. to 28—31.) (*Amer. Journ. of Med. Sc.*, N. S., xxxvii, 277.)

3. The Vienna Society of Physicians proved the extr., beginning with $\frac{1}{4}$ gr. and increasing to 19 gr. doses. The following symptoms were observed:—Great ill-humour; pressure in stomach, frequent eructations, nausea and inclination to vomit; increased warmth in abdomen and much flatulent distension, with griping and rumbling; pulse accelerated in one, retarded in another; trembling and weakness of extremities; general discomfort; chilliness over whole body. From small doses stools diminished at first; from larger ones frequent and soft, with burning at anus,—in one prover first soft stool was accompanied by pain in sacrum and tenesmus, but it relieved griping; from larger doses stools were sluggish, and constipation followed the proving. In one prover from large doses there was increased secretion of urine till the liquid stools set in. (*Zeitsch. d. Gesell. der Aerzte zu Wien*, 1847.)

4. The subject of experiment was a young man who, before commencing to take the drug, had his urine investigated for 5 d. with the following result:

1st day passed	1386 grm.,	sp. gr.	1016.
2nd " "	1542 " "	" "	1015.
3rd " "	1282 " "	" "	1016.
4th and 5th " "	1534 " "	" "	1016.

He now got gr. iij Sc. 4 times a d. Immediately increased saliva; warm feeling in stomach, which went off after 4 d., though still continuing to take the drug. On 5th d. a persistent clayey taste, with tongue furred whitish yellow, eructation of tasteless and inodorous gas, diminished appetite and feeling of discomfort in stomach, occasional pains in abdomen, stools not more numerous but more copious, increased thirst. The urine was as follows:

1st day passed	1392 grm.,	sp. gr.	1016.
2nd " "	1418 " "	" "	1016.
3rd " "	1428 " "	" "	1016.
4th " "	1622 " "	" "	1014.
5th " "	1405 " "	" "	1016.
6th " "	1382 " "	" "	1016.

After waiting some d., by which time all the symptoms had disappeared,

he got \Oss Sc . This caused the same symptoms but in greater degree. Three d. afterwards he got \Oj p. dos. and had retching, diarrhœa, and colic, and the experiment had to be stopped. While taking these larger doses the urine was as follows :

1st day passed	1422	grm.,	sp. gr.	1015.
2nd " "	1398	" "	" "	do.
3rd " "	1438	" "	" "	do.
4th " "	1242	" "	" "	1016.
5th " "	1297	" "	" "	1017.
6th " "	1285	" "	" "	do.
7th " "	1462	" "	" "	1015.

The inferences drawn from this trial are : 1. Squill in small medicinal doses has in the healthy no diuretic action, it increases neither the quantity nor the sp. gr. of the urine. 2. In large doses it is not a diuretic in the healthy. 3. In small doses continued for a considerable time it causes in the healthy slight gastric disturbance, in larger doses this disturbance is greater. (PIEPER, *Allg. Med. Cent. Zeit.*, xxiv, 565.)

II. *Poisonings*.—I. A labourer, æt. 58, affected with general dropsy, procured some squills cut in small pieces, which he digested for 48 h. in about 280 grm. of white wine. He took at one dose the half of this mixture, and as he very soon after experienced violent griping, he took a few more spoonful to increase the effect. Extreme nausea and yet more violent colic was the result ; and when these had continued 24 h., without giving rise to vomiting, Wolfing was called in. He found face of patient red and burning, but feet and hands almost cold ; pulse was small and contracted ; abdomen so tender that slightest covering could not be borne. Emollients, &c., were given, and pains had almost entirely ceased on 2nd d. ; but patient then expired. (*Lond. and Ed. Monthly Journ. of Med. Sc.*, iii, 79.)

2. I have witnessed several instances in which the ordinary medicinal dose of the tinct. or of the powdered dry squill caused very alarming symptoms—violent colic, purging, palpitation, difficult or embarrassed breathing, dilatation of pupils, and bloody urine. In one case, which terminated fatally, an eruption not unlike that of purpura hæmorrhagica appeared, attended with a considerable degree of collapse. (A. T. THOMSON, *Lancet*, 1836-7, ii, 851.)

5. Plenk saw convulsions produced by \S . in a child. A case is related in which \zj of the powder was taken to relieve a fit of asthma ; but it produced violent and painful vomiting, great prostration, itching and an eruption on the skin, injected face, great heat of trunk and head, and coldness of extremities. The result, however, was not fatal. (STILLÉ, *op. cit.*)

III. *Experiments on animals*.—I. M. GOSSELIN experimented on dogs and rabbits with Scillitine,* and with the "resinoid matter" of Tilloy. His conclusions are that Scillitine exhibits all the characters of the "narcotico-acid" poisons of Orfila ; that it is very poisonous in doses of 5 centigr., and even in those of 3—4 centigr. excites an active inflammation of the alimentary canal ; that its ingestion by the

*. A substance of doubtful composition and varying characters, obtained from squills.—EDS.

stomach has for the first effect violent vomiting and purging, but that narcotism manifests itself later, and that death seems to ensue upon contractions of the heart ending in its paralysis; and that, applied endermically, it acts much more rapidly, and almost exclusively as a narcotic, killing a rabbit in 37 m. and a vigorous dog in 1 h. 22 m. (*Ann. de Thérap.*, 1857, p. 98.)

2. CHATEAU administered to dogs, in various ways, divers preparations of Scilla. He thus sums up its effects:—"The animals become sad; then ensues salivation, nausea, efforts to vomit, semi-liquid stools voided with difficulty, and as it were drop by drop; then, when dose is large enough, tremors, and paralysis of hind limbs which soon extends to fore limbs. Convulsions, sudden and brief, occur, and then immediately comes complete collapse and death. There was constantly observed a reduction of temp. during the toxic action. *P.M.*, besides evidences of local irritation, the ganglia of the sympathetic were found red, and the cerebellum and spinal cord sometimes softened to the extent of diffuence. (*Arch. Gén. de Méd.*, 1854, i, 53.)

3. HUSEMANN, from his experiments on animals, arrives at the following conclusions:—(1) The action on the nerves and the muscular structure of the heart is the same as that of digitalis and other so-called cardiac poisons; (2) its diuretic action can only be explained by its producing increase of the blood-pressure in conjunction with its action on the heart; (3) it is not an anti-pyretic; there is, on the contrary, a constant rise of temp. both from large and from small doses. (*Lond. Med. Record*, 1876, p. 120.)

4. SCHROFF experimented on rabbits, using alcoholic extracts of Squill and also Scillitine. The latter occasioned contraction of pupil, great debility, muscular tremors, sinking of pulse, diuresis, dulness, oppressed breathing, and death; the former gave rise to similar but less intense phenomena which also ended fatally. After death by Scillitine there was inflammation and erosion of stomach, and hæmorrhagic transudations were found about heart and lungs and in kidneys and brain. (*B. and F. M. Ch. Review*, 1865, ii, 248.)

5. Emmert and Hoering, who introduced *S.* into the peritoneal cavity of animals, found that the characteristic symptoms followed; and Chiarenti rubbed a solution into the skin of a dog with the effect of producing copious diuresis. (*STILLÉ, op. cit.*)

SCROPHULARIA.

Scrophularia nodosa, L., knotted fig-wort, and *S. marilandica*, fever-weed. Nat. Ord., *Scrophulariaceæ*.

I. *Proving*s.—1. Dr. W. H. BLAKELEY proved *S. marilandica*, taking 10 dr. of tinct. increasing to a teaspoonful several times a d. Took in all about ʒij.

a. Vertigo with severe aching in supra-orbital region. Dizziness, fulness and pressure in vertex. Miserable and sluggish feeling of mind when moving about. Desponding, much troubled about the past, and very apprehensive of the future; passed off after a few d., and left intellect clear.

b. Severe lancinating pain in forehead, vertex and temples; dull and throbbing, and returning periodically; worse on resting or being in open air, also when leaning for-

wards or applying oneself to study. Severe headache through temples, appearing in m., extending to vertex and occiput. Fulness of head with vertigo. Cutting pain in eyes, with partial loss of power of moving them, passing off in a few h. after profuse perspiration. Pain in l. temple. Darting pain at exit of facial nerve from stylo-mastoid foramen on r. side to r. eye. On rising and m., indescribable pain and fulness in whole head, followed by epistaxis and congested state of conjunctiva, with puffiness. Black spots, &c., before eyes; afterwards a film appeared to come in front of them, in e. Dry coryza with sternutation.

c. Teeth feel as though loose, with pain in carious teeth, worse in upper than lower jaw. Gums bleed very freely. Mouth dry after 1st d.; but on 1st d. great increase in flow of saliva, great thirst, and constant effort at deglutition. Great increase of appetite during first days, but afterwards correspondingly less, with nausea lasting for several d., and weakness and oppression in epigastrium. Feeling in stomach as if regular mealtime had been missed. Twisting, pinching pain in region of umbilicus, l. Dull heavy pain, worse when abdomen is compressed or legs extended. Severe colic. Several stools per d., with tenesmus. Pain in sigmoid flexure. Pain in r. hypochondrium, worse on drawing deep breath or lying on that side, with sallow appearance of skin, and bitter taste in mouth. Upon turning on either side violent dyspnoea, worse on r. than on l., with cutting in liver on pressure. Increased secretion of urine, with burning in urethra.

d. Slight pain in chest with accelerated inspiration. Feeling of constriction in chest, making him feel very uneasy. Palpitation, with heart beating so loud that it could be heard several feet off. Severe stitches in r. side, about 6th rib, with shivering and slight irritation of bronchiæ, and general lassitude. Cutting pain in superior part of r. lung, increased by breathing cold air. Pain in whole of r. lung, which causes cough without expectoration. Pain about bifurcation of trachea.

e. Drawing rheumatic pain in all flexors of legs and arms. Cutting pains in articulations, worse while resting in open air and relieved by being in a warm room, darting in knee- and ankle-joints, which feel stiff. Prickly itching all over as from flea-bites, without any change of colour or raising of vesicles; worse on back of hands and on inside of wrists, also along fingers. Tingling in the extremities as though a nerve had been struck. Deep-seated cutting pain in all muscles of arms. Burning all over surface when rubbed.

f. Pulse very full but regular, ranging from 65—100 during proving. Peculiar sense of anguish in præcordia, worse after taking food. Chilliness in m., passing off in several h. with profuse sweat, which was followed by stupor. Inclination to sleep, with bad dreams, waking without relief. Whole body, after 1st d., feels very hot. Great bodily weakness; unable to walk a short distance. Chilliness on moving about in cold air.

g. Stiffness in neck with contraction of r. sterno-mastoid. Pain in whole of spinal column, with slight opisthotonos. Pain in small of back.

h. Disagreeable feeling of languor, with inclination to lie down; upon closing eyes, objects would make their appearance. Symptoms worse on r. side, aggravated by rest in open air, and relieved in warm room. Muscular debility. (*N. Amer. Journ. of Hom.*, 1866, p. 187.)

2. (No information). When standing vertigo on top of head (after 2 h.). Heaviness and confusion of head as after eating too much. Slight pressure in forehead, 7 a.m. Pains in forehead, m. When walking headache above eyebrows (after 3 h.). Pulsating stitches in r. eyebrow. Painfulness of eyeball. Pleasant warmth of cheeks. Tinnitus and sudden closure of ear (after 4½ h.). Collection of water on a small spot of tip of tongue and sweetish taste there. Viscid, thick ill-tasting mucus in throat, a.m. Scrapy feeling in throat with great exhaustion and stiffness of houghs. Several times a nauseous and sticky taste in throat just above its pit, lasting 1 h., with feeling as if a soft body stuck there, like a plug of mucus. Pain in abdomen below navel and some pinching in side. Pinching anteriorly in abdomen below navel, 7 a.m. Forcing and tearing as if in l. ureter, at same time wandering from anterior inferior spinous process of ilium down to pudendum. Frequent discharge of a little urine. Cramp pain across chest inferiorly as after much weeping (after 4 h.). When walking violent pinching stitches in region of last two r. ribs; as if in liver when at rest,—after 10 h., the same 1 h. later. Oppression of chest with trembling motions as from much weeping. Burning in arms

and hands (after $\frac{1}{2}$ h.). Shooting and drawing in r. palm from finger-joints to middle of hand and to wrist, a kind of spasm in muscles of palm, 4 p.m. Great drowsiness, weariness and fullness in whole body, in forenoon. Before and 1 h. after dinner irresistible desire for sleep and long afternoon siesta. (FRANZ, *Archiv*, xvii, 184.)

SCUTELLARIA.

Scutellaria lateriflora, L. Mad dog skull-cap. Nat. Ord., *Labiatae*.

I. *Proving*s.—1. a. Dr. F. W. GORDON, æt. 28, healthy and robust. Nov. 21st, 1865, took 3 times 10 dr. of tinct., and continued it after same manner till 27th, increasing by 1 dr. daily. On n. of 22nd sleep disturbed by frightful dreams. Rose next m. a little stupid and with a slight dull headache, which passed away soon after breakfast. Next n. was rather restless, and that of 24th still more so—the frightful dreams causing sudden wakings. During 25th inclination to be inactive and indisposition to study. Slept late on m. of 26th, and woke with severe headache; feeling of great fullness and oppression about head, as if brain were confined in too narrow a case; eyes felt as if protruding from orbits. Slight feeling of chilliness on getting up. Soon after breakfast was seized with vertigo, which did not last long; but headache continued all d. Pulse, hitherto normal (70-72), was this d. at first full and bounding, then gradually became weaker, and occasionally intermittent: at 7 p.m. it was 64. Woke next m. with stupid feeling, but headache was much less severe than on previous d. Considerable inability to fix mind on study; occasional sharp pains in lumbar region, especially l. Urine rather scanty; pulse more normal. On now discontinuing medicine, symptoms gradually passed away.

b. Dec. 4th, feeling quite well, he recommenced proving, taking 50 dr. before each meal. No effect was observed till after 3rd dose, when pulse became affected, at one moment being strong and full, then gradually diminishing until it became exceedingly soft and threadlike. No such headache was felt as before, but strong desire to be moving about; could not confine attention to any single subject; occasional slight tremor or even considerable twitching of muscles in different parts of body. N. disturbed as before, and he had languor and dull frontal headache on waking. He took no more of drug, and symptoms soon passed away.

c. 8th.—Took 30 dr. before each meal. Before rising next m. was seized with hemicrania, pain being most severe over r. eye; relief from moving about in open air. No further effect through d., though medicine was repeated (as also on 3 following d.). Towards e. some degree of restlessness was felt; mind confused on attempting to study. At 10 p.m., pulse 64 only; occasional twitchings of arms and legs. 10th.—Woke feeling well, and felt nothing abnormal during d.; but soon after taking last dose in e. slight oppression was felt about chest, and occasionally sticking pain in region of heart. 11th.—Considerable uneasiness, with twitching of muscles, and sticking pains in various parts of body, occasionally extending up along each side of forehead. Towards e. dull oppressive feeling came on, with flushed countenance, and sense of throbbing about heart; pulse strong and full, but occasionally intermitting. Felt somewhat relieved before going to bed, and slept soundly. On m. of 12th, soon after taking medicine, pulse was observed to be but 54; $\frac{1}{2}$ h. later it had risen to 64, without exercise or change of posture. A dull pain was felt extending vertically beneath sternum; on attempting to urinate, slight difficulty was experienced, as if partial paralysis of the muscles had taken place; dull headache was felt most of time. While attempting to fix attention upon small objects, was seized with slight vertigo and photophobia; headache was increased, with feeling of great fullness, eyes feeling as if pressed from within outwards. Bowels acted regularly, but stool was very white. At 6 p.m., pulse was 52 and intermitting. Medicine was now discontinued. Rested quite well through n., but rose next m. with feeling of languor; and soon after commencing to study was again attacked with dull oppressive headache; pupils somewhat dilated; pulse considerably increased and beating rapidly. On 14th, all symptoms had disappeared. (HALE, *New Remedies*, 2nd ed.)

SECALE.

Claviceps purpurea, Tulasne. Ergot of rye, spurred rye. Nat. Ord., *Fungi*.

I. *Provings*.—1. *a*. Six persons swallowed, at 9 a.m., each 3 cupfuls of water which had been poured when boiling hot on some ergot, in proportion of 2 lb. of former to 2 oz. of latter. In 2 h. 3 of the provers experienced feeling of increased warmth in abdomen, particularly about stomach, malaise, and much nausea with inclination to vomit. These feelings went off by noon. The other 3 felt nothing but warmth and stimulation in stomach.

b. Five of the provers now swallowed, at 9 a.m., each Θij of the powder, sprinkled on thin slices of bread and butter.

A. felt, an h. after dose, slightly painful sensation in epigastrium, some confusion in head, feelings resembling giddiness, with slight congestion in head, and red and warm face. At 11.30 considerable dryness of throat and soft palate, and periodically recurring pain in hypogastrium, often accompanied with risings of disagreeable taste. 12, slight qualms, increased secretion of tenacious saliva, transient inclination to vomit, passage of foetid flatus. 12.30, increase of painful tenderness of epigastrium and rumbling in hypogastrium, nausea and confusion in head continuing. 1, a second stool, which was thin, and voided with some tenesmus. At 2, when he dined, all these symptoms, save for an occasional twinge of pain, had disappeared; but he felt very thirsty.

B. experienced, $\frac{1}{2}$ h. after dose, warmth in stomach and dryness in mouth. Soon after, increased secretion of saliva, frequent eructations and slight nausea. These feelings increased till towards 11, when he began to feel inclined to vomit; a walk did not dissipate the inclination, and at 11 he brought up a portion of the bread he had eaten for breakfast and the remainder at 11.30. 10 m. later vomiting recurred, with much effort; but, stomach being empty, nothing came up but mucus. Nausea now abated, but eructation and increased secretion of saliva continued till after 12. Aversion to food lasted all d., and he still felt in *e*. lassitude and heaviness in limbs.

C. had, an h. after breakfast, violent nausea, sense of choking, abundant salivation, soon followed by pain in head and belly; no relief from lying down, from walking out, or from drinking coffee. Nausea, headache and abdominal pain (latter especially) were felt till 2, when he dined without appetite, but felt better afterwards. Towards 8 p.m. several fluid evacuations occurred, with cessation of all unpleasant symptoms.

D. describes himself as having felt, $\frac{1}{2}$ h. after swallowing drug, as if he had eaten nothing for some d. He became so hungry as to take his dinner with high relish at 11 a.m. In $\frac{1}{4}$ h. after finishing it, however, he became sick, his mouth filled with watery saliva, and he shortly vomited all he had taken, with violent pain in abdomen. In 5 m. he again vomited, but only mucus. Nausea and pain were still present at 5 p.m. At this time shivering came on, lasting some m.,

and passed off with moderate sweating: therewith pain went away, and prover felt quite well.

E. observed following symptoms:—10 a.m., increased warmth in stomach, nipping pain in bowels, face warm and flushed. 10.30, confusion and pain in head, dryness and some burning in mouth and throat. Dryness had barely lasted an h. when it gave place to great accumulation of saliva and mucus, which he had to spit out continually; at same time increase of pain in stomach and disgust to all food, amounting at 11 to desire to vomit. Abdominal pain was by this time so violent that he could not stand upright, but kept curled up in bed. There was no actual vomiting, even when fauces were irritated with finger, and between 11 and 12 his distress was intolerable. There was then rumbling in bowels, emission of a quantity of flatus, and towards 1 a thin foetid evacuation, which relieved the pain. At 3 p.m. a cup of coffee dispelled the nausea he still felt, and he was quite well in e.

c. Three weeks later, each prover took ʒj in same manner.

A., soon after taking medicine, experienced warmth in stomach, frequent eructations, and headache for a few m. at a time. Towards 1 p.m. these symptoms disappeared, and he ate his dinner with appetite.

B. experienced same feelings, with addition of nausea, which went off, however, about 1 p.m.

C. felt, in $\frac{1}{2}$ h., the warmth already mentioned, with dryness in mouth; and, $\frac{1}{2}$ h. later, frequent eructations and increased secretion of saliva. At 11 he became slightly squeamish, and continued so till 12, but without vomiting. Appetite diminished; for several d. he felt an aversion to fatty articles of diet and to meat.

The effects on D. were almost identical.

E. took ʒij, and was attacked in $\frac{1}{2}$ h. with colic and headache, and at 12 with rumbling in hypogastrium. These symptoms were quite bearable, however, and (together with giddiness, which had lasted $\frac{1}{2}$ h.) went off at 1 p.m. Towards e. he felt very sick, and became so in the e. for several d.

d. Two months later some of the provers tested ergot which had been roasted, so that it had lost its characteristic odour. No effect followed in any, though the doses were raised to ʒij.

e. Four of the number now tried the effect of the meal of the spurred rye mixed with twice its weight of sound meal, and made into bread. They ate, at 10 a.m., each ʒij of the bread, buttered with goose-fat, and sprinkled with salt. They were all in perfect health, and save for some coffee and porridge at 6 a.m., had eaten nothing that d.

A., in an h., had feeling of increased warmth in stomach, then increased secretion of saliva, some nausea, and congestion in head. After lasting less than 1 h. these symptoms began to wear away, and in 2 h. there was no trace of them save slight lassitude.

B. had watering of mouth, warmth in stomach, and congestion in head, 1 h. after taking the bread. He afterwards experienced violent rumbling in the lower belly, nausea, disgust for food, and violent headache. These symptoms continued for 3 h., so that he could not eat his dinner, and he felt lassitude for some time.

C. had precisely the same symptoms at nearly corresponding times;

they continued 3 h., and left behind dull headache and lassitude in all the limbs.

D. felt nothing but some degree of nausea.

f. After 10 d., seven other persons joined in a second experiment, taking $\mathfrak{z}\text{ij}$ each of the bread at 10 a.m.

F. and G.—In $\frac{1}{2}$ h. great nausea and desire to vomit; accumulation of saliva in mouth; eructations, such as precede vomiting; confusion of head; burning in stomach, afterwards pressure and sense of fulness there, with headache. With A. these symptoms lasted till nearly 3.30 p.m.; but with B., who had bathed head, face, neck, and arms in cold water, they were felt in no great intensity till 2, when they gradually went away. He observed that, during the first effects of the medicine, pulse was somewhat accelerated, and also fuller and harder than natural. Both dined with moderate appetite at 1 o'clock.

H., I., and J. felt nothing for $\frac{1}{2}$ h., but then the above detailed symptoms came over them with much greater violence than with F. and G. All three were forced to vomit 2 or 3 times in an h., but were not thereby relieved, for both nausea and headache continued violent till late in e. In H's case, immediately after first vomiting, a very thin evacuation took place, preceded by rumbling; and he found great relief from bathing his head with eau de Cologne. These three provers fell into a lethargic state about 4 h. after eating the bread. I. observed enlargement of his pupils; none of them could, for sickness, eat till e., and J. was very tired next d.

K. and L. felt effects of drug in an h. after taking it; these resembled symptoms of F. and G., but there was more confusion of head, and for 3 h. they felt drowsy; in F. pulse was unusually full, hard, and quick. By 5 p.m. no symptoms remained. (LORINSER,* *Versuche u. Beob. über d. Wirk. des Mutterkorns*, Berlin, 1824.)

2. DIEZ took at 9 a.m., fasting, $\mathfrak{z}\text{ij}$ of powdered ergot diffused in water. At 10 there was increased secretion of saliva, mouth watering copiously with a limpid fluid for 2 h.; at 10.30, much sour eructation, inclination to vomit, confusion of head, giddiness, enlargement of pupils, momentary shivering alternating with feeling of warmth rising up into head, sweating on forehead, tongue white-coated, pulse 92 instead of 65, small but not irregular. At 12 he went to bed. Waking at 3, he felt confusion of head and some remaining lassitude. At 5 he voided a thin greenish stool. (PHEBUS, *Giftgewächse*, p. 102.)

3. CORDIER took, April 16th, 7.30 a.m., $\mathfrak{z}\text{ij}$, chewing it for a long time. He had a long-lasting peculiar taste and a sharp nauseating after-taste. 9.30 a.m., 2 or 3 eructations with the taste of the drug, slight discomfort in stomach, inclination to vomit. 10 a.m., there rose into mouth a gulp of colourless, clear, not viscid, very acid fluid, also tasting of the drug, which relieved the discomfort of stomach, but its passage over the tongue caused him to spit much and for a long time. 11 a.m., took breakfast with little appetite and vomited it $\frac{1}{2}$ h. afterwards quite

* "Similar effects were obtained by Gross and an associate (CANSTATT's *Jahresbericht*, 1845, p. 256), and each took a drachm; and such also are the symptoms ascribed to the medicine by Raige-Délorme (*Dict. de Méd.*, 2nd ed., xviii, 271)." (STILLÉ.)

undigested. About noon, with more effort vomited a few mouthfuls of viscid turbid slime, with no traces of the drug in it. In afternoon became limp and ill, the transpiration had a disgusting odour, he felt out of sorts. Ate his supper as usual, and the taste of drug persisted till e. (*Rec. period. de la Soc. de Méd.*, lxxxiii, pt. 1, p. 20, 1823; in *Frank's Mag.*, iii, 626.)

4. PATZE took ʒj of powdered ergot. In $\frac{1}{4}$ h. peculiar taste in mouth, as if he had smoked a long time, or taken some etherial oil; therewith peculiar feeling of lightness in head, particularly of occiput. After $\frac{1}{2}$ h. more, strong dragging in spermatic cord, so that testicles seemed drawn up to inguinal ring; this lasted $\frac{1}{2}$ h. At same time unpleasant pressure at stomach, which increased to such an extent as to obstruct breathing; therewith strong desire to eat. After 1 h. great sleepiness. Sleep during following n. disturbed by anxious dreams. Next m. head confused; tongue covered with dry, tenacious, whitish-yellow coating; pain in stomach very tormenting, attended with pyrosis; face pale and collapsed. In course of d. feeling of insensibility on front of thigh and on calf, and of painful creeping in finger-tips. Bowels somewhat confined. Symptoms increased for 4 d., and head became so giddy and sight and hearing so clouded that he could hardly walk. He had frequent eructations of offensive flatus; pain in stomach and heartburn were most distressing; much sour-tasting salivation; epistaxis. Countenance took on an earthy appearance; eyes were deep sunk in head; and skin, usually inclined to perspire, was constantly quite dry. Stool occurred on 4th d. for first time since taking drug. (*Med. Zeit. v. Ver. f. Heilk. in Preuss.*, 1844, p. 69; from *Frank's Mag.*, i, 129.)

5. PAROLA took 20 gr. of powdered ergot. In an h. he had nausea, heaviness of head, painful constriction of epigastrium; a cold shudder ran through limbs; muscular inactivity, to such a degree that he found it difficult to use his fingers; pulse sank from 74 to 62. He continued in this state for 3 h.; pulse was at one time as low as 60. (*Gaz. Méd.*, 1844, No. 19.)

6. A man, æt. 24, free from all ailment, pulse 67, resp. 20, received 30 gr. In 2 h. he complained of feeling weary, shivered, skin grew cold, breathing oppressed, pulse feeble and slow (60), countenance pale, pupils enlarged. An equal dose next d. produced same effects, but more coldness and lassitude; pulse was 58, resp. 15. Weakness and slow pulse continued for 2 d. after. (*Ibid.*)

7. A student in pharmacy, well save for some enlargement of l. ventricle, took 10 gr. of ergotin (Wiggers) on June 3rd, 12 gr. on 6th, and on 7th 3 gr. of the resinous extract. His pulse, which was 67, hard and full, fell after 1st dose to 61, after 2nd to 60, and became more and more compressible. After 3rd dose a remarkable change took place; he became altogether feeble, as if he had been bled, pulse was only 46, face pale and sunken. (*Ibid.*)

8. SCHROFF observed that pure ergotin, in doses of gr. $\frac{1}{2}$ to gr. j, produced fulness of head, headache, and dilatation of pupils, followed by colic and retardation of pulse. (*REIL's Mat. Méd. d. rein. chem. Pflanzenstoffe*, p. 166; from Stillé.)

9. a. At noon, pulse being 84, took 1 grm. 50 centigr. of the powdered ergot. From 1 p.m. the pulse, taken every $\frac{1}{4}$ h., showed the following changes: 76, 74, 72, 68, 70, 68, 66, 64, 62, 62, 64, 64, 64. The last number persisted till 6 p.m. It felt softer and more compressible than usual. At 3 p.m. some heaviness in forehead, which did not last long. Some borborygmus and eructation of wind with smell of ergot; slight transient colics in abdomen. Urine considerably increased, clear and acid. In 4 similar experiments, each made at 10 d. interval, the average pulse, which was before the experiment 84, was as follows: 80, 80, 78, 78, 76, 76, 74, 76, 74, 72, 72, 70, 70.

b. At 1 p.m., the pulse being 84, took 3 pills, each containing 30 centigr. of the extract. The pulse then fell as follows: 80, 80, 76, 72, 70, 68, 66, 64, 60, 60. 5 h. after the dose some borborygmus. Not such tranquil sleep at n. as usual. Next m. some slight colic, followed by 2 stools. (ARNAL, *Bull. gén. de Thé.*, xxxvi, 534.)

10. Ergot was under observation on three occasions, doses being from ʒss to ʒj of the fluid extr. With ʒj doses, the effects on the vascularity were in the direction of diminution, as with quinine. Thus, to quote from our notes taken at the time, "in one h., r. disc decidedly paler, with retina also of paler tint, l. also paler. Almost complete sleep produced." Again, "in 20 m. r. disc paler, on apparent inner side decidedly, on outer side a little. L. eye altogether a little paler." "An h. after administration, retinae and discs of both eyes decidedly pale, and this specially observable in r." "In $1\frac{1}{2}$ h. retinae not quite so pale; discs same as before. Subject of experiment very sleepy." With ʒss doses the results were more equivocal, a transitory paleness appearing, however, to be produced about an h. after administration. (NICOL and MOSSOP, "Action of certain neurotics on Cerebral Circulation," as observed with ophthalmoscope in fundus oculi. (*Brit. and For. M.-Ch. Rev.*, 1, 203.)

11. COTTMANN experimented on strong healthy lunatics, with ʒj—ʒss doses. A diminution in the frequency of the pulse, and, in several, of its volume, were the only phenomena observed, except in 3 cases; in these it produced slight nausea, but no vomiting; in 2 others, to whom it had been given the d. before, violent emesis was produced in the course of 1 h. When administered in ʒss doses, it either produced nausea, and consequently sedation, or diminished the frequency of the pulse without nauseating, in 25—30 m. When given in ʒj doses, it appeared to excite rather than diminish the pulse in that time; but in 15 or 20 m. more the pulse lost a few beats, but not to the same extent as when larger doses were given. (*Brit. and For. M.-Ch. Rev.*, ix, 563. 1840.)

12. DE GRAVINA swallowed 24 gr. in powder, which in $\frac{3}{4}$ h. produced sense of weight at epigastrium, which, slight at first, became in a short time very painful. This was followed by nausea and eructations having the odour of the ergot, and terminated in attempts to vomit. Face became very pale, and skin cold (especially on face); there was great oppression of head with incapacity for mental exertion, apathy, and feeling of complete prostration and vertigo on walking across room. Pulse, which before experiment was 65, fell to 54, and

became small ; resp. decreased from 18 to 13. There was complete disgust for food, with occasional feeling of coldness at stomach, which thence pervaded whole frame. All these symptoms were removed and a voracious appetite excited by taking a glass of strong wine. (*B. and F. M.-Ch. Rev.*, x, 555. 1840.)

13. JÖRG experimented on himself and pupils. When taken in large doses S. was always found to produce nausea and vomiting, pains in abdomen and diarrhoea, weight and pain in head, and vertigo, with general malaise and depression. (*Gebrauch innerer Reizmittel zur Beförd. der Geburt des Kindes.* Zeitz, 1833.)

14. a. Dr. GIBBON gave 16 gr. of powdered ergot in decoction to a man whose pulse was 64, sitting (which position he maintained). In 20 m. it was 58, moderately full ; in 30 m., 48, small ; in 45 m., same ; after this it slowly rose.

b. Same man, pulse 60, took ʒj. In 25 m. pulse was 52, full and tense ; 35—45 m., 51. It then slowly rose.

c. Took ʒj, pulse 64. In 20 m. pulse was 52 ; in 30 m., 46, slight nausea ; in 40 m., 45, nausea increased ; 5 m. later vomiting occurred, after which pulse rose to 60, but 1 h. after dose it was only 46. (*Amer. Journ. of Med. Sc.*, 1844, i, 244.)

15. a. Dr. G. himself now took 10 gr. of an aqueous extract, pulse being 70. In 30 m. it was 60, and in 1½ h. 57.

b. Same took ʒo dr. of oil, which reduced pulse from 70 to 56.

Tincture had less effect. (*Ibid.*)

16. a. Dr. H. Gross took at 9 a.m. ʒj of ergot in powder. After 1 h. felt heat in gastric region, increased flow of saliva, and occasional eructation ; soon after this great dryness of mouth and nose, not relieved by drinking water ; confusion of head, vertigo, and moderate pain in scrob. cordis. These symptoms increased rapidly, the confusion of head became violent headache, and there were ineffectual efforts to vomit. Food excited loathing, a few mouthfuls of it caused inclination to vomit. After 2 h. felt better, but there remained to next d. headache and exhaustion.

b. A friend took the same dose at same time. At 10 a.m. he had increased secretion of saliva, nauseous taste, frequent eructation and slight confusion of head. Soon these symptoms increased, the saliva flowed into mouth in such great quantities that the mouth was always full of it, at same time heartburn, inclination to vomit, and violent headache. A walk relieved the symptoms, and in 1 h. they were all gone, and he could eat his dinner with appetite.

c. A repetition of the drug caused the same symptoms, only more severely. The nausea was great, and there ensued vomiting, which relieved the symptoms, but all next d. there was slight loathing, exhaustion, and headache.

d. Two d. later they both ate ʒij of bread made of pure ergot at 9 a.m. Whilst chewing it G. felt loathing and inclination to vomit, he had to drink much water and make a great effort to prevent vomiting. After 1 h. heat and redness of face, increased secretion of saliva, moderate pain in scrob. cordis, and quickened pulse ; shortly afterwards dryness of mouth and nose, nausea, and headache. These symptoms

soon disappeared, and he could eat his dinner at 1 o'clock as usual. The friend experienced identical symptoms. (H. GROSS, *Med. Zeitung Preussens*, xiv, 59. 1846.)

17. Dr. HOOKER proved oil of ergot (obtained by macerating powder in sulphuric ether, decanting and evaporating).

a. A medical student, æt. 19, took ʒss at 2 p.m., just after a plentiful dinner, pulse being 82, resp. 19. In 7 m. he felt agreeable sensation in head, as from ether, followed by unpleasant feeling of weight and confusion, most in occiput. In 30 m. he complained, while riding, of sensations resembling those of sea-sickness and amounting to positive nausea; their seat seemed not to be in stomach, but higher up and towards back. He now felt general languor and lassitude, and had constant inclination to spit; also sensations before eyes as if it lightened. The disagreeable feelings were at their height 45 m. after taking drug. At 3 he took ʒj. In less than 7 m. came the pleasant feeling in head, with general exhilaration, dispersing temporarily the previous symptoms, which, however, soon returned in increased intensity. He complained of painful stiffness in muscles, and extreme lassitude in lower limbs; skin was everywhere of somewhat livid hue; pupils were enlarged, and countenance wore a remarkably heavy and idiotic expression. In 40 m. after 2nd dose, pulse was 65, resp. 14. At 4 he again took ʒj. Again the unpleasantness was dispelled, and again it returned. At 5 pulse was only 36, and feeble; resp. had sunk to 8, and were scarcely perceptible for their feebleness. Skin was pale, and when pressed with finger colour was long in returning. (From after 2nd dose, frequent and copious emission of urine had occurred.) Sleep in n. was quite sound.

b. Analogous effects were observed in the case of another student, æt. 20. In both effects lasted a week. For 3 d. pulse continued under 50; pupils were dilated, breathing slow, skin livid; there was want of appetite, general lassitude, stiffness of limbs, and feeling of soreness in muscles of lower extremities.

c. H. gave same to 6 women in labour, in ʒo—75 dr. doses. He could not perceive any effect on uterine contractions, but found that the children presented for some time after birth a livid appearance, great irregularity and difficulty in breathing, and other characteristic signs of ergotism.* (*Bost. Med. and Surg. Journ.*, x, 298.)

18. GLOCKE gave to a healthy woman, æt. 32, who had had children, a few d. before period, ʒo dr. of oil. Pulse was 83, resp. 22. In 5 m. feeling of pleasant buoyancy, followed in 20 m. by nausea and unpleasant feelings in stomach and bowels; then violent pain in hepatic region and hypogastrium, collection of saliva in mouth, and want of readiness in executing muscular movements. Head, too, was uncomfortable, and she fancied she saw sparks flitting before her eyes; face was pale; shuddering at intervals. In ½ h. symptoms began to abate; in an h. pulse was 55, resp. 17. She now took 60 dr. In 5 m. transient exhilaration; soon nausea, giddiness, confusion of thought, going

* On administering simple decoction of S. in full doses to two other young men none of the above effects ensued; and, given in labour, it promoted uterine contractions, and exerted no narcotic influence on mothers or children.

on increasing for 10 m., dull pain in back, cutting pain in whole body, especially in region of liver and in pelvis (but not resembling pains which precede labour); at same time a feeling beginning in back, and extending through arms to end of fingers, as if large portions of nervous fibre were compressed; pain shot from sacrum to thigh, and muscles began to stiffen. In $\frac{1}{2}$ h. after 2nd dose pulse was 60, resp. 14; there was bluish look, cold skin, and dilated pupils. After 32 m. violent and repeated vomiting occurred, giving great relief. Next d. she was tired, and averse to food. (*Diss. de Sec. corn.*, Dorpat, 1837.)

19. A lady, æt. 28, received, 2 h. after a meal, 8 d. after a period, \mathfrak{ij} of ergot from which oil had been removed. After 12 m., inclination to vomit and slight accumulation of saliva; also gentle pressure in pelvic region, from sacrum to pubes, as in labour. Same effects followed \mathfrak{zj} taken an h. later. (*Ibid.*)

20. (No information as to prover or dose). Confusion of head, after 1 h. Sad disposition. Great anxiety. Stupor. Great drowsiness. Very prostrated after sleep. Thinking power weakened. Disinclination to all work. Vertigo lasting 24 h. after the dose. Headache on l. side. Pressure in eyeball. Frequent diplopia. Visual power much diminished. Roaring in ears. Dysecoia. Prickling in tongue. Taste very blunted. Violent burning in œsophagus. Frequent flow of saliva from mouth. Great thirst. Nausea lasting 24 h. after dose. Loathing. Frightful pains in stomach lasting 4 d. after dose. Burning in urethra when urinating. Increased flow of urine. The urine has a copious red sediment, which stained the utensil. Frequent urging to urinate, which it requires some effort to pass. Bruised feeling in limbs, and difficulty of moving feet (*A. h. Z.*, i, 27.)

II. *Poisonings*.—1. Friday, Sept. 6th, 12 m., I was called in haste to attend Mrs. B—, æt. 22, nervo-bilious temperament, who was suffering, as her husband supposed, from fever and ague; but, on inquiry, I ascertained that in the 2 preceding d. she had taken ergot with the intention of producing miscarriage. She had been married about 2 mo., and during that time having suffered from continued menstruation, which was unusual with her, she concluded that it was caused by pregnancy. She, therefore, by the advice of a female abortionist, and in the temporary absence of her husband, procured \mathfrak{zss} of pulv. ergotæ, taking the whole at short intervals. On examination, I found the following symptoms: Rigors followed by heat and violent thirst; severe pain in back part of head; tongue heavily coated white; nausea and vomiting; diarrhœa; violent pain in small of back, epigastric and hypogastric regions; severe pain in limbs; pains of expulsive character in uterus; giddiness and sensation as if about to fall on the slightest movement; crawling all over body; stammering and hesitation in answering questions. Same d., 9 p.m., Dr. W. H. Watson was called in consultation. On examination, per vaginam, found os tincæ open so as to admit first phalanx of index finger, very sensitive to touch, hot and engorged, with profuse flowing. Patient was in great pain with muttering delirium, very restless, agitated and fearful of death. Pulse was depressed, very quick and fluttering, ranging to 120; tongue dry and brown at tip; urgent thirst with desire for acidulated drinks; urine scanty and dark coloured; frequent brown and slimy discharges from bowels; pain in head, still confined to occipital region; face flushed and livid at times; eyes wild and distorted, with pupils much

dilated ; marked hesitation in answering questions ; constant moaning and swaying of arms to and from head ; vomiting of dark brown, slimy mucus, and also of everything taken into the stomach ; abdomen tympanitic ; respiration costal ; weakness of memory ; fornication ; inclination to sopor and desire to be left undisturbed. 7th, 10 a.m., patient no better, but symptoms somewhat relieved ; great prostration, pulse 120, small and compressible ; tongue coated with heavy brown fur and pointed at end ; skin hot, dry, and of yellowish-brown colour, resembling that of a mulatto ; eyes staring and wild, with dilatation of pupils ; conjunctiva and sclerotic coat yellow and injected. Diarrhœa continued, discharges from the bowels very fœtid and dark coloured ; discharges from vagina almost black, fluid and very fœtid ; exhalations from skin also fœtid. Patient complained of great soreness all over body ; could not lie with ease in any position, and could not be moved without taking hold of her hands ; throat sore, with difficulty of swallowing ; extremities livid, palms of a bluish colour, and fornication all over body. 8 p.m., greater irritability of stomach, and more difficulty of retaining food and medicine than in m. ; violent pain in stomach and bowels near the umbilicus ; sore throat ; inability to swallow while lying down ; thirst less urgent ; vaginal and urinary discharges of a dark wine or "prune juice" colour. 8th, 9 a.m., patient slept 1½ h. in n., the first sleep she had enjoyed during her illness ; pulse 110, somewhat fuller than d. before ; throat not as sore ; more ease in swallowing ; soreness of the body not diminished ; urine very scanty, almost suppressed ; tongue heavily coated with brownish fur, dry at tip and edges, stiff and swollen. Patient is very weak, cannot move herself in bed ; vomited twice during n. ; loathes everything except sour drinks ; has had no movement of the bowels or passage of urine during n. 7 p.m., symptoms still unfavourable ; urine suppressed. On introducing catheter, about a gill of dark prune-coloured urine passed, which appeared to be full of gritty sediment and emitted a very disagreeable odour. Pulse 100, quite full ; hæmorrhage from nose ; great thirst ; desire for acids ; skin dry, hot, and yellowish brown. 9th, 10 a.m., mind clear ; great prostration ; tongue dry and brown ; pulse 96, quite full ; great thirst and desire for sour drinks. Skin hot, dry and of yellowish brown colour, but not as dark as it was d. before ; urine suppressed, but on using catheter about a teaspoonful escaped, which was very dark and fœtid, a few drops falling on the linen stained it dark brown ; pain in vulva and region of kidneys. Said she had thought she could pass urine in n., but failed to do so. Percussion of abdomen over bladder showed that it contained no urine. Movement of bowels early in m. was more natural than before ; soreness of body and throat slightly improved ; bleeding at nose continues. 8 p.m., there is now some nausea and vomiting, in addition to above symptoms ; hæmorrhage at nose worse than before ; drowsiness and inclination to sopor ; urine suppressed, only a few drops having been passed during d. 10th, 9 a.m., patient remains in about same condition as d. before ; urine suppressed ; rumbling of wind in bowels ; tenderness of vulva ; exhalations from skin of a vinous odour ; eyes sunken and surrounded with a blue margin, conjunctiva bright yellow, pupils but little dilated ;

unpleasant sensation in head but no pain ; pulse 93, quite full ; tongue dry, brown at tip and leaden-coloured at root ; epistaxis ; great thirst ; nausea and vomiting ; skin dry, hot and yellow. 8 p.m., pulse 90, full, but easily compressed. Passed 3 tablespoonfuls of urine by means of the catheter, of lighter colour than formerly ; vomiting continued, of sour, dark green matter ; sour eructations, singultus ; vinous exhalations from skin ; bowels constipated ; tongue dry, coated a brownish leaden colour ; great thirst and desire for sour drinks ; bowels tympanitic ; cutting pain and smarting in urethra, as if a knife were drawn through the parts, when attempting to urinate ; very annoying pain in l. shoulder. 11th, 9 a.m., pulse 90, appears to have more volume, but easily compressed ; thirst and craving for acids, as before ; tongue covered with a brownish, leaden-coloured coat in centre, red at tip and edges. Sensorium disturbed in n. ; could not get rid of the impression that there were two sick persons in the bed, one of whom recovered and the other did not. Vomited a pint of matter in m., very sour, and of dark green colour ; procured a tablespoonful of urine by use of catheter ; no movement from bowels ; pain in vulva, and also in l. shoulder ; itching all over body ; mind clear ; dizziness on moving head ; skin hot and dry, but of better colour ; eyes very yellow, pupils not as much dilated. Patient appears to have a little more strength. 8 p.m., pulse 100, not as full, and wiry ; vomiting of green, sour mucus ; passed a tablespoonful of urine containing albumen ; great sensitiveness of bladder and ovarian region ; pain in stomach and bowels ; perspiration all over body except face ; throbbing in head ; sinking and sickness, oppression and heaviness, at stomach ; skin of natural appearance on feet and hands ; intense itching all over body ; restlessness and drowsiness ; constant sighing, singultus and sour eructations. 12th, 9 a.m., pulse 100, small and feeble ; tongue red, but quite clean. Patient slept somewhat during n. and did not vomit until m. When rising up in bed, everything turns black before her eyes ; great prostration ; retching ; vomiting of sour, green mucus ; pain in stomach, bowels and vulva ; soreness and throbbing heat in latter ; dizziness of head on moving ; heaviness of head ; soreness, bloating and rumbling of wind in bowels ; scanty discharges from bladder, of yellow colour, and very fœtid ; no movement of bowels ; thirst, and sordes on teeth. 4 and 8 p.m., pulse fuller, with more volume ; passed two or three tablespoonfuls of urine, which was shown by testing to contain a large amount of albumen ; vomited dark green and sour mucus, containing shreds of disorganized membrane ; pain and soreness in stomach, bowels and vulva ; singultus ; borborygmus ; tongue clean, very dry and red at tip ; great thirst, and dryness of mouth and throat, with burning and tingling of tongue ; sensation as of boiling water running from vulva up to mouth. 13th, 9 a.m., per vaginam examination made. Uterus and r. ovary very much congested and very sensitive to touch ; sphincter vaginæ and vagina very much relaxed ; patient describes pains in bowels to be as if a hundred knives were drawn through the parts down to the womb, ovaries, urethra and vulva. An injection which passed away during visit contained shreds of mucous membrane. Matter vomited also contained such shreds ; dark,

bloody and very fœtid matter expectorated from the mouth; thought we detected casts of uriniferous tubes in the ounce of albuminous and bloody urine obtained by means of catheter; itching all over body, so as to cause the patient to tear her skin; scalding and burning in mouth, throat and stomach; singultus; capillaries of skin appear to be empty; mind clear, but some hesitation in answering questions still observable. 8 p.m., pulse 92, full; skin moist; vomiting continues as before; constant bleeding at mouth; tongue dry, glazed and stiff, appearing as if baked, with hard crust formed on surface; thirst and loathing; discharges from bowels of a great quantity of disorganized mucous membrane, resembling that thrown off in dysentery; urine albuminous; drowsiness and prostration; sordes on teeth, and singultus. 14th, 10 a.m., patient evidently failing; pulse 80, full while quiet, but quick and very feeble while making the least exertion; vomiting of dark, bilious matter at intervals of a few m.; mouth sore and bleeding; head dizzy and heavy; tongue clear, red and somewhat more moist than last night, pointed at tip; urine albuminous, but of better colour and larger quantity than at any time since suppression commenced; no movement from bowels; an injection of beef tea was retained all n.; patient says she must have something to relieve her or she must die; skin soft and more natural to the touch, but still very yellow; conjunctiva and sclerotic of a better colour. 8 p.m., pulse 80 and full; thirst diminished; tongue clear, red and moist; sordes on teeth; singultus; hæmorrhage from the mouth; urine more copious, containing mucus and albumen; tenderness in the r. hypochondriac region; stinging, cutting pains in rectum; great irritability of sphincter ani with spasms; spasm of meatus urinarius; hæmorrhage from bowels; constant nausea and vomiting, matter vomited is of dark-green colour containing mucus, bile, and shreds of membrane; great distress and oppression at stomach; headache in occipital region; head vacant with feeling as if something whirled round in it; drowsiness; sudden waking from sleep and looking wild as if frightened, followed by palpitation; more blood in surface veins; mouth sore as if salivated; expectoration of bloody saliva. 15th, 10 a.m., pulse 80, moderately full, but easily compressed; giddiness and whirling of head, everything looks black when moving it; nausea and vomiting; colour of the eyes more natural; thirst; singultus; great distress and oppression at stomach; pain in liver, stomach and bowels, and vulva; urine more copious but albuminous; paralysis of bladder and of anus; pain and spasm in rectum; pain in ovaries and uterus; fœtid breath and urine; fœtid discharges from vagina; bleeding at mouth; hæmorrhage from bowels; excruciating pain in hæmorrhoidal veins; more blood in surface veins; no movement from bowels; torpidity of liver; great tenderness of vulva; skin yellow, soft and moist; mouth very sore; loathing of food or drink; anxiety and fear of death. 7 and 10 p.m., pulse 80, moderately full, not corresponding to the prostration; hæmorrhage from nose, mouth, stomach and bowels; severe cutting pain in rectum; tongue red and dry; thirst; stomach cannot retain even medicine or water; passed per catheter about 3 tablespoonfuls of urine containing albumen; no movement from bowels; dizziness and heaviness of head;

anxiety; obstinacy; sudden waking from sleep, with wild, staring look; convulsive movements and twitching of muscles and tendons of limbs and face; moaning; sighing; bloody sordes; singultus; fœtid taste in the mouth; olfactory nerves very sensitive; weight and oppression of stomach; vertigo; dizziness of vision, especially when rising or moving in bed; loathing of life; despair. 16th, 10 a.m., patient more feeble; pulse 80 to 90, weak and variable; tongue red, dry, cracked and bleeding; soreness and hæmorrhage of the mouth; fœtid breath and exhalations, so that it was almost impossible to remain in the room even with a constant circulation of air; urine passed involuntarily for first time, more copious and containing blood and albumen; hæmorrhage from the bowels, blood does not clot, is very thin and almost black; vomiting of blood, bile, membrane and coffee-ground matter; movement from bowels of watery fœculent matter; head heavy and dizzy; thirst; loathing; inability to retain anything on stomach; little pain or soreness in any part of body except stomach; skin moist and yellow; twitching of muscles; constant moaning and fear of death, with strong desire to live. 3 p.m., pulse feeble, intermittent, ranging from 80 to 90; twitching of muscles; numbness of limbs; eyes blurred, with dimness of vision; head heavy and dizzy; light painful to eyes; bowels pass fœculent matter; indisposition to move or speak, becomes very much exhausted when doing either; bleeding at nose; less vomiting; little pain, but great weight and oppression at pit of stomach; great thirst, but unable to drink much on account of its causing distress in stomach. 8 p.m., called in haste and found the patient in a dying condition. She gradually became insensible and died without struggling; vomiting ceased 8 h. before death. About an h. before death she complained of great weight and oppression in stomach, as if a stone were there. She expressed the opinion to her husband a few m. before death that she could not live long. She continued rational to within a few m. of death. Post-mortem examination was solicited, but not granted. (Dr. C. JUDSON HILL, *Trans. of N. Y. State Hom. Society*, ii, 214.)

2. On Sunday, the last of Oct., I was requested to visit a lady in great haste, as she was supposed to have yellow fever in its most rapid and malignant form, accompanied with black vomit and other symptoms of that disease. The fever was then prevailing in the city, and a death had occurred from black vomit in the house adjoining. As soon as I was ushered into the room, the patient, in great alarm and agitation, requested her friends and the nurse to leave the room, when, pointing to a quantity of dark brown fluid which she had just vomited, she besought me in extreme anguish to have pity on a miserable being who was about to die from the consequences of her own crime. After extracting from me the promise that I would not, under any circumstances, expose her guilt, to the mortification of her friends and the exultation of her enemies after her death, which she deemed inevitable, she informed me that until Tuesday last she had enjoyed excellent health; she was 32 years of age, had borne three children, with no peculiarity worthy of remark, and was now in the 6th mo. of pregnancy. On Tuesday m. last she commenced taking powder of

ergot, in doses of 40 gr. every 25 or 30 m., for the purpose of producing abortion. Three or four doses were taken, with no apparent effect on the uterus, and, a chill coming on, followed immediately by nausea, sharp pain in head, with dizziness and partial blindness, it became necessary to discontinue the medicine. Three or four h. after the chill, spontaneous diarrhœa commenced, continuing 5 to 6 h., with relief to nausea and headache. She passed a restless, feverish, and sleepless n., in a state of great nervous agitation. On Wednesday m. the diarrhœa had ceased, and the pain in head and fever had returned, with thirst and great irritability of stomach, toast water, lemonade, and iced water being ejected almost as soon as swallowed. Supposing it to be a bilious fever, the patient, after applying a mustard cataplasm to the epigastrium, took a dose of calomel and jalap, which acted well p.m. She slept well, and the next m. felt quite well, which confirmed her in the opinion that the sickness had been caused alone by the presence of bile in the stomach, and that the ergot used was entirely inert. Resolved not to abandon her purpose, she then sent to another apothecary, and procured 1 oz. of a parcel of which a portion had been used the day before by a physician of the city with prompt and energetic action. This quantity was divided into four doses, three of which were taken in 6 h. without producing the slightest expulsive uterine effort: in the words of the patient, "no pains or signs of labour." She became so sick that she could take no more. Then followed excessive nausea and debility, with very little vomiting of a dark brown coffee-ground looking fluid; pain in head and eyes; a burning, torpid, prickly sensation over whole surface, with much difficulty in moving extremities, accompanied by sensation like that produced in a limb by pressure on the trunk of a nerve, when we say that the limb is "asleep." These symptoms during Friday and Saturday increased in violence, attended by entire absence of sleep; pain in head became intense, with transient delirium; pain in back and limbs; incessant vomiting of a brownish water with occasional streaks of blood; great prostration accompanied with a slow feeble pulse; pupils dilated; vision imperfect, at times almost total blindness; tongue dry, scarlet at edges, crimson and black in middle; intense thirst, with no abatement by iced water or lemonade; burning in fauces and along œsophagus to stomach; tenderness of epigastrium; much difficulty in swallowing. The voluntary muscles responded irregularly, with occasional violent spasms of those of extremities and back. The skin was dry and of a muddy yellow hue. On Sunday at 9 a.m., when I first saw the patient, I found the above detailed symptoms, with the addition of the apparently well-marked black vomit. I assured her that although her case might possibly be somewhat influenced by the prevailing epidemic, yet the symptoms could well be produced by the ergot together with her mental excitement; and that I had little doubt but that her illness was mainly attributable to the latter causes. Purgatives, including 10 gr. of calomel, were given, and an effervescent mixture every 15 m.; sponging of whole surface with iced water and vinegar, and iced water to head. 4 p.m., bowels have been freely evacuated; pulse quicker, with more resistance, 82; vomiting continues, but with less

violence ; pain in abdomen ; other symptoms nearly the same as in m. Continued the cold applications and sponging ; ordered calomel, gr. x, sulph. quinine, gr. iii ; blister to epigastrium ; for drink—gum water, arrowroot jelly, and claret. 10 p.m., skin hot and dry ; pulse 110 ; thirst abated ; vomiting at longer intervals, and the matters ejected changed to the appearance of those taken ; has had two full black watery evacuations from the bowels ; vision improved ; pain in head, back, and limbs abated in some measure. Ordered effervescing draught with sulph. morphia, flax-seed poultices to abdomen and to blistered surface of epigastrium ; cold to head continued ; gum mucilage and claret for drink during n. Monday, 8 a.m., the patient took $\frac{1}{2}$ gr. of sulph. morphia before 1, when she slept 4 h., then had a copious dark gummy evacuation from bowels. Violence of all symptoms was much abated ; pulse 100 ; vomiting ceased ; tongue red and dry ; thirst, pain in head and dizziness yet troublesome, but much alleviated. Continued flax-seed poultices to abdomen, and drink of gum water, claret, and arrowroot jelly. 4 p.m., patient much more tranquil ; two or three thin watery stools almost without colour, attended with griping and nausea. Continued prescriptions of m., with addition of calomel, gr. xv ; opium, gr. j. Tuesday, 9 a.m., patient much improved ; head, limbs, and bowels almost free from pain ; pulse 80 ; has slept well during n. ; no evacuation from bowels. Ordered ol. ricini every 2 h. until it operates, and, with the exception of the calomel and opium, the prescriptions of the last n. continued. 4 p.m., patient quite relieved ; oil has acted well ; pulse 80. This afternoon she perceived the motions of the fœtus for the first time since Thursday last. After this she continued to improve without any occurrence worth notice, and after a few days resumed her accustomed occupations. (Three months later patient was naturally delivered of a healthy child.) (FEARN, *New Orleans Med. Journ.*, 1844-5, i, 1.)

3. About 2 years ago there was brought to our hospital a young woman, pale, feeble, and evidently labouring under the effects of hæmorrhage ; and upon examination the fact was brought out that she had been suffering from uterine hæmorrhage for weeks. The history of the case, as near as could be obtained, was this : She had for some time been indulging in illicit intercourse, and her menses having ceased, she feared that she was pregnant, and had taken large and repeated doses of ergot ; hæmorrhage had at last been produced ; the blood at first was slight but was constantly increasing, till she was sent to the hospital, where she died on the next d. What treatment she received I cannot tell, as she was not in my department, and the hospital records barely mention the case, and that she died from uterine hæmorrhage. I was requested to assist at a post-mortem examination, conducted by the county coroner. The examination revealed the fact that she had not been pregnant at all ; and also that there were no lesions of structure in either the vagina or uterus (as we expected to find) from the use of instruments used to procure abortion ; but the ovary of the r. side was completely disorganised. (Dr. J. T. BOYD, *St. Louis Clinical Review*, 1879, p. 253.)

4. Some years ago I was consulted by a woman of about 35, bilious

temperament, sallow complexion. She without hesitation declared that she was pregnant. A man who had boarded with her had had frequent intercourse with her, and her menses were not regular, &c. The woman appeared in great distress of mind, from the fact that her husband, who had been absent for some time, was expected home in 2 mo., and exposure was inevitable, as she was certain she was 3 mos. gone in pregnancy. She had taken large doses of ergot in her endeavour to cause a miscarriage, but it had only produced a slight hæmorrhage. She was sensible of an enlargement of the uterus; had a constant feeling as if insects were crawling over her; dull pain in region of ovaries; tenderness on pressure over the uterus, &c. I was satisfied that she was labouring under the effect of ergot, and told her so; requesting her to abandon all medicine, and all efforts at abortion, for in my opinion she was not pregnant, but was keeping up the disagreeable symptoms by the use of medicine. It required a great deal of argument to convince her, but she finally agreed to do nothing more for one month, and then she was to call again. I did not see her till 6 weeks afterward, when she came looking quite happy, saying that she had taken my advice, that all the hæmorrhage and the disagreeable symptoms had subsided, and that her menses had appeared and passed off naturally. (*Ibid.*)

5. A lady, æt. 28, whose youngest child was 10 years old, finding herself again pregnant, wished to procure abortion, and took an unknown quantity of ergot. She got ill and sent for the doctor, who found the uterus, which previously had been in its normal position, now depressed so as to be almost betwixt the labia (she was in 3rd month of pregnancy). The orifice of uterus was dilated, so that the finger could be introduced. The patient had extreme urging to urinate, and labour pains. She could only obtain a little ease by lying on her belly on wet cloths. Narcotics brought very transient relief. This state lasted 3 d., but no abortion took place, and the uterus gradually resumed its normal place; its orifice contracted, and the lady went to the full end of pregnancy. (WERNICH, *Versuch. ü. d. Mutterkorns*, Berlin, 1874.)

6. A girl, æt. 22, being pregnant, took an unknown quantity of ergot. She was seized with vomiting and great pain in abdomen. After some discharge of blood from vulva a fœtus 5 in. long came away. Next n. she became worse, asked constantly for water, became unconscious, pulse scarcely perceptible, and she died. P.M.—Marked hyperæmia of veins in adipose layer under skin, congestion of vessels of omentum, great injection of vessels of stomach and intestines, reddish-brown colour of lower surface of liver, dark black colour and congestion of spleen, great hyperæmia of renal pelvis, brownish-red injection of external and posterior surface of bladder, pulmonary parenchyma dark blackish red from great congestion, both ventricles of heart empty. (OTTO, *Betz' Memorabilien*, xv, 1870, Pt. 2, p. 25; in *Ibid.*)

7. Mary R—, in 4th mo. of pregnancy, was seized after a fright and severe exertion with uterine hæmorrhage, which continued several d. After opium had been given in vain, ʒss of ergot was administered, and repeated in an h. This was at 8 p.m. Next m. she had violent

headache, and in course of d. became delirious and could with difficulty be kept in bed. These symptoms yielded to purgatives, shaving and blistering head, &c. A few d. after hæmorrhage returned; ergot was again given, and again followed by delirium, although in slighter degree. (MAUNSELL, *Lond. Med. Gaz.*, xiv, 605.)

8. Mrs. F—, 2 mos. pregnant, was attacked with hæmorrhage from vagina, for which, after failure of other means, ergot was given as above. After taking the two doses she fell asleep, and when she awoke the discharge returned; another scruple was then given, in an h. after which she vomited. On following d. she was in a state of semi-stupor, with very violent headache and weak depressed pulse. Similar treatment was adopted with success. (*Ibid.*)

9. a. On June 3rd, 4 p.m., I was called to see M. M—, æt. 28, till lately a hospital nurse, said to have "burst" a blood-vessel. Patient volunteered no information, but admitted taking "two handfuls" of ergot. Subsequent events and autopsy proved she had been taking the liquid extr. for months, and had quite recently taken two handfuls of the powder not infused. I observed a basin of reddish-brown pul-taceous matter, said to have been vomited by patient at 8 a.m. Had vomited something like this a few d. previously, and complained of lumbar and arthritic pains. Passed a very hard stool on previous e., and a quantity of urine which looked like blood. About same time vomited Oss of blood. During n. and m. had gradually become worse. On examination, face, eyes, neck and upper portion of chest were intensely jaundiced, intensity diminishing from above downwards. She had a pair of genuine "black eyes." Rest of body of a natural appearance. Expression anxious and general condition maudlin. Occasional fits of stupor and apathy ensued. A distinct etherish odour could be perceived. Lips and tongue slightly swollen and covered with dry black blood. Edges of tongue and lips were of darker hue than natural, and moist. She lay chiefly on her r. side. Skin pale and cold. Temp. 96° in axilla. Pulse could just be felt, but beat seemed to disappear before I could judge of its character; to count it was impossible. Respiration noisy, laboured, 48. Thirst intense. No appetite. Could swallow with ease. No stool or micturition since last e. Harsher breathing at base of r. lung than elsewhere. Action of heart as peculiar as pulse; area and force of pulsation both increased, while impulse against chest-wall was of a distinctly rolling character; 150 such cycles were made to the m. Milk found in breasts. Pregnancy was suspected, and very shortly after a uterine contraction was noticed. From 6 p.m. pulse could not be felt. Labour was induced, and liquor chlori given as an antidote. At 9.35 respiration was 56; it gradually became easier and slower, and stupor deepened. Every now and then a paroxysmal state would intervene and patient sit up in bed. Just before delivery respiration ceased altogether.

b. *Autopsy*, 32 h. after death. Appearance similar to that during life, except a welling from mouth and nose of greyish-black and gritty matter, very fluid. Body well nourished. Greenish streaks on abdomen. Cadaveric rigidity passing off. Brain firm and free from hæmorrhage. Membranes looser than usual. Temporal artery bled

profusely in making preliminary incision into scalp. On opening thorax and abdomen an enormous quantity of fat was exposed, with innumerable minute hæmorrhages embedded in it. Peritoneum and bowels covered with the same, the latter bound down by adhesions. Large amount of fluid blood in abdominal cavity; no large vessel ruptured, hæmorrhage seeming to result from rupture of enormous number of small ones. Diaphragm arched. Liver natural size; on section, dry, bloodless, waxy-looking, and slightly dirty yellow. It was easily lacerable. Spleen smaller than usual, and on section dirty red; blood oozed copiously from it. Kidneys enlarged, pale, and waxy-looking, capsules easily separable. Stomach exhibited ruptured vessels in its walls, and contained considerable quantity of same fluid as came from mouth and nose. Bowels in same condition. Uterus was about size of an adult head; its walls stained all over with dark effusions; cavity contained a fetus of about 5 mos. Neither liq. amnii nor blood in uterine cavity. Pleura non-adherent. Lungs rather anæmic, with a steel-grey appearance; on this as a ground were scattered innumerable irregular dots size of a small pea, which were hæmorrhages. R. lung congested at its base. Heart enlarged, having a large quantity of fat on its anterior wall and sides externally, but valves were healthy. Cavities practically empty. (A. DAVIDSON, M.B., *Lancet*, 1882, ii, 526.)

10. *a.* The action of spurred rye on the uterus, when labour has actually commenced, is usually observed in 10—20 m. after it has been taken, and is manifested by increase in violence, continuance, and frequency of the pains, which usually never cease until the child is born; nay, they often continue for some m. after, and promote the speedy separation of the placenta and the firm contraction of the uterus in a globular form. The contractions and pains caused by ergot are distinguished from those of natural labour by their continuance; scarcely any interval can be perceived between them, but a sensation is experienced as of one continued forcing effort. There is usually much less hæmorrhage after delivery when ergot has been employed.

b. I have known increased frequency and fulness of pulse, copious perspiration, and flushed countenance, follow the use of ergot during parturition. But in most instances the opposite effect has been induced; the patient has experienced great faintness, the pulse has been greatly diminished in both frequency and fulness, and the face has become pale or livid.* (PEREIRA, *op. cit.*)

11. A woman had ergot given to her in a perfectly natural labour, to expedite delivery. It brought on one continued pain of a character and intensity such as she had never experienced before, and during which, to use her own expression, she felt as if "the whole of her body was coming from her." The child was violently extruded, and the uterus and bladder were driven down into the pelvis, the bladder remaining outside the labia. It was not until some time had elapsed that these organs were restored to their normal position. (BARNES, *Lancet*, 1853, ii, 434.)

12. In one case, in which I gave ʒss three times at intervals of 10 m., pulse came down from 120 to 90, considerable stupor and epis-

* See, *inter alia*, HARDY, *Dubl. Quarterly Journ.* for 1845.

taxis supervened, but no uterine action. In a second pulse came down to even below natural standard, and a similar tendency to coma existed, with corresponding absence of pains. (CUSACK, *Lond. Med. Gaz.*, xiv, 606.)

13. A woman, when in her 3rd labour, got in 2 doses an infusion of ʒij of ergot. She was delivered within $\frac{1}{2}$ h. of taking first dose. A few m. after the doctor had left she vomited what appeared to be the medicine. Presently she lost all voluntary motion and even the power of utterance. Her heart beat rapidly for a long time, and her breathing was very laboured. The room appeared to be like water extremely agitated on its surface. She compared it to the "foaming of a troubled sea." After some h. the heart beat more quietly, and then became more agitated, intermitting in this manner all d. During early part of d. lay quite motionless, but recovered power of movement in e. During d. passed much urine, but knew when it came away. She declared that such was her helplessness at one time that "had the child been falling out of bed, or the house been on fire, she could not have made the least muscular effort." (J. WRIGHT, *Edin. Med. and Surg. Journ.*, liii, 12.)

14. A young woman was attended by a midwife, who gave her for defective labour pains a few corns of ergot, whereon the most violent pains ensued, much stronger than any she had had before experiment. She then suddenly was seized with a kind of insanity, doubled her fists and caught hold of the midwife's head, and the child was born amid the most violent labour pains. (HENRICHSEN, *Hufeland's Journ.*, xlv, 5, 96.)

15. A midwife gave a large quantity of ergot to a woman in her confinement. Twenty-four h. after the waters had come away, H. found her lying on the bed, apparently dying; her extremities were cold, she had cold sweats, especially on face, intermittent spasmodic pulse, violent thirst, great anxiety, could not open eyes, when forcibly opened they were found to be staring and fixed, face and neck very swollen, she answered little or not at all to questions. In spite of her weakness the labour pains continued to be strong and very rapid. This state of things had lasted 24 h. The external genitals were much swollen, hot, blackish red, the labia majora hung down to middle of thigh, were dry and œdematous, as were also the l. minora, the rectum was prolapsed at least 3 inches. (*Ibid.*, 99)

16. A woman, æt. 27, pregnant for 6th time, received from the attending midwife, who was getting impatient, ʒj of powdered ergot. In a few m. very painful contractions came on, and soon there was a great degree of excitement, congestion towards head, and irregular movements of whole frame, especially limbs. The medical attendant found her very excited, with wild look, indistinct vision, and swelled face; head very uncomfortable. Then came nausea, and vomiting of a yellowish-green frothy mass; patient complained of burning pain in hypogastrium, and of disagreeable feeling of numbness and creeping in extremities. Vagina was hot; os uteri open nearly an in., its lips thick but soft. The waters had escaped unnoticed. (*Arch. Méd. de Strasbourg*, July, 1835.)

17. A lady of delicate constitution was delivered of a healthy male child at 6 a.m. after a 6 h. labour. Profuse hæmorrhage ensued. On attempt being made to remove placenta, it was found adherent and on force being used she fainted. \mathfrak{zj} of ergot was infused in \mathfrak{vi} of boiling water, and half given immediately and the rest 5 m. after. This caused some contractions of the uterus, and the hæmorrhage was arrested. She remained thus till next d. at 11 a.m., when the infusion was given at $\frac{1}{2}$ h. intervals till she had taken \mathfrak{xxij} . Uterus was excited by first dose to contract forcibly two or three times, but then relapsed into its former torpidity; placenta, however, became detached, and was removed. All this while patient was in a state bordering on insensibility; pulse 65, full; limbs covered with cold sweat. In a little while eyelids, lips and throat began to swell, and the tears to flow profusely; Schneiderian membrane became very irritable and inflamed; great difficulty in breathing through nose; injected conjunctiva. Lips and eyelids looked puffy, as if stung by bees, and gradually put on a livid appearance. Patient could by this time scarcely swallow; voice was low; she complained of not being able to move the jaw, and soon could only be got to say "Yes" or "No." She had previously complained of pain in all the nerves, and feeling of emptiness in head. Amm. carb. in water was given. She gradually recovered power of speaking, but complained of emptiness in head and of great acuteness of hearing, every word, even spoken in the gentlest tone, re-echoing in her head, and thrilling through every nerve in her body. In a few h. all the above symptoms disappeared, save redness and swelling of eyelids, which was still faintly perceptible next m. (HULSE, *N. Amer. Arch. of Med. and Surg. Sc.*, ii, 84.)

18. *a.* In a tedious first labour \mathfrak{zj} of ergot were given in 2 doses. Dr. Johnson saw patient 6 h. afterwards, and found her in a state of incomplete coma, with livid face and muttering delirium, pulse 70 and reduced to a thread. She was delivered by forceps, and remained 30 h. delirious and in a state of semi-stupor. She was afterwards threatened with peritonitis, and had a bad recovery.

b. In another case in which ergot was used largely, Dr. Johnson saw complete gangrene of external parts, and death, occur 6 d. after labour. In a third he witnessed extensive sloughing of vagina, without any other probable cause. In neither of these two cases were any instruments used. (*Lond. Med. Gaz.*, xiv, 606.)

19. After an instrumental labour, where much uterine inertia was displayed and expected, uterus being well emptied, and binder applied, \mathfrak{zj} of fluid extr. were administered, and—by a misunderstanding— \mathfrak{zss} more given every $\frac{1}{2}$ h. till \mathfrak{zj} besides had been taken. Patient was now found with bluish face, apparently in great pain, pupils dilated, pulse quick, very weak, and occasionally irregular; there was dyspnœa, nausea, buzzing in ears, and at times a tendency to syncope; skin cool and clammy. Under stimulants she soon recovered. (KEATING, *N. Y. Med. Record*, 1880, ii, 318.)

20. BARBIER had to treat at Neuville a woman suffering from ergotism. The disease was occasioned by her having taken several drachms of ergot to assist labour. Soon after delivery she had violent

pains in the ends of her fingers, and she had swellings of lymphatic vessels, especially of the arms, which ended in the loss of the ends of some of her fingers. (LEVRAT-PERROTTON, *Recherches sur l'emploi thér. du Seigle ergoté*, quoted in *Ibid.*)*

21. A brunette, æt. 41, married 22 years, no children, had uterine fibroids 8 years, and previously 3 attacks of pelvic cellulitis. Tumours were discovered in 1881, since which date she had been taking ergot almost constantly, either as fluid extr. or in suppository. Dose of fluid extr. gtt. xv to 3j, ter die. It controlled hæmorrhage and reduced size of tumours. In addition it had a peculiar effect, which was uniform whether taken by mouth or suppository, more marked under full doses of extr. After taking it 3 d. she has peculiar depression of spirits; feels like crying all the time. On 4th d. is ill-tempered and displeased with everything, and wants to quarrel; will lie in bed and cry all d. Her natural disposition is just the opposite. Effect here noticed occurred constantly following the ergot, and was undoubtedly produced by it. (D. W. PRENTISS, M.D., *Journ. of Amer. Med. Ass.*, xii, 912.)

22. Dr. NEGRI gave ergot, generally in 3 to 5 grain doses, for menorrhagia, leucorrhœa, &c. "The effects," he writes, "on the general system have not been constant, or the same in different individuals who took it, and none of an alarming character. The greater number of patients complained of giddiness and headache, which followed in general only the first doses of the medicine, and did not last long. A few complained of sickness; and others of a general sense of prostration all over, 'from the head to the tips of the fingers and toes.' Some women with menorrhagia and leucorrhœa complained of pains in hypogastric region and loins, and some even of a sense of bearing-down of the womb. A woman who had a chronic ulcer on her r. foot complained of excessive pain in it since she began to take the secale, and others complained of pains along the thighs and legs." (*Lond. Med. Gaz.*, xiii, 362.)

23. Dr. RANDALL gave ergot at the rate of ʒss a d. for amenorrhœa in 7 cases. The only incidental symptoms produced were headache, increased heat of body, and occasional pain in hypogastric region. (*N. Engl. Journ. of Med. and Surg.*, v, 162.)

24. TROUSSEAU and MAISONNEUVE treated 13 cases of menorrhagia and metrorrhagia with ergot. Its hæmostatic action was invariably preceded or accompanied by uterine (not intestinal) colics. The other incidental effects produced by it were mainly cerebro-spinal in their seat; they were dilatation of pupils, headache, vertigo, and sleepiness. They came on later than the colics, but lasted longer. The mydriasis was most constant. Headache and vertigo were irregular as to frequency and severity,—the latter was sometimes sufficient to simulate drunkenness. They also occasionally observed nausea and vomiting;

* In the *Lancet*, Sept. 17th, 1870, Mr. J. R. Begg reports a case of "idiopathic gangrene" of the four extremities, nose, and ears. The patient had suffered for years from coldness of extremities; but during labour, 5 weeks before present attack, had taken 65 grs. of ergot in infusion.—EDS.

pruritus, numbness, and lassitude of limbs. There was no sign of irritation of stomach or skin. (*Bull. de Thérap.*, iv, 100.)

25. WRIGHT treated a woman for metrorrhagia with ʒss doses for a fortnight with nothing but beneficial results. But 5 d. after increasing doses to ʒj 4 times a d. she complained of being excessively nervous and irritable; sparks appeared to flash before her eyes; her head was sometimes heavy and throbbing, and then again so light and giddy that she could scarcely stand. She remarked further that on waking in m. she felt a peculiar tingling all over body, sometimes even painful. (*Ed. Med. and Surg. Journ.*, liii, 11.)

26. Chronic ergotism appears in two clearly distinct forms,—one characterised chiefly by the presence of convulsions, with considerable disturbance of sensation—therefore called “spasmodic ergotism” or “Kriebelkrankheit;” the other by gangrene of face and extremities, therefore called “gangrenous ergotism.”

a. When flour strongly impregnated with ergot has been eaten for several consecutive d., the first symptom of poisoning occurs in the form of a peculiar irritation of the cutaneous nerves, much like the sensation of an ant creeping over the skin (formication). This continues during the whole course of the illness, and is the last symptom to disappear. It affects chiefly the fingers and toes, but may also extend to other parts, as the hands and arms. In some cases it increases to actual numbness and even to complete anæsthesia of the parts affected. Simultaneously with this formication symptoms set in in stomach and intestinal canal similar to those of acute ergot-poisoning. Vomiting and diarrhœa alternate with violent colicky pains; and curiously enough this is accompanied with intense, insatiable hunger the patients devouring everything eatable that comes in their way. There is also present a peculiar sensation of discomfort, anxiety, and weariness, giddiness, and general uneasiness, and of distressing pressure at pit of stomach. Formication now grows to acute pain, and there are involuntary twitchings in various groups of muscles, as those of the tongue and extremities; these soon pass into continuous contractions which specially affect the flexors, so that the arm, *e. g.*, remains fixed in a bent position. This muscular cramp (which is very painful) will last $\frac{1}{2}$ h.—1 h. or even more. Retching and vomiting persist, but bowels are now somewhat sluggish. The contractions are succeeded by state of utter exhaustion; later, they appear simultaneously in various parts, epigastrium is tightly distended, facial muscles are distorted, legs are flexed; hands frequently assume a beak-like form, fingers being drawn towards the middle one, and simultaneously flexed towards base of thumb,—the foot assumes a similar form. Pupils are usually contracted, sometimes irregular; eyes are fixed. Skin is covered with cold perspiration. Urinary secretion is diminished; and there is severe dysuria, dependent on spasm of bladder. Pulse is weak and low. In severe cases patient loses power of sight, speech, and hearing, and the consciousness; delirium sets in; face is pale and sallow; head, limbs, body, feels cold; and thus, with continuance of the spasms, and gradually advancing cardiac paralysis, death may supervene. This may occur as early as the 3rd d. after the commencement of the symptom

especially when the contractions involve the respiratory and spinal muscles, inducing opisthotonos. In many cases which do not terminate fatally, cataleptic and epileptic attacks occur, with or without loss of consciousness.

The loss of sight may be preceded by all possible visual disturbances—coloured vision, diplopia, &c. Of the other organs, the skin is especially under the influence of the poison. Besides very abundant perspiration, pustules often break out, or even larger furuncles; there may be a kind of scabious eczema in the later stage of the malady. Other disturbances of nutrition in the peripheral organs are reported, as whitlows on the fingers, occurring as late as the 4th and 5th week, and disease of the finger-nails, which are encircled by a dark ring. Cardiac contractions are generally slow and feeble; the arteries are constricted and contain little blood. Respiration is very laboured during the spasms, but tolerably regular in the free intervals.

The whole form of the illness is very variable, and its course highly irregular. When death supervenes, it is usually not till after a fortnight or later; the spasms may have ceased, yet loss of sight and hearing, with violent headache, stupor, and delirium, may set in, attended with diarrhoea; and thus the fatal stage may assume the form of typhus and general collapse. If the case takes a favourable turn, after 4—8 weeks or even longer the spasms diminish in number and intensity, the sensory disorders gradually subside, digestion recovers its tone, and complete recovery may ensue. In many instances, however, recovery is incomplete; various pains and infirmities remain behind, especially muscular weakness and tremor, and stiffness of joints; in other cases paralysis and epileptic attacks continue. More rarely melancholia and imbecility are results of this disease; permanent visual disturbances are also reported.*

Frequent as deaths from spasmodic ergotism were in former times, very few good reports of the results of autopsies lie before us. The few physicians who have reported such autopsies are unanimous in saying that putrefaction sets in very rapidly. The heart is found bloodless and flaccid, the lungs in a condition of venous hyperæmia; venous injection of cerebral meninges is very marked. Strongly injected patches are often found in stomach and intestines; sometimes hæmorrhagic and even gangrenous erosions are met with. Evidences of venous hyperæmia are found in abdominal glands, in liver, and in spleen, which are somewhat swollen and dark-coloured.

b. Gangrenous ergotism is most probably only a quantitative aggravation of the spasmodic form of poisoning, due to a larger proportion of ergot in the flour consumed (especially seen in maize-eating countries). In the beginning of the illness the symptoms of both forms are identical; it is only after 1—3 weeks (as a rule) that the distinctive features of the gangrenous form appear. An erysipelatous redness shows itself on some spots in the periphery, most frequently on toes and feet, but also on fingers and hands, more rarely on ears and nose; soon the epidermis is raised like a bladder by serous exudation, the ichorous contents

* "MEIER, of Kronstadt, has found that cataract is a very usual consequence of chronic ergotism (*Arch. Gén. de Méd.*, 1863, p. 350)." (STILLÉ.)

of this are discharged, and a gangrenous spot more or less large is left, which develops itself very rapidly. The part affected is very painful while the redness is invading it, but later on it becomes quite insensible. The spot may exhibit either the dry or the moist form of gangrene, according as the discharge from the bulla was checked or encouraged; upon this also depends the greater or less intensity of the odour of putrefaction. In some cases the gangrene is limited to one or more toes, sometimes only to single phalanges; in other cases, however, the entire foot or hand is affected, and not unfrequently there is extension up to the trunk, so that even limbs may be lost. The gangrenous parts become separated from the healthy tissue by a well-defined line of demarcation, and may either fall off of themselves or need an operation for their removal. This process of demarcation is often attended with serious disturbances of the general condition of the patient; sometimes a modified form of continued fever is developed, followed by phthisical changes; in a few cases, from absorption of ichorous matter, pyæmia and septicæmia set in, and of course are fatal. When the gangrene is confined to parts of minor importance the patient has usually recovered; greater losses were naturally more frequently mortal. In some cases obstinate diarrhœa has brought on marasmus and death, even when the extent of the gangrene was not very considerable. We must mention, however, that in many cases the morbid process does not advance beyond the stage of erysipelatous redness; or even cyanosis may be observed, and yet resolution take place and the circulation be restored.

Very few autopsies have been performed on persons who have died of gangrenous ergotism; and the reports that we possess contain nothing characteristic of the poison. The most striking fact is that mentioned by Bonjean, who states that he found the arteries leading to the gangrenous limbs in a healthy condition. (VON BOECK, in *Ziemssen's Cyclopædia*, xvii, 904—918.)

27. In 1841 a family of 8 persons lived upon heavily ergoted rye bread, which was gathered during a wet harvest in the previous year. The chief symptoms were these: malaise, anxiety, exhaustion, faintness, coldness of whole body, sharp pricking pain and formication followed by numbness of hands and afterwards of arms, alternating with spasms so severe as to extort tears. Muscles of lower extremities were affected in same manner, and in one instance those of r. side of face; subsequently, abdominal muscles were spasmodically contracted. About the 6th d. nausea, vomiting and diarrhœa took place, with severe pains in bowels and bladder. About the 14th d., two of the children lay as if stupefied, or if roused raved wildly, or complained of pain in head and limbs; at same time a pruriginous eruption appeared on the skin. They died on the 21st d. in violent convulsions. Bonjean relates a case of the gangrenous form of ergotism: here also the sick family consisted of 8 persons; of these 4 were not affected, 2 were but little so; but of the remaining two one perished and the other lost a leg. In the fatal case the symptoms were—pain in l. groin; a dark spot on both calves; coldness and pain in legs, followed by an eruption of vesicles with violent itching; then gangrene of lower third of both legs. In 3

weeks sphacelated parts began to separate ; feet were black and dry ; upper part of both legs was affected with humid gangrene. Both were amputated below knee ; very little blood flowed. No extension of disease followed, but patient died of pneumonia, which was probably metastatic. In the other child but one leg was attacked ; symptoms were as in first case, but spontaneous separation of limb at knee took place, and recovery followed. (STILLÉ, *op. cit.*)

28. On March 31st a man æt. 40, his son, æt. 12, and a girl, æt. 2½, were brought under Dr. UNGEFUG's care suffering from ergotism (Kriebelkrankheit). They had been eating for a week rye meal, which, it is known, contains a quantity of ergot. The previous d. they were all seized with extremely violent pain in arms and legs, accompanied by electric shocks as in tetanus. Face pale and thin, tongue furred white. The father's appetite was normal, one of the children had ravenous hunger. Throat dry ; arms and legs in a semi-flexed prone position, very stiff and painful if attempted to be extended ; pulse and temperature of skin normal ; pains in sacrum. The elder child died with incessant pains and twitchings, he remained conscious to the last ; the man and the other child recovered.—*P.M.*, 29 h. after death. Cadaveric stiffness and decomposition moderate ; brain, cerebral membranes, and transverse sinus full of blood ; lungs congested, filled with frothy fluid dark blood ; bladder full of urine ; spinal cord and its membranes very congested, its substance softened. (*Viertelj. f. gericht. Med.*, ix, i, 1856.)

29. In 1831 ergot appeared in unusual quantity in the rye-corn and constituted often one fifth of the whole meal. WAGNER attributes the morbid affections he observed in a number of cases to the action of the ergot.

a. August L—, æt. 16, and Rosalind L—, æt. 12, to whom he was called in the n. of the 30th July, had for 8 d. complained of periodical attacks of transient weariness, which continued till the 29th, when there came on in addition painful drawing in hands and feet, which occurred quickly and frequently, allowing of little rest. On the 30th the state was as follows : Complete stiffness of arms and legs. The thighs were drawn forwards and the legs backwards, forming with the thighs an acute angle ; the feet were drawn forwards and the toes backwards. The upper and forearms formed a similar angle directed upwards, the hands drawn towards the chest, and all the fingers bent inwards as though they would tear the flesh from the chest, and this position they maintained persistently. About every ¼ h. there occurred a very painful formication, alternating with burning, from the tips of the toes up to the tips of the fingers, sometimes with a sensation as if ants were running beneath the skin. The tips of fingers and toes were numb. Immediately after the formication the chest was spasmodically contracted, so that the air was rapidly expelled from the lungs, causing the patient to emit a loud cry, and for a short time inspiration was stopped, the patient started up involuntarily from the recumbent position and supported himself on knees, elbows, and head in order to be able to take an inspiration. The skin of the extremities and body became hot, and only moist on the head. Pulse slow and irregular.

Face bloated, red. The patient retained full consciousness. No sleep either by n. or d.

b. Six other cases were observed with similar symptoms, with this difference, that the lower extremities were stretched out straight and the toes bent backwards; one of the patients vomited frequently.

c. Many other cases were observed, in which the following symptoms occurred: Several complained of heaviness in the legs, vertigo, violent cramps in the calves, and occasionally such violent contraction of the abdominal muscles that the whole abdomen was compressed towards the spine and the patients rolled on the ground uttering shrieks. In one case the contraction assumed the form of several hard balls in the abdomen; in this case the attack commenced with maniacal and cerebral inflammatory symptoms, for which bloodletting was employed; then there came on frequent formication, burning, and running under the skin of hands and feet as if worms were wriggling under the skin, cramps of calves, the above-mentioned abdominal spasm followed by numbness of skin and then symptoms of inflammation of the bowels, for which bloodletting was again employed. The patients after these attacks seemed quite well, and several d. would pass without a recurrence of the spasms. But the formication and burning in skin with the numbness persisted. Sometimes one or the other arm went to sleep. There were sometimes sensations which the patients could not describe. In this form the affection assumed a chronic character. (WAGNER, *Hufeland's Journ.*, lxxviii, Pt. 4, p. 5. 1831.)

30. A peasant woman, æt. 48, said that 10 weeks previously she was suddenly seized at n. with violent vomiting, which lasted 2 d. with violent headache and pain all over her body; after this she had burning headache and feeling of pain and bruised sensation in all the limbs, which persisted and made her keep her bed for 9 d. These symptoms then ceased, and though weak she got about for 8 d. Then there came on in her extremities crawling betwixt skin and flesh, and attacks of shooting tearing from one point to another, sometimes with, sometimes without cramps; trembling of arms and legs, especially when she attempted to use them, with such weakness in them that she staggered and could not grasp anything securely, with numbness of fingers and toes. These symptoms increased every d., so that when seen on Nov. 14th she could not raise her arms or legs, but must maintain a recumbent position. She had formication in extremities, with shooting, tearing pains; the pain in feet and calves was particularly severe, of a gnawing, boring character, worst at n., hindering her from sleeping; she is so paralysed that she cannot raise arms or legs, though she can move them about in bed; the tips of her fingers and toes are quite insensible; normal sensibility begins only above elbows and knees. (Huss, *Chronic Alcoholism, &c.*, 224; in *Frank's Mag.*, iv, 687.)

31. A peasant lad, æt. 22, of strong vigorous frame, was received into hospital March 22nd, 1880. He was affected by ergotism in beginning of December. One day he stood stock-still in the stable and then fell down in convulsions. These were repeated frequently by day and by night. When the attack came on he felt tired

and lay down in bed, then he uttered a cry and had twitchings in arms, the eyes rolled upwards, there was rattling in chest and he foamed at the mouth, the hands were doubled into fists, he frequently bit his tongue, consciousness was temporarily lost. Latterly the appetite was remarkably increased; he slept much, since Christmas he could not follow conversation, was very confused, and often sighed. Pulse full. Knee-jerk absent. He hardly understands what is said to him, his speech is slow, often stammering and incomprehensible. He sometimes laughs suddenly. The epileptic fits occur almost daily. They began usually by heaving a sigh and bowing his head, the eyeballs rolled upwards, the fingers were flexed, the thumbs turned in, then there were convulsive movements in the forearms, face, and masticatory muscles, during which the tongue was generally bitten; there were shuddering movements of the trunk. Face at first pale. Pupils seemed contracted at beginning of attack, later dilated. These symptoms only lasted about $\frac{1}{4}$ a minute, then the convulsions ceased and the patient lay in deep coma, his respiration was rattling and laboured, foam gathered upon his lips. Muscular convulsions occurred occasionally, especially of the chewing muscles. The face became red, sometimes cyanotic, the pupils greatly dilated, not very sensitive to light. Several attacks of epilepsy often occurred during the coma. Ophthalmological inspection showed redness of the papilla optica. In course of time there occurred catarrh of trachea and bronchial tubes, with copious expectoration. From April 20th the fits became very severe, the tongue was bitten to pieces, and its wounds became covered with a greenish foetid layer. He died suddenly on April 26th. Tuzek made a microscopic examination of the spinal cord. He says: A section of the fresh cord shows nothing peculiar. After the cord had been hardened for several weeks in a solution of bichrom. of pot., parts of posterior columns of the cord were seen by naked eye to be altered and of a much brighter colour. These extend the whole length of the cord from the crossing of the pyramidal bodies to the conus medullaris, as shown by sections in different parts. In the lower part of the lumbar portion the bright part includes the posterior external angle to the posterior border of one side, and the posterior root on the other side. In the upper part the figure gradually grows forward till towards the anterior angle, sends a prong into the upper part of the dorsal portion of the cord, which grows out to a stripe bounding the column of Goll, whilst the outer bright part gradually retreats to the posterior angle. (SIEMENS, *Arch. f. Psychiatr.*, xi, 377.)

32. A girl, æt. 9, received Jan. 19th, 1881. Had suffered more than a year from symptoms of ergotism, which were aggravated by again partaking of ergot bread. For a fortnight has had psychical disturbances, great restlessness, loud screaming. She is well developed for her age. Pupils dilated, but react to light. No knee-jerk. She wags head to and fro and calls, "Mother! mother!" She snaps greedily at everything, is very thirsty, is dirty, stools diarrhœic, temperature normal, tongue moist.—21st. Had an epileptic attack lasting 10 m., followed by shorter coma. After 3 respirations there always occurred a pause. Her fits increased in number, and on the 19th Feb. she

died in the coma. The cord having been hardened in pot. bichrom. sol., a considerable degeneration of its posterior columns was visible to naked eye. The microscope showed these degenerated parts to be very advanced atrophy of the nerve-fibres. The degeneration is symmetrical in both posterior columns, and extends through the whole length of the cord up to the med. oblongata. (Tuczek relates a long series of cases in which ergotism was attended by various symptoms pointing to affections of the nervous centres, such as epileptic fits, mania, ataxia, stupor, dementia, extreme anxietas, vertigo, religious despair, great lethargy, impossibility to remain standing with eyes shut, loss of power of coherent speech, feeling of being surrounded by a tight girdle, occipital headache, analgesia, Romberg's symptoms, and in every case loss of knee-jerk. Four of the cases, including that given above, died, and *P.M.* examination showed more or less degeneration of the posterior columns of the spinal cord.) (TUCZEK, *Ibid.*, xiii, 99).

III. *Experiments on animals.*—1. PERCY and LAURENT testify that a decoction injected into the veins of a pregnant cow caused the animal to calve speedily; and in 1 out of 3 experiments, Mr. Combes has stated, it caused abortion in a bitch.* Diez found that it caused uterine contractions in dogs, rabbits, and sows. Large doses given to bitches induced an inflammatory condition of the uterus, and destroyed both mother and young. Mr. Youatt, at the Zoological Gardens, found it an unfailing oxytocic; but points out that in the case of ruminants its entrance into the fourth or villous stomach must be secured. (PEREIRA, *op. cit.*)

2. COURHAUT gave a pregnant bitch \mathfrak{z} iv of ergot for 6 d. together. On 2nd d. the animal seemed chilly, and on 3rd was seized with severe shiverings. He gave her 6 dr. of ammonia in her food, on which the symptoms abated. On 6th d. she aborted of 4 living pups, shivering violently the while. In 3 h. time the ammonia was repeated, when the shivering gradually ceased. (*Traité de l'Ergot.* 1827.)

3. To a bitch big with young was given daily, for several weeks, \mathfrak{z} iiiss of ergot, without perceptible effect; and at full term 6 healthy pups were born. The animal, still kept on the same food, was again impregnated, and showed no signs of ill-health till near end of gestation, when she became snappish and ill at ease, looked drowsy and moped, fur erect and rough. Five d. after normal time she brought forth 3 pups, of which 2 were dead and only half grown, and the 3rd, scarcely more advanced, lived only a few h. Under continuance of the ergot the mother got in the 9th week a large swelling under the lower jaw, which, on being opened, discharged greenish matter, which formed again and again before death. In 11th week 3 fore-teeth fell out, eyes secreted pus, she lost all desire for food, and for some d. before death had diuresis and diarrhœa. She died in 12th week, having swallowed 46 oz. of ergot, and her weight reduced from $7\frac{1}{2}$ to $5\frac{1}{4}$ lb. Alimentary canal, with liver and spleen, were less affected than usual; but lungs and mesentery were strewn with tubercles. Fistulous openings discharging pus were found about the roots of the incisors,

* "Dr. Ostere gave ergot to a sow, a cow, and a cat, before the completion of pregnancy, and in each case induced abortion." (STILLÉ.)

and communicated with a cyst full of pus under the chin.* (WRIGHT, *Ed. Med. and Surg. Journ.*, lii, 319.)

4. Same injected a strong infusion into the jugular veins of dogs. The symptoms were dilated pupils, a rapid pulse, convulsions, and flaccidity of limbs followed by tetanic rigidity of them, which lasted after death. When a weaker infusion was employed, it caused great temporary excitement, followed by depression. A still more diluted preparation seemed to exhaust life by a progressive sedative operation. Similar results ensued when the solution was thrown into the peritoneal cavity. (*Ibid.*)

5. Same gave to a bitch daily ℥j of ergot in 2 or 3 doses. The first week she trembled violently after each dose; pupils generally dilated after 5 m.; abdominal parietes were drawn inward; not unfrequently hiccup came on; heart beat at first with increased force, but in about 20 m. its pulsations became feebler; she frothed at the mouth, and at last each dose produced weakness of hind paws, lassitude, and somnolence. Urine was passed frequently and copiously. Eyes were evidently affected, their expression being wild; and they showed little sensibility on approach of finger to them. After 3 weeks 3 doses of ℥ss each were given every d. During 3rd and 4th weeks animal was emaciated, dejected, and without appetite; mouth and nose seemed dry; in standing, the animal generally held one paw from the ground, a fore-paw and a hinder one alternately, and there was twitching of elevated limb. Sensation was impaired, most in posterior parts of body; extremely offensive flatus and fæces made their escape from anus; eyes became weak and watering, lids adherent in m. A dose of ℥ij being rejected, experiment was continued with daily doses of ℥iss. At end of 5th week tears were so corrosive as to denude of hair the parts of the skin on which they fell. Pituitary membrane secreted a purulent fluid; breathing grew difficult, and sight and hearing obtuse; diarrhœa and constipation alternated. The last 4 d. dog could no longer chew; breath was offensive, as indeed was whole body; breathing and circulation very slow; temp. of body fell; tremor came on, sensation was lost, urine escaped uncontrolled, and death at last ensued. The animal had taken 56 oz. in 7 weeks, and weight had fallen from 13 to 7½ lb. On dissection, no muscles responded to galvanism, and superficial ones were soft, pale, and lacerable; heart was found flabby and very small; lungs darker than usual, extensively bestrewn with tubercles; mucous membrane of air-tubes thickened and hardened here and there, and covered with reddish-green purulent secretion; small intestine internally reddened as far as end of jejunum, large one towards end of rectum; spleen much smaller than usual, but liver larger; all other organs (including uterus) normal, save that dura mater of brain was rather injected. Body began to putrefy in 12 h. (*Ibid.*, liii, 1.)

6. ℥iv of ergot were administered every other d., in 3 doses, to a puppy 4 mo. old. His appetite fell off, and in 3 weeks he was brought very low. The 4th week dose was raised to ℥vj, after which he grew

* The same experimenter, after many similar trials, concluded that ergot does not exert a parturifacient action on these animals, though it sometimes appears to injure or destroy the fœtus.

rapidly thin, which was particularly observable in the hind legs, with which he was nearly lame by end of 6th week. The dog became in the meantime nearly blind and deaf; he sat for hours together as if chewing something, then turned his head first one way and then another, or ran to and fro whining; now and then he passed fetid bilious fæces; urine was natural and abundant. There was corrosive discharge from eyes; action of heart slow and feeble; temperature and sensibility reduced, while the irritability was increased. At end of 7th week animal remained always lying down, and felt painfully any pressure on the l. hip. He died at beginning of 9th week, after taking 23½ oz. of the drug. Body was immediately opened. Only diaphragm and pectorales showed any muscular irritability when galvanised. Heart contained much dark blood; lungs, too, were unnaturally dark, and contained many ecchymosed specks and tubercles; mucous membrane of air-passages thickened, of dirty yellow colour and offensive smell. Stomach and intestines were sound, save that latter were constricted, and in some places as it were puckered, and in duodenum there was an abscess a ¼ in. long. Kidneys were pale and very soft, spleen small, liver very large and in parts hardened, cervical and inguinal glands large and hard; brain and spinal cord softened, former in two places almost fluid. Blood and pus were found in cavity of l. hip-joint; adjoining ligaments were lengthened and loosened in their texture; synovial membrane thickened and softened. Body soon putrefied. (*Ibid.*, p. 5.)

7. a. A lively spaniel bitch, 9 mo. old, after fasting 24 h., was given one m. a meal of porridge in which were ʒij of powdered ergot. To prevent vomiting, mouth was tied up. In ½ h. efforts to vomit came on, and a clear shining fluid ran from mouth. At 11 pupils were dilated. At 1 she began to be restless; breathing and heart's action were accelerated. She would neither eat nor drink, when mouth was untied. At 9 p.m. she became calmer, and next d. merely seemed languid and indisposed to eat; excrement was very hard. Two d. after, ʒss was mixed with meal and water, and forced, in 6 portions, down her throat. In ¼ h. there was a violent effort to vomit, which recurred 4 times. At 1 p.m. pulse and breathing were accelerated; she trembled violently; pupils were dilated. Restlessness was much greater than in first experiment; she ran hither and thither. Conjunctiva of both eyes was pencilled, especially at inner angle, with a network of vessels. Next d. all symptoms had improved, and restlessness had given place to sleepiness and lassitude. The animal ate little, and passed hard dry excrement; tongue was white, conjunctiva rather red, and thick yellowish mucus had accumulated at the inner canthus. On the 5th d., at 8 a.m., ʒj was administered in 12 doses, and mouth tied. In ½ h. violent efforts to vomit, in which string round mouth snapped, and whole of drug was thrown up. She continued for several h. very dejected. At 1 p.m. a similar quantity was administered. At 4, acceleration of pulse and breathing, dilatation of pupils, long-continued trembling of whole body. No efforts to vomit, but on mouth being untied ergot came up. The animal was dejected for rest of d., and would neither eat nor drink.

b. No symptoms remaining after 6 d. save some lassitude and want of appetite, \mathfrak{z} j was given as before at 7 a.m. In a short time came same symptoms as before,—enlargement of pupils, general shivering, quickened breathing and pulse. At 10 there were several efforts to vomit. At 1 shivering ceased, and no more mucus ran from mouth; dog became restless, and ran about with tail in air, often striking her head against objects in the way. At 2 mouth was untied; tongue was white and dry, as was likewise whole inner surface of mouth. Symptoms went on increasing; respiration and action of heart grew quicker every h.; nostrils were stopped up with thick yellow mucus; conjunctivæ of both eyes very red. The animal walked unsteadily and feebly; hind legs especially seemed weak, and a slight push was sufficient to throw her on her side. At 9 she drank some milk greedily. She was still weak on 8th d., slow and unsteady in movements; excrement hard and dry. Yellowish purulent-looking mucus had collected in inner canthi, and partially covered surface of eyes, giving them a dim dull look; conjunctiva was pretty strongly injected. She refused solid food, but lapped up milk and water with avidity. Next d. all morbid symptoms had departed, save some lassitude; there was still thirst without appetite. Towards e. she voided some thin foetid excrement. On the 10th d., at 9 a.m., a decoction of \mathfrak{z} iss was poured down her throat. Same symptoms followed, but to a much slighter degree. On the 11th d. same quantity was given in powder. In $\frac{3}{4}$ h. she made several attempts at vomiting, and trembled violently; at 11 pupils were strongly dilated. In afternoon great restlessness, constant running from place to place, great acceleration of respiration and pulse. At 5 mouth was untied. In running she separated her legs a good deal, and swayed from side to side as if intoxicated; often knocked her head, which she always carried low, against things in her way, and several times fell down. She often turned round and round, always r. to l., and could not be diverted from this motion; if she was fastened by a string she turned round in this direction till it was tight about her neck. Meanwhile her breathing became hurried and fitful, and she moaned now and then. When spent by her violent efforts she lay down on her belly, but the slightest noise was sufficient to rouse her to renewed exertions. On meat being offered her she ate some voraciously, and then staggered away. Her nose was warm and dry; her eyes sparkled and moved restlessly hither and thither, and pupils were dilated. She moaned a great deal in the n. Next d. symptoms subsided gradually, but all that d. she walked unsteadily. She drank a quantity of water, and was quite ready for her usual food. On 14th d. she was quite well again.

c. As the most important symptoms came on 6 to 7 h. after taking the ergot, it was given her— \mathfrak{z} ij in divided doses—at 11 p.m. At 5 a.m. great restlessness, trembling of whole body, strongly dilated pupils. At 5.30 she got bandage off her mouth, and vomited part of the ergot in a half-digested state. In course of d. precisely the same symptoms came on as in previous experiments; but there was with the excitement of the system a greater degree of weakness and paresis. She staggered in walking, was easily thrown on her side, and then had

great difficulty in getting on her feet again; hind legs were remarkably weak, and in walking she made almost exclusive use of her fore-paws, dragging the others after them. Action of heart was weak, but, as also respiration, accelerated. She left her food untouched. Next d. lassitude, weakness of limbs, want of appetite; eyelids adhered by a sticky effusion; excrements hard and dry. After this nothing but some lassitude remained. (GASPARD, quoted by Buchner, no reference given.)

8. STRAHLER made a number of trials on dogs with ergot in powder or infusion and with ergotin. He says there is an acute and a chronic poisoning. The *acute* shows predominant gastric and narcotic symptoms. The gastric symptoms are chiefly nausea, vomiting, colic, diarrhœa, scraping in œsophagus. There is always increased flow of saliva. The gastric symptoms are not persistent, for the appetite soon returns. It acts as a paralyser on the nervous system, first on the brain, causing restlessness, anxiety, stupefaction, &c.; after larger doses numb feeling, stiffness, and paralysis of lower extremities; when the poisoning is more intense there is sometimes paralysis of the upper part of the spinal cord and of the medulla oblongata; pupils generally dilated, respiration slowed, pulse more or less altered, urinary secretion diminished. The paralytic symptoms are sometimes preceded by twitchings in muscles of cheeks and thighs. In the *chronic* intoxication the reflex excitability of the spinal cord is sometimes increased to tetanic convulsions; peripheric symptoms usually precede the central paralytic ones. There is fornication, and the appetite is increased to bulimy.—*P.M.* Putrefaction takes place rapidly, there are signs of inflammation in stomach and intestines, thickening and corrugated appearance of the coats of the stomach, narrowing and thickening of the intestines, dark colour and fluidity of blood, congestion of blood in brain, liver, spleen, lungs and heart, and especially in the nerve trunks. The gall and urinary bladders are generally full, during life there is retention of urine. In the chronic poisoning the organs are atrophied, and the appearance is livid and cachectic. (*Vierteljahrsch. f. gericht. Med.*, i. 1856.)

9. *a.* WERNICH made a number of experiments, chiefly on frogs, and found that the effect of ergotin was to produce great congestion of the veins of omentum, mesentery, intestines, and bladder; all other organs, especially the spinal cord, were anæmic. This has also been noticed by Handelin in his experiments with E. on dogs. Briesemann found that whilst the veins were almost everywhere full of blood, the arteries were much contracted and bloodless. W.'s conclusions as to the effect of E. on the circulation are—1. Ergotin first reduces the tone of the vessels, so that a large quantity of blood accumulates in the veins. 2. The arteries appear narrower, because they are more empty. 3. The blood-pressure is first considerably diminished, afterwards it gradually increases. 4. The heart's beats are slower and lethal doses cause the heart to stop in diastole.

b. Action on uterus.—A young rabbit got an injection of 0.3 ergotin in l. thigh. In 10 m. there appeared a slow contraction of uterus from above downwards, this was continued 5 or 6 times in $\frac{1}{4}$ h. (*Op. cit.*)

10. TESSIER mixed ergot with food of pigs : they showed reluctance to eat it. Its first effects were redness of eyes and ears ; latter organs and limbs then grew cold, joints swelled, gangrene attacked ears, limbs, and tail, and the animals died in convulsions. One of them 6 mo. old lived for 66 d. : its intestines were found inflamed and gangrenous. (*Revue Méd.*, xliii, 140.)

11. BONJEAN gave $\frac{3}{4}$ daily to cocks and hens. About 7th d. they became dull, languid, without appetite, and were affected with diarrhœa. In some cases the comb grew cold, bluish, flaccid, and covered with ecchymoses ; in others it was ulcerated. Black blood flowed from nostrils ; the animals were unable to walk, their breathing grew slower, and emaciation and death followed. In other cases the plumage was shed, and the beak and claws were surrounded by a bluish circle. (*Traité de l'Ergot de Seigle*, Paris, 1845.)

12. As early as 1827 M. Courhaut advanced the opinion that ergot produces a spasm of the blood-vessels ; but, although his theory was very generally adopted, only within a few years has any earnest attempt been made to prove or disprove its correctness. In 1870 Dr. Ch. L. Holmes (*Arch. de Phys.*, iii) found that when the blood-vessels of the frog's web were watched under the microscope, and the animal poisoned either with the aqueous extr. or with the powdered drug, the vessels, both venous and arterial, could be seen to undergo a very great contraction. These observations have been confirmed by other observers.* He found also, however, contrary to what might have been expected, an immediate, rapid, and very decided depression of arterial pressure, with violent cries and efforts on the part of the dog, followed by a period of quiet and a rise of the pressure above the normal point. These alterations of pressure, he finds, cannot be dependent on the cardiac action of the drug. He asserts that after section of a sympathetic nerve and injection of ergot the vessels supplied by the divided nerve can be seen to contract ; and Wernich confirms this observation, which, however, is directly contradicted by some apparently careful and elaborate experiments of Dr. Paul Vogt, in which the dilated vessels of the ear of a rabbit whose cervical ganglion had been extirpated could not be made to contract by the hypodermic injection of E. Eberty's results (*Inaug. Dissert.*, Halle, 1873) are in accord with those of Vogt, and disagree with those of Holmes, especially in their bearing on the question whether the contraction of the arteries is centric or peripheric in its origin. He finds that the arterial pressure rises directly and enormously after the injection of ergotin. This rise, which he acknowledges to be chiefly due to the contraction of the vessels, occurs in the veins as well as in the arteries, and in the frog as well as in the dog and the rabbit. According to his experiments it must be, at least in the batrachian, centric, since here it does not take place after destruction of the medulla. (H. C. WOOD, *op. cit.*)

13. I subjected a frog to its influence in the following manner. Having extended the web of its foot under a microscope, I injected subcutaneously 1 gr. of ergotin in solution. The effect was apparent in a few m. ; at first the circulation became much quicker, then very

* See II, 10 and III, 9 of this article.—Eds.

soon it seemed to stop for a few seconds, and the larger vessels were much diminished in size; for some m. the circulation was disturbed, it was irregular, spasmodic, the blood now retrograding then advancing. In this fluctuating condition it remained for upwards of $\frac{1}{2}$ h., when the effect gradually passed off, and the current went on steadily and uniformly again. This experiment I have repeated twice in the same frog, and again in another, with the same results. (MEADOWS, *Pract.*, i, 163.)

SELENIUM.

I. *Provingt.*—1. (No information as to provers, doses, or time of appearance.)

a. Very forgetful, especially in business matters, but when he is half asleep he remembers everything. Transient tearings deep in the head. Headache every afternoon. Headache after tamarind lemonade. He gets headache every time he drinks lemonade or wine, or sometimes tea, but not after water, chocolate, coffee, or brandy. Produces and cures old attacks of violent shooting headache over l. eye, compelling him to lie down, with external tenderness of head, profuse urination, anorexia and low spirits, also excited by walking in the sun and strong odours. Falling out of hair when combed. Greasy skin of face. Glabella swollen as if pimples would break out. Itching vesicles in eyebrows. The hairs of the eyebrows fall out. Small round vesicles with itching and pressure on border of eyelid as if a grain of sand were sticking there. Pains deep in orbits. Increased myopia.

b. Small pimples behind ear. In the deaf ear the wax is harder, in the good ear moister, increased in both. In a black sweat-pore near the nose a plug came out, followed—as never before—by some matter; afterwards the place inflames. Itching on edge of *alæ nasi*, causing him to rub, frequently recurring. Pain in *septum nasi* as if a pimple would come. Itching in nose. She must often bore in her nose with her fingers.

c. Dislike to salt things. Upper lip broken out posteriorly. Less mucus in fauces and larynx, more comes from choana and nose. Tongue with thick white fur in m. Toothache as if the tooth were internally hollow, he must pick the tooth till blood comes. Teeth free from mucus, smoother and harder so that they crepitate on being rubbed with finger; at same time tongue furred. Little appetite, m. Hunger on getting up at n. Late in e. he has great inclination to drink brandy, though quite unused to it. Frequent longing for brandy. On smoking tobacco there comes a disgusting sweet taste on lips. On smoking before dinner hiccup and eructation. Before eating, rumbling in belly. After eating, exhausted, wants to lie down, without being able to sleep on account of throbbing in blood-vessels all over body; he feels the pulsation chiefly in belly. Pains in r. side around and below last ribs, especially when inspiring, extending to renal region, everywhere very sensitive to external pressure. Red, itching, miliary rash in hepatic region. Violent shooting in spleen between l. *crista ilii* and navel whilst walking, so that he can hardly get along. Loose stool, with subsequent sensation in anus as though he had had a hard stool. Cutting in abdomen followed by discharge of flatus, e., repeated at n. Stool harder, at the end some blood. Stool passed with great effort, at end slimy. Stool hard, and so accumulated in rectum that it can hardly be evacuated.

d. Must always urinate after stool, and must wait long before urine comes. Urine scanty and dark coloured. Urine red, e. Feeling at point of urethra as if an acrid drop were being forced out. While sitting still and when walking a drop of prostatic fluid exudes from urethra with a very disagreeable sensation. Shortly before the stool comes, and soon afterwards, a drop of watery viscid fluid exudes from urethra. Pain along the urethra, and then a drop exudes. Prostatic fluid drops out. Itching pains in r. testicle, e. Itching on scrotum. Perspiration on hypogastrium and pudendum when sitting. Unnoticed emission of semen in sleep. The semen in coitus and pollution, as also what drops out unnoticed, is very thin and quite inodorous. Emission with soft penis. Weak erections. Diminished sexual desire. Impotence

with lascivious thoughts. He is excited to coitus only mentally, without physical desire; erection slow and incomplete; emission too soon, but long-continued voluptuous feeling. After coitus very weak and cross.

e. Sudden fluent coryza with much mucous discharge, which soon passes off. Fluent coryza every *e.* Gelatinous nasal mucus, sometimes small yellow lumps in it. Yellow, thick, lumpy nasal mucus. Increased hoarseness when singing, especially on commencing. He must often hawk, alternating with hoarseness. On hawking the mucus has often a spot of blood. Cough in *m.*, though it is seldom and weak the whole chest seems to be involved in it; lumps of mucus mixed with blood are expectorated. Deep breathing, like sighing. At *n.*, when lying, pain in chest, in *l.* side, also in sacrum now and then, interfering with respiration.

f. Tearing through *l.* side of neck. Pain in region of root of tongue. On *l.* side of neck over carotid a gland is painful, especially to pressure, at same time tearing pains along neck. Small itching papules on back. Sacrum feels lame without pain, *m.* Miliary rash on forearm. Tearing in hands, *n.* Cracking of wrist when extending or turning it. Inward quivering in *l.* hand, on side of little finger. Itching on inside of wrist. Violent itching between third and fourth fingers. Itching on finger balls after scratching a white spot surrounded by red. Itching papules on hands. Itching vesicles on lower corner of *l.* hand. A strip of skin peels off at side of nail till it becomes sore and painful. Tearing down posterior aspect of *l.* thigh. A thin person from sitting becomes sore on the skin over tuberosities of ischium. Cracking of knee on moving it while lying. Cramp in calves, soles, near ankles, in flexor tendons of big toe, when lying, *e.* Cramp in sole on moving, *n.* and towards *m.* Itching smarting pimples betwixt thigh and scrotum. Itching and small pimples on nates. On *l.* calf a lump which he scratches till raw, it continues to exude moisture for a long time. Itching of feet, *e.* On *l.* inner ankle a flat pimple with pustule, painless, becomes a small ulcer. A spot he has scratched above ankle continues to discharge. Itching about and under ankle. Violent itching betwixt tendo Achillis and ankles. On inner side of *r.* tendo Achillis a small lump on the skin that is neither itching nor painful. Rubbed off blister on knuckle of toe, *m.*

g. Frequent fornication as if dust lay on small spots about mouth, cheek, chin, compelling scratching, which takes it away. Insuperable desire to lie down, also to sleep, thereafter all symptoms worse. When sitting at work must often leave off suddenly and lie down, without feeling anything but that it is impossible for him to do the least thing. Striking emaciation, especially in face, hands, and thighs. Pains in all limbs as from a chill. He must lie down as long as the heat of day lasts, and he remains half asleep; his thinking power is quite weak.

h. After midday siesta much viscid saliva. Sleeps profoundly all forenoon. Early in *e.* sleepy, then only half asleep, with frequent waking; quite wide awake at midnight; after reading again drowsy; has sound sleep only towards *m.* Cannot get to sleep for a long time, *e.* Jerking of whole body on going to sleep, *e.* Sleep with many unremembered dreams. Historical dreams about distant persons, *n.* Dreams of daily business. Wakes up at *n.* at every little noise. Wakes up from siesta and nocturnal sleep with great dryness of mouth, fauces, and oesophagus; must drink much water, after which breaks out in perspiration. On waking is first stupid and then lazy, quite lively after washing. Feels very ill after sleeping. Long of getting to sleep and wakes early. From 3 a.m. he remains awake and feels well. Wakes very early and always at the same hour, however late he is of getting to sleep, after several weeks. He wakes up from profound dreamful afternoon sleep quite punctually at the very minute when it was time to go out, 14th d.

i. Much perspiration on walking out, a.m. The sweat on chest and in axillæ makes stiff white marks on his linen. Heat of the skin as if it came out of an oven, he feels it outwardly not inwardly, though he is hot on large patches of the body, sometimes on the side, sometimes on chest, loins, and belly. (Cures too great tendency to perspiration when walking and in midday siesta, after previous great increase of it; when it begins to lessen the sweat has to him an agreeable odour.)

j. Complete inability to do any work; though he always begins again he must soon leave off. After mental work continued zealously till late at *n.* he is so uncommonly fatigued that for several days he can only think of the most necessary things, and it is only after a long time that he can go on with his work. Great loquacity.

Dislike to persons and to his work, but when he overcomes this he can go on all right. Dreams of quarrelling and unnatural, disgusting cruelty. (HERING, *Archiv*, xii, 3, 193.)

2. *a.* Two dr. 4th dil. e. Jan. 28th. Much thirst, e. Frequent micturition, n. Tickling and scraping in throat, with need to hawk up mucus. Burning feeling on tip of tongue, which wakes him up.—29th. Hunger, m. Dull stitches in forehead, temples, and eyes, after coming from cold air into warm room, a.m. and e. Sleepy at 9 p.m., must go to bed, and falls asleep immediately. Burning and itching on borders of r. eyelids, he must rub them. Throat very dry, e. Increased appetite and hunger. No stool m.—30th. Slept well n., can hardly wake up at 7 a.m. Dreamful sleep all about calculations. On waking m., a strong erection with voluptuous feeling. Great confusion of head, especially e. Pressure in stomach as if a spasm would come on. A kind of stammering, he makes mistakes in speaking, misplaces syllables, and can hardly pronounce many words, for 2 d. In the e. when lying beside his wife no erection, but on lying awake in m. has erection, but without sexual desire or voluptuous feelings. Late of getting to sleep n.—31st. Wakes early. Disagreeable and intense dry feeling in throat.

b. One dr. 3rd dil. e. Feb. 8th. The urine has a strong smell of violets after 6 m. Dreams of travelling and desire for coitus, on waking has a strong erection.—9th. Cross, sleepy, lazy, frequent yawning and stretching arms.—10th. Hawking of mucus mixed with blood, e.—11th. For 2 d. quivering of eyelids and indistinct vision. Watering of eyes and dull pressure in l. eye. Frequent spasmodic twitching in l. eyeball. Ears stopped as if a skin were stretched over them, this goes off for a short time when he puts his finger in the ear and shakes it.—14th. Urine dribbles away when walking. Toothache in a hollow tooth, as if it must be pulled out, with cold feeling in cheek, relieved by open air and cold water taken into mouth, and by eating, drinking, and smoking, but in the e. in bed the pains increase, with throbbing and beating in l. eye, l. temple, and cheek.—18th. In l. ear a distant voice like "Wee, wee," the hearing dulled, in bed, e.—19th. On driving out, e., vertigo, he fears he might fall.—20th. Vertigo as if intoxicated, he staggers and must support himself, with attacks of faintness, pale distorted face, and sweat of anxiety, so that his shirt becomes wringing wet; on driving out immediately after breakfast he must immediately return home, when he vomited and became so weak that he must go to bed.—21st. A fit: almost constant vertigo, all turns round in a circle, so that he must keep his eyes almost constantly closed; this is followed by nausea, with outbreak of sweat all over body and then vomiting of all he had eaten, though he had relished what he ate. After the food had been vomited he threw up water and mucus without taste, and, lastly, acid water. The attacks were most violent an h. after breakfast and dinner; thereafter extreme weakness with much thirst for cold water, which was always vomited; the taste was flat and insipid, though the tongue was not furred; stool soft, copious, tinged with bile; shooting in chest anteriorly as from displaced flatulence; sense as of board before forehead, later feeling as if a warm hand pressed forehead on to the pillow; at same time frequent hiccup and eructation; head very stupefied, cannot collect his thoughts and often is in half slumber, he must lie quite still; the vertigo is increased by moving and rising up in bed; the urine is scanty and reddish; discharge of flatus relieves his state. These attacks were repeated every h. or h. and half, for 48 h., but he had several h. of sleep at n.—22nd. Turbid urine with brick-dust sediment. Great heaviness in occiput, occasional undulations in brain, flapping in both ears, twitching and pressure in both eyeballs. While the nausea was passing off, there came on in a hollow l. molar a drawing, shooting pain, and throbbing in r. ear. (SCHRETER, *N. Archiv*, iii, 2, 184.)

III. *Experiments on animals.*—1. RABUTEAU experimented on 7 middle-sized dogs, introducing 10—50 centigr. of selenite or seleniate of potash or soda (diluted in water or milk) either directly by intra-venous injection, or through the stomach. The animals died, but whether $\frac{1}{2}$ h. after introduction of the poison into the system or some d. later, all expired with symptoms of asphyxia. Lungs were found extensively and intensely congested, air-tubes injected, trachea choked with froth, and blood in arteries dark-coloured. (*Éléments de Thérap. et de Pharmacologie*. 1872.)

SENECIO.

Senecio aureus, L. (*S. gracilis* is only a variety of this.) Life-root, golden ragwort, squaw-weed. Nat. Ord., *Compositæ*.

I. *Proving*s.—I. Dr. SMALL proved tinct. of dried herb on a healthy young man of 22. He gave 40 dr. early in m. without effect. On repeating dose at noon chilliness came on, with heat, especially in forehead, also dryness of nostrils, dull stupefying headache, and inclination to sneeze. In e. perspiration on forehead and lubrication of nostrils; dryness of mouth and fauces; lips hot, breath feverish; tongue dry and slightly coated; uneasiness about stomach, nausea, loss of appetite; rumbling of wind in abdomen, and sensation as if bowels would move. Dose was repeated at bedtime, and followed by restlessness and wakefulness, with pain in back and loins. Copious diarrhœa in m., attended with great debility and prostration, and severe pain in small of back; copious flow of urine tinged with blood; urging to urinate, with tenesmus of bladder. After fresh dose in m. face was pale and looked depressed; he breathed as if fatigued; there was inclination to lie down, great weariness and general malaise, disposition to perspire; he was easily chilled, and chilliness was followed by urging to micturate, urine tinged with blood; also weariness of lower extremities and rheumatic pains in joints. (*U. St. Med. and Surg. Journ.*, i, 151.)

2. Dr. SMALL himself, stout and robust, took 60 dr. m. and again p.m. without effect. After repeating dose on retiring, was restless up to midnight; head uncomfortably full; urinated several times during n.; copious warm perspiration towards m.; dryness of mouth and throat. In m., urine was found void of sediment and inodorous. Dose repeated in m. Chilliness before noon, followed by fever and perspiration, with moderate thirst; nausea and weariness for several h.; slight urging to micturate, with uncomfortable heat in neck of bladder and slight pains in renal region. Passed urine frequently for next 24 h. (*Ibid.*)

3. a. Dr. W. G. JONES proved tinct. in 1865. Nov. 25th, took 10 dr. at bedtime, and same dose 4 times daily till e. of 30th, when he took a teaspoonful. Till then nothing had been noticed save once a smarting pain in l. groin, and on 28th and 29th scantier urine than usual. On e. of 30th some colic and watery diarrhœa. Dec. 1st.—Took a teaspoonful in m. and at noon. Feverish p.m., and griping relieved by thin watery stool in e. and at n. 2nd.—No medicine. Colic and diarrhœa still, with fever p.m. 4th.—Began medicine again at noon, taking 10 dr. before each meal and at n. Again colic and watery stool. 5th.—Same doses. Besides above symptoms sense of fulness in nostrils; sharp pain in diaphragm; much flatulence; sometimes elated, sometimes depressed. 6th.—Took 15 dr. doses in same way. Dull heavy pain in l. spermatic cord, moving on to testicle. All yesterday's symptoms, and at n. many vivid dreams and frequent waking. 7th.—Medicine as yesterday. Same symptoms, also tenderness in front of l. ear; and, p.m., sense as of ball in

stomach rising up into throat. 8th.—Took 5 doses of 25 dr. each. Sharp lancinating pain in lumbar region; dizziness, coming on suddenly while walking, so that he nearly fell on his face, like a wave from occiput to sinciput; frequent yawning and shivering, a.m.; urine excessive, and so also secretion in nostrils and trachea, frequent hawking of white transparent mucus; darting lancinating pain in l. face; nausea; frequent waking at n. and drowsiness all d.; spirits variable as before. Prostate gland enlarged; feels hard and swollen to touch. For past few d. has often felt very tired, too tired to move, for a few m. 9th.—Stool contained blood, and there was tenesmus with it. Teeth very tender. Took 100 dr. in 3 doses. 10th.—Teeth still tender. Giddy attack as before. No medicine. 16th.—Teeth still tender; giddiness and nausea daily till to-day. Cuticle has been dry and nails brittle since commencement of proving.

b. Dec. 24th.—Took 10 dr. 3 times. Abundant secretion in nostrils and trachea; frequent hawking of white transparent mucus; great lassitude in e. 25th.—Same doses. Catarrh; flatulence with colic; chilly and sensitive to cold air. 26th.—Same doses and symptoms, with sadness most of d., great languor, giddiness, thirst and feverishness. 27th.—Took 10 dr. 4 times. Pain in forehead shooting from within outward; increased flow of urine; sadness; nervous trembling; stitches in hypochondria; restless sleep, with vivid dreams. 28th.—Same doses. Trembling; giddiness; catarrh and sensitiveness to cold as before; n. the same.

c. 30th.—Feeling well again, took a teaspoonful on retiring. 31st.—Many dreams, intellectually vivid. M., on rising, nausea and yawning; smarting about fossa navicularis before urinating. Took 3 teaspoonful doses to-day, before meals. Hoarseness; sense of fulness in nostrils; sensitiveness to cold; slight dizziness; sense of smell acute; lips and gums pale; pain, dull in l. lumbar, sharp in epigastric region. About 4 p.m. sharp pain shooting down sciatic for a few m. Urine only 24 oz., and high-coloured. Jan. 1st.—Dreams indistinct. Nausea on rising; dizziness on going into open air. Took teaspoonful m. and e. Stool of hard lumps mixed with yellow mucus; urine 20 oz., high-coloured. Outward-pressing temporal headache. 2nd.—No medicine. Pain before m. stool, centring at umbilicus and radiating in all directions. About noon sharp shifting stitches in groins, lower jaw, shoulders, forearms and temples, lasting till dinner; also tightness in throat, which he tried to relieve by swallowing; occasional nausea and giddiness; yawning; sensitiveness to cold. About middle of afternoon return of flying stitches, with a *quasi-globus hystericus*. E., very meditative and somewhat gloomy; sharp pain in l. eye from within outward, lachrymation on going into open air; general lassitude; thirst. Urine 20 oz., high, though he had drunk much water. 3rd.—Restless half-sleep, with constant excited dreaming. Colic in m. and e., and occasional giddiness during d. The shifting shoots of pain were felt again. He had stools m. and e., thinner than usual; urine 8 oz. only, high. Inability to fix mind on anything; sadness and despondency in e. 4th.—N. quieter. Symptoms as yesterday, with some nasal and tracheal catarrh, great

languor, tired feeling in loins, thirst p.m. and e. ; urine 12 oz., high, sp. gr. 1035. 5th.—Many dreams. M., eructations of sour gas. Took 10 dr. on rising. Still lumbar fatigue ; frontal headache, pressing outwards. 6th.—Many pleasant dreams. Sour eructations ; sharp shooting, from within outwards, in eyes and forehead, also in l. shoulder. Giddiness, with sensation as if brain was so strongly pressing forward that it was hard work to stand up. Urine 12 oz., high, 1030. 7th.—Symptoms as 2nd—4th. Urine 10 oz., 1038. 8th.—Sharp cutting pains in various parts of head and face, and some of the old symptoms. He took no more medicine. By 11th urine had become of normal quantity, but sp. gr. continued high. Other symptoms gradually passed off, but he was occasionally reminded of them (especially the shooting pains, giddiness, lassitude, and sadness) up to 22nd. (HALE, *New Remedies*, 2nd ed.)

SENEGA.

Polygala Senega, L. Snakewort. Nat. Ord., *Polygalaceæ*.

1. *Provings*.—1. Dr. MASSIE took 10 gr. of gum dissolved in water. In 5 m. sensation in œsophagus as if membrane had been abraded, lasted 1 h. Pulse, 84 before experiment, at 15 m. was 78, 20 m. 73, 30 m. 70, 35 m. 68, thence gradually rising to 76. He then took 20 gr. Irritation in œsophagus was again felt, with some nausea ; the drug also operated slightly as a purgative. (*Inaug. Thesis, Penns. Univ.*, 1803 ; from ALLEN.)

2. Mr. L. took 20 gr. of powdered root. In 10 m. burning sensation in œsophagus with considerable discharge of mucus from trachea (still continuing in slight degree 1½ h. later). Pulse, 65 before experiment, in 10 m. was 70 and fuller ; later 72, whence it fell again. (*Ibid.*)

3. Mr. L.—t took same. Had similar feeling in œsophagus, with much hawking of mucus. In 30 m. nausea, which increased up to 40 m. Pulse, 65 before experiment, gradually rose in 5—40 m. up to 90, and was still 80—86 after 1—2 h. In 1½ h. skin became very hot ; in 1¾ h. profuse perspiration set in, and disagreeable symptoms were quite removed. (*Ibid.*)

4. Mr. W. took same. Same irritation in œsophagus ; pulse, 68, was 80 at 30—40 m., and only returned to its starting-point in 2½ h. (*Ibid.*)

5. Mr. T. took 10 gr. of resin dissolved in spirit. Œsophageal irritation immediately, with a good deal of nausea ; both still present at 40 m. Pulse, 72, at 10 m. was 88, much increased in fulness, but somewhat irregular. At 35—80 m. it had fallen to 65. (*Ibid.*)

6. A lady took 20 gr. of same. Œsophageal sensation as in No. 5. At 10 m. considerable nausea, which at 40 m. had subsided. Pulse, 76, at 15 m. was 92, and much fuller. After 20 m. it slowly fell. (*Ibid.*)

7. Mr. R. took 20 gr. of gum in water. In 5 m. there was copious vomiting. No other symptoms. (*Ibid.*)

8. Mr. P. took 32 gr. of gum in pills. In 10 m. much nausea, which in 20 m. was so much increased as to be quite distressing, and

medicine was with difficulty retained on stomach; it then diminished, and at 60 m. had quite gone. Pulse, 72, rose during 20 m. to 82, thence slowly declining. (*Ibid.*)

9. SEIDEL, a strong, florid man. *a.* Took 10 dr. of tinct.* Soon after, staring at an object, feels as if eyes moved with difficulty; dry cough shaking whole chest. In $\frac{1}{2}$ h. dull pain in r. ear, and feeling of warmth in it. In 1 h. feeling of warmth and as it were of palsy in l. face. In 4 h. pinching and forcing in chest; fugitive stitches in chest during inspiration, while resting. On first days increased thirst. On 1st, 2nd, and 3rd d., when stooping violent congestion to head, especially to eyeballs, where there is pressing pain. On 1st d. puffy eyelids; when stooping pressure in eyes as if fluid penetrated into eyeballs, expanding them; illusions of sight; repeated eructations; oppression of chest, especially during rest; violent pressive pain in chest on awaking in m. (first 8 d.), also when awaking during n.; pain in chest aggravated in recumbent posture; stitching and crawling and pricking in palms of hands; bodily and mental exhaustion; anxious jerkings and twitchings in upper arm during afternoon sleep; diminished secretion of urine (also 2nd and 3rd d.). On 2nd d. chilliness with exhaustion in legs (also 3rd); shadows before eyes; drawing sensation as from a foreign body in integuments of r. abdomen while walking; cough during breakfast; sudden violent pain in small spot of r. side while walking; pressive pain in chest, especially during rest, lasting several weeks; a small pimple pains at slightest touch; scraping and dryness in throat, hindering speech and obliging him to cough. On 3rd d. congestion to chest with violent throbbing therein; marked stitches in small spot deep in l. chest, aggravated by cough and certain movements (also 4th d.); soreness l. side of chest (also 4th d.); bruised pain of muscles of l. thigh with exhaustion of whole body and laziness of mind. On 4th and following d. violent itching in legs compelling to scratch, by which, however, it changes into burning, especially e. in bed.

b. Same took 15 dr. Immediately, irritation in throat causes a few dry coughs. In $\frac{1}{2}$ h. paralytic pain and drawing from l. elbow to little finger, as after a violent knock. In 1 h. violent compression of upper chest, especially during rest; pinching pain in upper r. chest with dull stitches; sharp pressure deep in l. eyeball. In 3 h. objects appear shaded; slight searching in upper l. molars. In first days insipid taste in mouth in m.; increased thirst; diminished secretion of urine; oppression of chest, especially during rest; stitches, crawling and pricking in vola. On 2nd and 3rd d. crawling in chest. On 3rd d. soreness between 3rd and 4th l. ribs, increased from pressure or aggravated to stitches; pain in several teeth and in jaws. On 4th d. strong congestion in chest, almost to faintness, sitting; violent forcing and pressing in chest; sleep deep, full of dreams, with confusion in head on awaking.

c. Same took 20 dr. Soon, forcing and tightness in chest. In 2 h. griping in stomach with desire for stool. In 4 h. stitches in l. vola. In first days, dizziness in head with insipid taste in mouth in m.,

* Tincture used in following provings was prepared with 20 parts of rectified spirit to 1 part of dried and powdered root.

and yellowish-white fur on tongue; swollen eyelids; increased thirst. On 1st d., eyelashes covered with hard mucus; severe pressure in eyeballs, now r., now l.; impaired vision as if dazzled from strong light; when reading dazzling before eyes, rendering it difficult; dryness in mouth and throat with accumulation of tough phlegm; when hawking, rawness in throat; lessened appetite; diminished secretion of urine; certain movements, especially stooping forward, cause pain in chest, as if it was too narrow, there is desire to expand it by repeated stretching, which however produces marked soreness in it; violent pressive pain in chest early on awaking (also for 7 following days, same when awaking during n. for 1st days), pressing on chest increases pain; tightness and crawling in upper chest, especially at rest; bruised feeling in gluteal and femoral muscles; drowsiness in e. (also following days); after lying down, deep stunning sleep (do.); without cause sudden very distinct remembrance of irrelevant sceneries seen long ago, which had not made any particular impression on him before. On 1st n., rest disturbed by dreams, unremembered; sleep restless and broken from oppression of chest. On 2nd and following days, boring stitches in head; dull headache in m.; pressive stunning pain in occiput; dryness of nares with discharge of a few drops of blood; shortness of breath and oppression of chest in going upstairs; dull stitches under short ribs, l. side; restless tossing about in sleep. On 3rd d., drawing in eyes followed by cool sensation and tears; burning and pressure in eyes towards e. On 3rd and following days, tough phlegm in larynx induces frequent hawking with expectoration of small lumps of it; pressive pain in chest. On 4th d., violent pinching pain in chest, especially l. side, with restlessness and anxiety during rest. From 6th to 9th d., dull stitches in middle of chest, intermittent. On 6th and following days, when treading firmly or running, chest is violently shaken as if everything in it was sore. On 6th and 7th d., faint feeling while walking in open air p.m. On 7th d., dull stitches, followed by violent oppression in chest, with lassitude of lower limbs, perspiration and malaise (almost faintness), while walking in open air; very painful burning with repeated stitches in upper l. chest, worse at rest. On 8th and 9th d., pressive pain between shoulder-blades, especially when treading firmly or making other movements by which the chest is shaken. On 9th d., when treading firmly, walking fast, or running, violent tearing soreness right through chest from front backwards (as if in mediastinum), rendering every motion difficult (lasting several weeks); violent pain and concussion through middle of chest, especially along dorsal vertebræ, lasting some d.

d. Same took 30 dr. Soon after, dull pressing headache; burning and scraping in throat. In 1 h., lower eyelids are drawn spasmodically towards nose (lasting several d.); some sharp stitches through l. chest. In 1½ h. tightness and dull pressure in chest. In 2 h. dryness in mouth. In 2—3 h., tickling of præputium and glans; pinching pain by jerks in glans. In 3 to 4 h., drawing and pressing in eyeballs, with diminished power of vision. In 4 h., crawling underneath tongue, also in small spots of chest, more superficial than pleura; burning pain with dull stitches in small spot of l. chest, while resting. On 1st d., eye-

lashes are covered with hard mucus in m.; when reading, dimness of vision with flickering before eyes, compelling to wipe them frequently, which, however, makes it rather worse (also 2nd and 3rd d.); insipid taste in mouth in m. (1st days); increased thirst (do.); less frequent, scanty, hard evacuations (do.); increased urination, slight burning in glans while urinating (do.); agitations and crawling in chest during rest towards e.; violent pressive pain in chest on waking in m. (for 8 d.), also when waking during n. (first days); under short ribs, mostly of r. side, throbbing pressure in small spot, especially during inspiration; when bending head forward, first heavy pressure under upper part of breast-bone, changing gradually into violent bellyache; shifting pains in chest; burning soreness under sternum, especially when moving and drawing deep breath (also 2nd d.); painful drawing in finger-joints; sluggish, with great inclination to offend and quarrel; buoyant feeling (first days). On 2nd d., repeated painful drawing in forehead; dryness of nares with discharge of a few drops of blood; sticky saliva in mouth (also 3rd d.); tough phlegm in throat in m.; dryness and roughness in throat on waking in m.; urine orange-coloured and pale, on standing it gets turbid, and forms a white precipitate on wall of glass; painful burning with repeated stitches in upper l. chest, aggravated from rest. On 3rd d., throbbing pressure in anus after stool; violent burning in l. of abdomen when lying on that side, e.; soreness and stitches in small spot of l. chest, e.; strong throbbing and soreness in chest when bending forward, with giddiness when bending back again; dislocative pain in r. wrist. On 5th d., almost constant twitching and starting of lower eyelids, causing lachrymation; dulness of eyes, with slight burning and lachrymation; scraping and roughness in throat, with accumulation of tough phlegm; agitation and tightness of chest, with flying heat in face and frequent pulse, p.m.; compression of chest from both sides forward, e. (also 6th d.). On 6th d. pappy stool (also 7th d.); violent burning in l. chest, sitting, e. On 7th d., searching pain in upper abdomen, with flatulence and sudden peevishness and irascibility of temper, towards e. On 8th d., after supper pressive searching pain under scrob. cordis, with general malaise. On 9th d., shifting twitchings in different parts of chest. On 10th and 11th d., startings in r. upper eyelid; involuntary micturition during dreams (having omitted to pass urine in e.) (10th n.). For some weeks, every time he drinks, copious urination.

e. Same took gr. v of powdered root. Immediately great nausea with retching and inclination to vomit. Soon after, giddiness with buzzing before ears; confusion in head; dimness of eyes; burning scraping in throat causing frequent swallowing. In $\frac{1}{4}$ h. increased salivation. After $\frac{1}{2}$ h., absence of appetite for breakfast; irritation in throat causing slight coughing. In 1 h., burning drawing deep in chest. In $1\frac{1}{2}$ h. increased salivation with astringent feeling in mouth. On 1st d., twitchings in eyelids; constant twitching in r. external corner of eye; pressure in eyes, e. while light; burning in eyes while reading or writing; drawing in glands of neck; putrid smell from mouth (also 5 d. following); diminished taste; increased thirst (first days); lessened appetite (do.); griping during dinner; agitations in

chest with dull stitches in it ; chilliness with weariness in legs ; insipid taste in m. (first days) ; painful erections with increased sexual desire for first 2 d., diminished later ; oppression of chest, especially during rest (first days) ; violent pressive pain in chest on awaking (first 8 d.) ; while lying on r. side, dull stitches, with burning pain in l. chest, e. ; pain in back (first days) ; very restless sleep at n., repeated awaking from dull stitches in chest with oppression (also for 13 d. more). On 2nd d. drawing in eyeballs with diminished vision ; cool feeling traversing ear repeatedly ; accumulation of phlegm in throat, with dryness of mouth ; hard scanty stool, followed by pressure in rectum. On 3rd d., pressive pain in forehead and orbits after dinner, especially l. side, relieved in open air ; gnawing feeling of hunger under scrob. cordis in m. ; gnawing before dinner-time in gastric region, without appetite (also 4th d.) ; feeling of obstruction in upper part of lungs, especially on walking fast ; jamming pain in different parts of chest (also on 4th d.) ; dull shifting pressing pains in chest, with tightness of it, impeded inspiration, frequent chilliness down back, and intermittent pain in several small spots of head ; gay but irritable and irascible (also 4th d.). On 4th d. headache relieved by cold ; itching on scalp. On 5th d. confusion of head, with pressing and dulness of eyes ; swelling, burning, and pressure in eyelids, without much redness ; restless sleep full of dreams (also 6th and 13th n.). On 6th d. violent throbbing headache, with pressure in eyes, diminished appetite, bruised feeling, and general malaise ; tearing and drawing pains in temples down to face ; pressure in eyes ; pappy stool (also 7th d.) ; frequent and increased urination ; urine gets turbid and throws down a reddish deposit mixed with mucus ; febrile movement, chilliness down back, heat of face, dull burning eyes, throbbing headache, difficult respiration, stitches in chest, general bruised feeling, frequent pulse (also 13th d.). On 8th d. a stye forms at margin of r. lower eyelid, with throbbing there ; lachrymation, especially of r. eye, in open air ; hypochondriacal mood, irascibility (also 9th d.). On 9th d., burning pain in small spot of l. chest, with fitful mood, p.m. (STAPF's *Beiträge*.)

10. Same gave 1 dr. of tinct. to a young sensitive woman. Soon after, burning scraping in throat, inducing frequent swallowing. After 1 h. painful pressure in eyeballs. In first days, annoying dryness in nose ; constipation. On 2nd d., burning pain in l. chest, with feeling of great anxiety in it, e. On 3rd d., great dryness of throat, making speaking difficult ; a bright spot repeatedly appears on the wall sideways from eyes, at noon, which when looked at straight disappears ; drawing from chest into axilla. (*Ibid.*)

11. a. A young, slender, weakly man took 10 dr. of tinct. Soon after, heaviness of whole head, lasting 6 h. In $\frac{1}{2}$ h., reeling sensation in head ; pressive feeling in forehead, lasting 1 h. In 1 h., dryness of mouth, then increased secretion of saliva (extraordinary dryness of mouth and larynx, in m. and forenoon, lasted many d.) ; general weariness, especially in lower limbs. In 3 h., burning under sternum extending to back. For first 4 d., pressive pain in scrob. cordis ; repeated sneezing ; repeated slight cough produced by increased secretion of mucus in larynx, especially forenoon in open air and walking fast ; pain

in chest for $\frac{1}{4}$ h. after smoking a pipe (as usual) in afternoon; daily repeated pressure under sternum; roughness in throat almost to hoarseness, forenoon. On 3rd d., great weariness of legs, especially forenoon.

b. Same took 15 dr. After $\frac{1}{4}$ h., confusion of head. After 1 h., headache, especially towards forehead. After $1\frac{1}{2}$ h., feeling of soreness in throat, lasting 3 d. After 2 h., tightness in l. chest, amounting almost to pressive pain. During first 6 d., weariness and frequent yawning; increased secretion of mucus in throat, causing slight cough, lasting 3 weeks. Constipation till 9th d., then increased defæcation for 2 d. Hacking cough in open air, lasting about 3 weeks. Oppression of chest, with slight fugitive pains through it towards shoulder-blades, during first 10 d. at irregular times, especially in open air and when walking.

c. Same took 2 gr. of powdered root. After $\frac{1}{4}$ h., confusion of head. After $\frac{1}{2}$ h., pain in occiput, extending later to temples, finally to whole head. After 2 h., painful pressure in orbits. On 2nd, 3rd, and 4th d., micturition more frequent, but smaller quantities passed at the time, urine pale in colour. Sleep interrupted several consecutive n. at 3 a.m. by pressive almost crampy pain in stomach. (*Ibid.*)

12. A robust phlegmatic man took 15 dr. of tinct. In $\frac{1}{4}$ h. tensive feeling from palate to articular cavities of lower jaw; scratching in throat, necessitating frequent hawking and empty swallowing; slight boring pressive pain in region of heart, apparently superficial. In $\frac{1}{2}$ h. dryness in throat, with fugitive stitches, especially in uvula; repeated deep inspiration; somewhat hard frequent pulse; anxiety, with somewhat frequent respiration. In $\frac{3}{4}$ h., too great susceptibility of eyes for light; violent pulsation of heart, shaking whole chest. In 1 h., pressure over l. eye; fugitive stitches (superficial) in intercostal muscles of lower r. ribs. In $1\frac{1}{4}$ h., dryness of eyes, with feeling as if eyes were too large for their sockets; flickering and swimming of letters while reading; painful sensitiveness at hearing tunes he otherwise liked; weariness and slight trembling of upper limbs. In $1\frac{1}{2}$ h., annoying dryness of mucous membrane of nose; dryness in middle of tongue without fur; inflammatory swelling of whole of fauces, especially of uvula; slight pressure about sacrum; great weariness of body, with stretching of limbs, confusion, heaviness and throbbing in head. In $2\frac{1}{2}$ h., smell as from a bad ulcer; secretion of whitish tough phlegm in throat; metallic taste; rumbling in bowels; boring pressive pain in whole lower chest, especially over region of heart, lasting some time; pain in back; tensive soreness of joints, especially those of foot and knee. In $3\frac{1}{2}$ h., trembling of objects looked at for a long time, with lachrymation; white fur on tongue; hawking and empty swallowing; slight pressure in region of heart, with oppression and difficult breathing, while walking. In 5 h., burning pain in whole length of urethra while urinating; boring pain in region of heart. In 7 h., increased salivation. In 10 h., flickering before eyes with dulness of vision from continued reading and writing; boring pain moving about navel, also in chest; tearing pressing pain along base of l. scapula; painful feelings in hip-, foot-, and knee-joints as after a long journey. In 11 h., thirs

with dryness of throat. After 15 h., frequent discharge of greyish urine, forming cloudy deposit, though he had not drunk much. In e. of 1st d., violent pressive throbbing pain in forehead; boring pain in l. hypochondrium; melancholy mood; tickling and scratching in throat; dry cough with oppression of chest and roughness in throat; entire absence of appetite this d. and the two following. On 2nd d., secretion of much mucus in glands of eyelids; dulness of eyes while reading, lachrymation after straining them; increased micturition with pressure in urethra; urine turbid, cloudy when cold, m.; stitches along urethra after passing dark yellow urine, m.; cough with tough expectoration; pressive boring pain in chest, fixed in region of heart, radiating thence to l. axilla. On 3rd d. much thirst, with roughness and dryness of throat (also 6th d.); pressive boring in circumference of l. chest, especially about region of heart; violent burning and itching under skin of whole back, especially between scapulæ (also 6th d.). On 4th d., formation in eyelids and feeling as of sand in them; tensive pain in eyes, with too great sensitiveness to light; roughness and dryness of throat, with dry cough; pressure and burning at urinating in e. (also 6th d.); thorax seems too narrow; violent pressive pain all over chest, especially l. half, whence it seems to proceed. On 5th d., urine is at first mixed with mucous threads, after getting cold it is quite thick and cloudy; burning while urinating in m., with feeling as if urine had to force its way through urethra. On 6th d., colicky pain in gastric region towards noon; m. urine after cooling gum-like, lower stratum of its thick deposit is yellowish-red, upper is yellow, flocculent, cloudy (also 8th d.); painless dry cough; tensive pain when taking deep inspiration in lower chest. On 7th d., pressing pain in region of heart. Without date,—unequal, soft pulse, 82. (*Ibid.*)

13. Doses of 40—60 dr. were taken by a young, slender man, of rigid fibre. In 2 h., sudden pressure in r. abdomen and chest, e. when sitting. On 1st d., 3 easy pappy stools. On 2nd d., m. (24 h. after dose), thorax painful in front from touch and inspiration; pressive pain towards eyes as if eyes would be forced out, ceasing after $\frac{1}{2}$ m., leaving dull feeling; itching between nates, relieved from scratching; general sensitiveness or simple pain in walls of thorax, especially when touched, less perceptible when breathing deeply. On 3rd d., defæcation at first very difficult owing to thick dry fæces. A pressive headache, beginning in m., in sinciput and occiput, not aggravated from touching, recurring daily, mostly felt sitting in warm room, with pressure in eyes, which are intolerant of being touched; after dinner on 5th d. there was nausea and inclination to vomit, quietly supporting head seemed to alleviate, but more so exercise in open air; there was slight feeling of diarrhœa, which did not occur; after $1\frac{1}{2}$ h., when nausea had passed off, a not unpleasant feeling towards parotid gland, and superficial pain in region of heart. Without note of time,—pain in occiput; when walking towards setting sun, another small sun seemed to float underneath, changing its shape to a flattened oval when lowering eyes, when turning head backwards and shutting eyes it disappeared; painfully pressive sensation in r. ear when chewing; lower front teeth painful from breathing cold damp air through mouth; slimy tongue in

m., with nasty slimy taste ; slight burning at tip of tongue ; biting burning sensation in palate, as if epithelium was gone ; warmth and oppression in gastric region during inspiration ; when rotating thigh while standing, felt dislocative pain in hip-joint. (*Ibid.*)

14. One dr. of tinct. was taken by a strong lively girl, æt. 15. Soon after, feeling of constriction in throat ; slight giddiness before eyes. On 1st d., pressure in r. eyeball ; slight prickling and fine stitching in cavity of mouth, with flow of saliva ; tightness of chest at various times (first days) ; slight burning in lids while writing. (*Ibid.*)

15. Ten dr. were taken by a plethoric strong man. Soon after, bad taste and some grumbling in stomach. During first hours, feeling of warmth in stomach ; some cutting in gastric region ; moving and grumbling in stomach (intermittent) ; severe cutting from stomach to scrob. cordis, and on 1st d. somewhat pappy stool with rumbling in stomach and flatus, and increased acrid urine. Slight burning in glans during micturition for first days. (*Ibid.*)

16. a. A strong robust man took 10 dr. of tinct. In 1 h., slight pressure under sternum, while sitting upright. In 5 h., feeling of flabbiness in stomach, with water-brash. On 1st d., spits more than usual in smoking, saliva quite watery. On 3rd d., a vesicle size of pin's head in middle of margin of l. upper eyelid, pressing and troubling eye ; on being opened it discharged a clear liquid, and the pressure went off. After 4 d., increasing pappy and thin stools at irregular times.

b. Same took 20 dr. On 2nd d., strong pressure under middle of sternum while sitting. On 3rd d., dull feeling in r. forehead like pressure ; fugitive tearing pain in l. forehead ; slight blowing in ears, which are as if blocked ; increased secretion of white slimy phlegm in windpipe, which he has constantly to hawk up ; want of appetite ; pressure in scrob. cordis and region of navel, pressure under sternum increases and descends to scrob. cordis. On 5th d., pressing in r. upper eyelid towards inner corner. On 6th d., both lids of r. eye inflamed and swollen, especially towards inner corner, with pressive pain.

c. Same took 50 dr. On 1st d., repeated hawking up of grey lumps of phlegm early in m., with irritation to coughing in larynx. During first days, pressive pains in region of navel occur p.m., increasing in e., especially when at rest ; incitement to cough in larynx. On 3rd d., slight stitches in middle of chest, which ceased at once after a single deep inspiration. On 4th d., disgusting sweetish taste in throat, lasting several days. (*Ibid.*)

17. NENNING. (No report.)—Head feels heavy ; itching in nose ; vesicles with burning sensation in upper lip near nose and l. corner of mouth, itching when touched ; frequent spitting and running of saliva ; burning in throat ; scratching in throat and back of tongue, with accumulation of saliva (immediately) ; inclination to eructations ; risings of air ; want of appetite ; nausea in stomach ; emptiness in stomach ; burning in stomach, finally retching and vomiting ; loud rumbling and pinching in l. abdomen ; urging in hypogastrium, and soon after discharge of flatus (after $\frac{1}{2}$ h.) ; griping, after some h., disappearing with diarrhœa ; increased micturition ; sneezing and tickling of nose ; gay and merry, and particularly in good mood for business. (*Ibid.*)

18. June 3rd, 8 p.m., took 5 gr. ext. senegæ alcohol. aquos. dry, and drank some water afterwards, when a persistent scraping came on in fauces. Great discharge of flatus, and much eructation of tasteless air. 10 p.m., 5 gr., no flatulence. The urine passed at n. is darker and frothy long after being passed.—4th, 6.30 a.m., 10 gr. No symptoms. 2 p.m., 10 gr. Immediately great pressure in r. temple. 4 p.m., 10 gr. Great pressure in l. ankle-joint and fauces for some m. 5 p.m., 10 gr. 9 p.m., 10 gr. Urine at n. scanty, dark.—5th, 6.30 a.m., 10 gr. 8 a.m., 10 gr. 8.30 a.m., 10 gr. 9 a.m., nausea for 1 h. 11 a.m., copious liquid bright-coloured stool, it squirted out of anus almost without sensation. Several times sudden pressure in both temples. 1 p.m., 10 gr. 2 p.m., 10 gr. 3 p.m., 10 gr. No symptoms. (LEMBKE, *N. Zeit. f. hom. Kl.*, xiii, 161.)

19. SUNDELIN took \mathcal{D} j of powdered root every 2 h. for three doses. It produced a smart and unpleasant irritation of the posterior fauces and throat, with copious flow of saliva. Soon after a decided burning was experienced in the stomach, which, after the 3rd dose, was replaced by painful choking and a violent vomiting of thin mucus. The skin, meanwhile, grew moister and warmer. Sharp colic ensued, and a watery diarrhœa; urine was at same time augmented, and scalded somewhat when voided. For a d. or two afterwards there was gastric uneasiness, with loss of appetite. In larger doses it caused burning pain in stomach and bowels, violent vomiting, purging, giddiness, and anxiety. (From STAPP.)

20. a. BÖCKER took for 2 successive d. a considerable quantity of decoction of S. root, representing 15 drm. of the root, and on the 3rd d. \mathcal{D} ss of the powdered root, without any effect on health.—April 22nd. Took \mathfrak{z} ij of powdered root in doses of 10 and 20 gr. This caused scrapy feeling in throat for a considerable time. Then a contractive feeling in the lower part of thorax; it was as if the scrapy feeling extended downwards to lower part of chest and upper part of abdomen. Pulse about 5 beats slower.—23rd. M., on rising, bloody nasal mucus, the nose had evidently been bleeding during sleep, and he had swallowed the blood. Respiratory movements very strong, with rough feeling in chest. He then took \mathfrak{z} iiss of the powder. In e. when he walked out he had slight coryza that lasted a few h. The eyes felt stiff, and he had a tight feeling in chest. Nose bled at n.—24th, same dose. Some mucous discharge from nose, weakness of eyes, and the tight feeling on chest.—25th, 140 gr. of the powder in single doses of 20 to 25 gr. This caused coryza of thin mucus and the tight feeling in chest. Slight cough with mucous expectoration. Eyes weak and watery. During this trial the following constituents of the urine were increased: the solid constituents generally, the uric acid, the earthy phosphates, the volatile salts, and extractive matters of the urea.

b. In a second series of provings of the decoction the eyes and nose were affected with catarrh, the eyes watered when he exerted them. The following constituents of the urine were increased: mucus, earthy phosphates, volatile salts, and extractive matter.

c. In a third series of provings with larger quantities of the drug, the health remained unaltered. The following constituents of the

urine were increased: the solid constituents generally, the uric acid, the volatile salts and extractive matter and the urea.

d. In a fourth series of provings he found that the quantity of carbonic acid given off by the lungs was considerably increased, whilst the number of respirations and pulse-beats was diminished. (BÖCKER'S *Beiträge zur Heilkunde*, ii, 20.)

II. *Poisonings*.—1. A man labouring under severe rheumatism was ordered to take at intervals a decoction of ℥j of the root in Oj of water. He drank instead the whole quantity at once. The consequence was the most violent vomiting and purging, which lasted all the next n., accompanied with profuse diaphoresis. (BIGELOW, *Amer. Botany*, ii, 103.)

Saponinum, glucoside found in Senega, Saponaria, and other plants (known also as polygaline, senegine, &c.), $C_{22}H_{34}O_{18}$.

I. *Provings*.—1. SCHROFF found S. produce, in man, in doses of gr. $\frac{1}{2}$ to gr. $\frac{ij}{4}$, a certain amount of nausea, with bitter taste and prickling in mouth. From the larger doses ($2\frac{1}{2}$ —3 gr.) irritative cough also resulted, and secretion of mucus in bronchial tubes lasting several h. There was no effect on kidneys or skin. (*Lehrb. d. Pharmakologie*, sub voce.)

2. Dr. D—, in excellent health, took, June 11th, 1874, a dose of 3rd dil. at 1 p.m. At 3, experienced sudden pain in l. arm about insertion of deltoid; arm seem weak, with desire to let them drop down at side, muscles feeling exhausted after lifting heavy weights by one unaccustomed to it. An h. later, numbness and tingling in 3rd and 4th l. fingers, extending up palm; and same sensation in soles which are hotter than usual. 6.30, another dose. Dull aching in lumbo-sacral region and down thighs and calves, with increased tingling in soles; symptoms more marked while sitting. 12th.—Slept well all n., still some weakness in hands and feet; soles sore, swollen, and tender, with slight tingling. Took another dose at 8 a.m. 9.30, tingling, tickling, and formication here and there all over body. Tonsils are swollen and of a bright red colour, with dysphagia. 11, took another dose. Painful stitches in l. hypochondrium; exhausted weary feeling in limbs, with very slight inclination to nausea; head feels heavy; lassitude very marked, especially in legs, but it is not felt while walking in open air. 3 p.m., still weakness of legs better when sitting down quietly, but numbness is then more felt. 6th, took another dose. Throat inflamed and swollen; insipid taste in mouth; tongue coated yellowish white at back, red at tip and edges, raised papillæ on it, especially at tip; sense of roughness in mouth, and same felt on tongue (with slight tenderness) on pressing against hard palate. Medicine was now omitted, owing to throat feeling so bad and symptoms gradually subsided. (Dr. ARTHUR T. HILLS' provings, *Trans. of N. Y. State Hom. Med. Soc.*, 1875, p. 104.)

3. Miss P— took dose of 12th dil. at 10 p.m. one Monday, and at 7 a.m. on following m. About 9 a.m. came on severe headache, outward-pressing in both temples, with throbbing, dull and heavy in forehead. Soon after felt severe dull pain in small of back, and sense of weight there, as if all her clothing was hanging from it; this sense of weight extended even to knees. The jar of riding in the cars increased both pains. Headache gradually disappeared during m., but pain in back continued; and when out walking p.m. back and limbs felt very tired and feet quite heavy. Rest took off the fatigue, but not the pain, which prevented her standing erect. Pressure on sacrum relieved. Several times during d. had slight nausea, with pale face; and about 6 p.m. had a sharp but transient chill. Woke very early on the Wednesday. Headache was quite severe during m., with nausea; pain in back still present, but less. Found at n. between scapulæ circular patches of eruption, size of a dollar, feeling like small grains under skin; no pain or itching; these continued, gradually disappearing, for about 24 d. Constipation and distension of abdomen, continuing 8—10 d.; scanty stool of this d. whitish in colour. Woke early next m., and on Friday and Saturday felt very unsettled and cross, and this mental disturbance did not entirely subside till after a fortnight. (*Ibid.*)

4. P. R.—took one dose of 30th. About 1 h. after had the most severe headache he ever experienced, with throbbing in carotids, hot head and face, dry skin and throat; pain was mainly on l. side, involving eyebrow, inner canthus of eye, nose half-way down, and mastoid cells. Three h. later, pulse had risen (from 70) to 90. She remained in high fever for 4 h., head feeling as if something would press out, worse from stooping and movement, better from bathing it in cold water. Urine copious and high-coloured. (*Ibid.*)

3. P. H. M.—took 6 doses of 1 $\frac{1}{2}$ trit. during 3 d. without effect. On 4th d. took 12th dil. at 9.30 a.m. During afternoon became extremely restless, must move about or keep hands or feet “on the go;” at same time mind seemed clouded, could not see clearly, and felt indifferent to all going on around her. In e. and n. frequent micturition, little urine at a time but total quantity above normal, pale in colour. Next m. all symptoms gone. Three d. later repeated dose with like effect, though less marked.

4. S. B. P.—took 30th. On d. after, peculiar taste in mouth on waking; dry and burning lips; pain in temples, dull in r., sharp in l. All 2nd d. dull frontal headache; sharp but short-lasting pain in r. renal region while walking; small angry pustules on chest. On 3rd d. headache extreme, with lachrymation; involuntary emission of urine while walking; lancinating lumbar pains, worse on movement; pain in bones of l. forearm and in l. groin. (*Ibid.*)

7. A medical student, æt. 25, of nervous temp. but in good health, took dose of 2nd trit. at 10 a.m. and at noon. Depression of spirits all d. and deficient memory; urine more copious than usual. Took another dose at midnight. Sleep disturbed by dreams; dreamt of urinating. Above symptoms were repeated for 3 d., and then passed off. (*Ibid.*)

8. Dr. W.—took 12th dil. 3 times for 3 d. After a dose at n. and next m. at 10 a.m., headache in both temples as if they were being pressed outwards. On following d., p.m., similar feeling in occiput, and on 3rd d. over r. eye. Headache lasted about an h. each time. (*Ibid.*)

9. A. B. C.—took 12th dil. at 11.40 p.m. At 5, pain over r. eye. Very sleepy in e., retired early, n. restless. On getting up in m. slight headache over eyes, dull “sleepy” pain; some catarrh. Symptoms soon passed away. (*Ibid.*)

10. a. Miss J. A. A.—took 3rd dil. 3 times a day from June 23rd, without symptoms till 27th, when about 3 a.m. she had quite severe but short-lasting colic. On rising, about 6, was attacked with same pain so severely that she went back to bed again; it was a steady pain all over abdomen; no flatulence. It passed off this time in about $\frac{1}{2}$ h., and returned slightly for last time that n. at retiring. Continued medicine till Aug. 1st without further effect save two daily evacuations instead of one, and delay (for a week) and diminution of catamenia.

6. Sept. 4th, about a week after menses, commenced a second proving by taking 1st trit. 3 times a day. No marked symptoms occurred, but menses this time came on a week too soon. On 22nd began taking 1 $\frac{1}{2}$ trit. Only effect was severe smarting of throat on taking first dose, lasting an h. or two. (*Ibid.*)

11. a. Dr. W. P. F.—took, Dec. 28th, two doses of 30th without effect. 29th. Repeated dose at 9 a.m. At 11 had a slight chill, accompanied by sensation of faintness, former soon passing off but latter remaining for some h. At time of chill there was dull pain and feeling of constriction in l. chest. 30th.—Repeated dose at 9 a.m., and at 11 had a slight chill without faintness or constriction. He continued to take daily dose of 30th till Jan. 6th, but no other symptoms occurred.

b. On Jan. 6th, at 6 p.m., took dose of 1st trit. In $\frac{1}{2}$ h. constrictive scraping sensation in vault of pharynx, with fine sharp pains in r. infra-orbital nerve. These symptoms continued for about 1 h., and then passed off. 7th.—Repeated dose at 4 p.m. In $\frac{1}{2}$ h. dull heavy pain in both temples, with the scraping sensation in pharynx. In e., sensation of fulness in eyes. 8th.—Pain in temples passed off during n.; but recurred, with pharyngeal scraping, after another dose at 4 p.m. 9th.—Same symptoms as yesterday. 10th.—Took a dose at 10 a.m. In $\frac{1}{2}$ h. raw sensation in pharynx, with scraping; dull pain at root of nose and in temples, lasting 2 h. 11th.—Took powder at 6 p.m., soon followed by dull pain in temples and root of nose; raw sensation in pharynx. 12th—15th.—Took a dose daily, but no symptoms showed themselves.

c. Took 12th dil. 3 times daily from 16th to 18th. 16th.—At 4 p.m. profuse

diarrhœic stool, painless but urgent; at 8 another loose passage. 17th.—Diarrhœa, with some colic after a passage; dull pain in temples, worse at n. 18th.—Heavy dull pain in temples, with sense of exhaustion; 3 stools between 2 and 4 p.m., dull pain about navel after each. 19th.—Exhaustion, with weak pulse and dull pain in temples, worse p.m.; diarrhœa as on previous d. On 20th and 21st there was no action of bowels; pain in temples was declining on 20th, and exhaustion on 21st. (*Ibid.*)

12. H— took 12th dil. 3 times one d. After 2nd dose dull pain all through head, followed by sleepy condition all afternoon. At n. felt very sleepy, but could not sleep, and was very restless till m. Took then one more dose. P.m., had dull aching in pectoral muscles, and pain at insertion of biceps; muscles sore on pressure. (*Ibid.*)

13. a. A. T. H— took, Sept. 12th at 4 p.m., dose of 1₂ trit. In 1 h. dull pain in l. hypochondrium, changing to epigastrium, where it was very severe, then shooting up under l. scapula, aggravated by motion and relieved while sitting. After walking, dull pain in lumbar region and lower extremities, relieved somewhat by further exercise; soon passing off. On 30th took similar dose. Very soon, throat began to smart and feel rough; dull pain through r. forearm; dull throbbing pain under l. scapula, running upward. On Dec. 25th took another dose, followed by acrid taste in mouth and smarting in throat, with flow of saliva; later, dull aching in l. lumbar region and lower extremities—muscular pains. From 28th to 30th took a dose daily. That of 28th was followed by sore smarting feeling in throat; dull feeling in lower extremities; head felt dull, was unable to fix mind on any particular thing, and absent; dull pains through head and in region of heart; dry coryza and frequent sneezing; throat very sore and sense of constriction and difficulty on swallowing. On 29th, tough tenacious mucus in posterior nares extending into larynx; bowels constipated, with smarting of anus after stool; still unable to concentrate thoughts. On 30th, conjunctiva yellow and a little congested; dull pain in forehead and over l. eye; dizziness and nausea on stooping, latter continuing for a long time; dull pain in l. leg; vision dull; dull pain through abdomen in m. After omitting drug, felt splendidly well, and mind was unusually clear.

b. Jan. 11th, took dose of 3rd dil. at bedtime. Aroused early in m. to pass urine, which threw down tenacious brick-dust sediment. On getting up took another dose; soon, irritation in throat as from dust; anterior nares became stuffed, posterior formed thick mucus; stabbing pains at times during d. in r. lung. At 7 p.m. repeated dose. Two h. after, dull aching in l. lung, some sharp pains in r. Symptoms all of short duration. On 15th, took same. P.m., inability to speak of things he knew perfectly well, to recall names, &c. For some d. desire for c. in addition to m. stool. At 6 p.m. took dose of 1₂ dil., and repeated this next m. During 16th great coldness of extremities; feet felt as if he had damp stockings on, hands similarly; pulse very weak, hardly perceptible; face pale and nose cold. (*Ibid.*)

14. Dr. P— took a dose of 3rd trit., and did not notice any effect for some d., when he became troubled with great difficulty in remembering words, especially names. He was very busy at the time, and noted nothing else; but this was so marked and unprecedented as to force itself on his attention. (*Ibid.*)

15. a. Dr. S— took 30th n. and m. from Oct. 23rd to 28th. On 28th there set in dull heavy headache beginning in forehead (especially l.) and spreading later to occiput, with heat in forehead and aching and soreness of eyeballs. Pressure and cold relieved, bending forward aggravated much. After getting up next d. same pain in head and eyes, but less marked; "gone" feeling at stomach, no appetite; so nausea and vertigo. On attempting to apply mind, became very nervous and irritable; least thing disturbed him; nothing went right; wanted to be quiet and talk. P.m., sensation of heat spreading up and down from chest, especially up; forehead full and hot; sinking at stomach with thirst, not relieved by drinking. Ate e. without appetite; 2 h. before marked lassitude, muscles feeling weak; feeling formication deep in substance of lung. 30th.—Headache continues, much worse 4 to p.m., aggravated by least mental exertion or bodily movement; mind dull. M. stool was softer than usual, with slight burning in rectum; two more stools in e., muc looser, burning more severe, tenesmus following and colic preceding; great itching of skin, some fine red spots visible. Symptoms continued for 4 d. more, with aggravation every afternoon; also slight sore throat, raw and smarting as if he had drunk hot water.

b. Dec. 8th and 9th, took one dose of 12th dil. On 9th dull heavy headache, with depression and disinclination for study; worse 4—6 p.m. Temp. was found 96° only. 10th.—Slept well, but next d. had same headache, preventing study, and making him very irritable and fault-finding; eyes very sore on moving them, which would cause pain to dart back to occiput; much burning in urethra during micturition. (*Ibid.*)

16. Miss M. A. B.—took 2nd trit. m. and n. Jan. 15th—17th without effect; but on 18th three oysters taken for supper violently disagreed with her. (*Ibid.*)

17. Mr. T—, suffering from rheumatism for a long time, took 30th dil. on m. of Jan. 15th and 18th, and every $\frac{1}{2}$ h. during 16th and 17th. It made him feel ill from the 17th, and from the 20th he had a crop of boils, some very angry and painful. On 30th a feverish attack set in, from which he was not convalescent till Feb. 7th, even then very weak. He had no rheumatism, however, from time of taking first dose. [This observation would not have been inserted but for what follows.—EDS.]

18. Mr. B—, æt. 30 (nothing said as to any ill-health), took medicine like Mr. T— for 2 d. On 3rd d. a boil appeared on r. temple, and within 3 d. afterwards he had 9 well-developed boils on various parts of body. (*Ibid.*)

19. Miss A—, æt. 24, took medicine in same manner, and experienced nothing unusual till period, 7 d. after taking first dose. For 24 h. before menses appeared she had colic, cramps, and profuse watery leucorrhœa. Pains lasted through period, leaving her weak and depressed. With the colic there was great nausea and retching, and a considerable quantity of greenish-yellow fluid was thrown up; vomiting was accompanied with agonising pain in both temples, decreasing during intervals. There was also a fine miliary eruption on face, neck, and head. (*Ibid.*)

20. KÉPPLER injected 0·1 grm. into inner side of his l. thigh. Immediate local effect was development of a dermatitis resembling erysipelas, but much more painful. This increased in volume for 24 h., remained stationary for same length of time, and then diminished rapidly. General symptoms produced thereby were such as would be excited by any very painful injection. The specific local effect of S., anæsthesia, set in about 15 m. after the injection, and lasted less than 15 m.; its area was identical with the pallor caused by the introduction of the solution. Of the specific general effects of the drug the most important was undoubtedly its action on the temperature. This rose steadily for 3 h., and then fell gradually to the normal point, which it reached within 24 h. For the 2 next d. there was some fever, but on 5th d. temp. fell as low as 93°; pulse also, which had been somewhat elevated, sinking to 65. Other general effects of the drug were marked bodily and mental depression, somnolence, and salivation; also pain, exophthalmos, and strabismus of l. eye. Temp. was more depressed on l. side than on r. (*N. Y. Med. Record*, 1879, p. 153.)

III. *Experiments on animals.*—1. a. KÖHLER experimented with S. on cats and frogs. Five m. after injecting a few dr. of a concentrated sol., there occurs entire suspension of reflex excitability of the part, and also paralysis of both motor and sensory nerve-filaments. Shortly after, muscles of part lose their power of responding to stimuli. The nerve trunks and centres do not become affected unless larger quantities are injected, and then probably through absorption, as effects are general. The arterioles at selected spot become greatly contracted, and so do the larger vessels—as vena cava and aorta—when drug is applied directly to them. When it is applied to the heart, beats gradually become less frequent and then cease altogether (in diastole). Local application to spinal cord induced complete paralysis, gradually involving medulla oblongata and cerebrum, and producing asphyxia, deep coma, and dilatation of pupils. When S. is introduced into stomach, blood-pressure is reduced, and pulse, resp. and temp. all sink, though slowly. Paralysis of extremities does not occur in this case.

b. K— gave to a tom cat, dry on the tongue, gr. ij—iv daily for 26 d. During first week effect was immediate salivation; then loss of desire for drink, and though appetite seemed present, difficulty of swallowing food. He was stupid. During second week these symptoms continued; and cough which had begun on 7th day increased, with rattling of mucus in larynx and larger bronchi. Stools also changed through olive-brown to greenish hue, then were clay-coloured, then dark green, and finally olive-brown again. During third week stupidity increased, cough and other symptoms remaining the same, and stools still varying. He continued in this state till 26th d., when he was killed. Thick tenacious mucus was found in

larynx and bronchial tubes, and gastric mucous membrane was in a catarrhal condition. No other lesions were found.

c. K— concludes that S. causes death by paralysis, first of the respiratory centres in the medulla, then of the vaso-motor centres, then of the cardiac nerves and muscle. It produces the most profound depression of circulation and respiration, as well as great sinking of temperature of body. The heart under its influence is like one with the nerves from the vagus and sympathetic all divided, and running upon the cardiac ganglia alone. Digitaline is antidotal to it all along the line, save in respect of the lowering of the temperature. (*Anäth. durch Saponin*, Halle, 1873; in *Ibid.*)*

SEPIA.

The dark brown paint secreted by the cuttle-fish, *Sepia officinalis*.

1. *Provings*.—1. HAHNEMANN, *Chronic Diseases*, part v of original vol. of translation. Contains 1657 symptoms, of which 160 are from five fellow-observers.

2. a. I have myself observed certain effects of S. I used the 3rd trit., intermingling some doses of the 12th dil. The action of the drug showed itself in a peculiar fermentation of the blood, slight fever, disagreeable sense of nausea, ebullition in all the vessels, heat at stomach and in the lungs, noises in the ears, troublesome dreams, determination of blood to head. But the most remarkable effect was the being awakened with a start by violent beatings of the heart, slow and regular as in hypertrophy, felt strongly in the head, and producing a slight feeling of anxiety. After about a m. this ceased abruptly, and it felt as if the cardiac pulsations were entirely arrested. I anxiously sought to feel the heart beat at its normal place, and did not recover calmness until I had felt it return under my fingers. This was at 4.30 a.m.

b. I had taken the previous e. a dose of the 4th dil., and had felt a contractive sensation in forehead, followed by peculiar itching there. Next m. I found at same spot a vivid rose-red eruption, formed of little round spots encircling like a coronet the roots of the hair. At noon it was still visible on the r. side. On the chest, where I had felt a similar itching, little yellow spots appeared. (On another d. I experienced persistent irritation at nucha, with sensation to touch as of the presence of small elevations.) The itching was considerable, very different from that caused by insects, returning instantly after scratching; it seemed as if the finger were unable to disperse the ebullition of blood concentrated at this point; it gave me the impression of an internal irritation without external cause. I experienced also at the apex of the chest slight drawing pains, which went immediately to the forehead, becoming there dull and pressive in character. I felt also great feebleness of legs when walking, and a general moisture in the alimentary canal. (KRUGER, *Bibl. Hom.*, Aug., 1878, p. 235.)

3, Miss K. de G—, M.D., healthy but delicate, took from Dec. 5th, 1874, 3rd trit. n. and m. for a week. On 6th had 4 stools during d., with slight pain in transverse colon and some tenesmus. (Bowels were always remarkably regular.) On 7th d. still pain in colon, and stool

* Brunton's account of the action of Saponin, based on five other authors besides Köhler, adds nothing to the above.—EDS.

about every 2 h., natural till p.m., when it became diarrhœic, with tenesmus before and during it, and afterwards burning of anus and intense feeling of bearing down of rectum. On 8th no action of bowels. Several pimples appeared on cheeks and wrists, very sore, pustular, like chicken-pock. Constant hunger, chiefly for sweet things and meat. From 8th to 10th there was headache on waking, better after moving about; and sleep was unrefreshing, leaving tired aching feeling all through body. For 10 weeks after proving this last continued, also constipation, pimples on cheeks, and continual hunger, especially for sweets. (This proving was conducted by Dr. W. Owens, who saw prover daily. The above is her own record. To his interrogations she adds that she had pain all over bowels, with sense of fulness and soreness; pricking at seat of eruption before pimples first appeared, and burning and soreness in them subsequently. When they opened, blood and pus were discharged, and pitting remained. She declined to repeat proving with a higher potency on account of the annoying eruption.) (*Trans. of Amer. Inst. of Hom.*, 1875, p. 177.)

4. a. J. F. FRANTZE, student, took 3rd trit. every 3 h. from Nov. 1st. First symptom noted occurred after 4th dose—a peculiar wave-like sensation extending through body, and down arms and legs to near their extremities, then sudden expansion with sharp rheumatic pain, lasting but a m., and then subsiding. On 2nd d. pains in various parts of body; severe pains over eyes, alternating from one to the other; swelling and burning of eyes, to which a flow of tears affords relief. Later, itching in various parts of body, relieved by scratching, after which there is pinkish colour; pain constantly between shoulders and down back; stiffness of back of neck; inclination to sigh; profuse nose-bleed several times; intolerable itching inside nose, which is sore on scratching.

b. On 5th began to take 30th trit. (no information how). Wandering pains, especially drawing and expanding pain at side of neck; pain in hip, worse on walking; dull and drowsy; full feeling in head. (*Ibid.*, p. 179.)

5. WILLIAM DIETZ, student, proved 3rd trit. Nov. 2nd, took 4 doses. 3.30 p.m., heavy pressing pain over l. eye, extending towards sides of head. 4, sense of great fulness deep in l. orbit; headache confined to l. side, better in e., increased by shaking head, better in open air. 3rd.—Woke at 7 a.m. with darting-pressing pain in r. eye, lasting about 15 m., when it changed to l. eye; occasionally darting pains from l. eye over side of head to occiput. Took medicine 5 times to-d. Heavy pressive pain or fulness all d. in l. orbit and head, with occasional darts; better after meals. 4th.—Felt well on waking at 7.15. About 8 had some pain as yesterday, and it lasted all d.; both eyes heavy, with tendency to keep them closed; indisposition to mental labour, which aggravates headache. 5th.—Same doses and same headache. 6th.—Took 6 doses of 200th dil., but though he awoke with headache, it had gone by midday, and p.m. he felt quite well. Repetition of latter doses 7th to 10th produced no symptoms. (*Ibid.*, p. 181.)

6. a. E. CRANCH, M.D., æt. 23, in perfect health. Urine in average quantity about 40 oz.; sp. gr., a.m. 1029, p.m. 1022.

Dec. 17th, 1874, took 1 gr. of 3rd trit. every $\frac{1}{2}$ h., beginning at noon, and next 2 d. took same every h. On 19th urine was 45 oz.; sp. gr., 8 a.m. 1032, 6 p.m. 1032. It deposited after a few h. a white filmy sediment, not removable by water alone, or by acetic acid; but nitric acid, and also caustic potash and ammonia, proved solvent to it. Desire to pass urine was more urgent than common. 20th.—Urine looks turbid, and smells badly; sp. gr. at 8 a.m. 1031. At 9.30 a.m. slight but decided tingling in urethra, about 1 in. back from head of penis. No other symptoms.

b. Jan. 14th, 1875, took 40 gr. of same between 8.30 and 11 p.m. He then passed 5j of urine, sp. gr. 1031, which next m. was found of slightly acid reaction, and had deposited a white adherent film. Sediment at bottom of a test-tube was slightly pinkish; it dissolved by slight heat (not by nitric acid), and displayed under microscope amorphous particles and, after 48 h., crystals of uric acid. He awoke this m. (15th) with dull headache, which ceased on rising. Between 8.15 a.m. and noon took 30 gr. At 9.45 p.m. slight dull headache through both temples, and tired feeling; tingling at meatus urinarius. 16th.—Urine of last n. has a heavy white deposit, showing same characters as before. No headache, but uncommon urging to urinate. At 8.15 a.m. passed 15 oz. of urine, sp. gr. 1021. At 9.45, having been constipated since 14th, a sudden violent aching in anus came on, and continued (relieved by fast walking) till when feces began to pass. Slight aching at neck of bladder just after micturating, and tingling in urethra later; occasional slight twinges of headache in sides of head; unaccountable feeling of weariness; hungry feeling in stomach as soon as 2 h. after a meal; slight aching in region of kidneys. On 17th and 18th some tingling in urethra; on 19th well. (*Ibid.*, p. 196.)

7. Dr. C. WESSELHÆFT gave 3rd trit. to 5 women students.

a. Miss A. S. M.—, taking 14 gr. in 5 d., had no symptoms whatever.

b. Miss JULIA H. S.—, whose "general condition was exceedingly languid in the morning," took drug for 4 d., and after 2nd d. experienced unusual clearness of intellect, greater strength, and general feeling of *bien-être*.

c. Mrs. M.— took drug once or twice a d., April 23rd to 25th. On m. of 24th feeling of prostration and "goneness," principally in stomach; craving for food; inclination to take a long breath; sense of weight in chest as from outward pressure; everything seemed an exertion. On 25th same prostration, and n. was disturbed by unpleasant dreams. On m. of May 21st took another dose, and reports, "Tired feeling all over, lasting all d. Prolapsus uteri, with inclination of fundus to l. side, producing a numb feeling in entire lower half of l. side of body, with constant dull aching there and in pelvic region, latter somewhat relieved by recumbent posture, especially when lying on r. side. Tenderness of os uteri." On 23rd took another powder, and had same symptoms as on 21st, with—in addition—sharp piercing pain in lower lobe of r. lung, coming in paroxysms, and so severe as almost to make her cry out.

d. Miss C. H.— took same at n. for a week. No symptoms save general clearing and improvement as in 7 b.

z. Miss Caroline A. H— “has suffered from enlargement of the womb, ‘a tumour cured by galvanism’ at our hospital.” Had not menstruated since February. She took a dose at noon, April 21st. In 40 m. hot flush over face and whole head, lasting but a few seconds, instantly followed by slight perspiration, and that by headache in r. head and face, not severe, but with surging sensation in forehead, like waves of pain rolling up and beating against frontal bone. 1.30, pain in r. head more severe. It somewhat abated after dinner, but increased again 10 m. later. 2.45, flush over head, with great increase of pain, which extended somewhat to l. side. 4, pain less severe. 5, slight flush and perspiration, and slight increase of pain. Headache lasted till she went to bed, with—in e.—feeling in nostrils as if she had taken cold. 22nd.—At 7 a.m. took 2nd dose. Headache returned, but not so violently; also burning pain in nose, especially at rest. From 10 till 3 pain in forehead became severe, extending to malar bones, with heat in forehead, pale face, eyes feeling tired and looking injected. She lay down from 3 till 6, and slept; headache relieved thereby. 23rd.—At 9 a.m. took 3rd dose. At noon some pain in head and face, but not marked unless she thinks about it, when it is quite severe. At 6 p.m. flush of heat in face and head, followed by perspiration on same parts; headache abated. 24th.—Some headache on rising, and a general good-for-nothing feeling. Took 4th dose at 10 a.m. At 11 flush in head and face, with perspiration. General dull heavy headache all d., with pallor of face; eyes tired and red; sensation of bearing down in pelvic region, with slight dragging pain from sacrum. 25th.—No medicine; but same dull headache, pale face, tired and reddened eyes, and pelvic symptoms, as yesterday, with inactive bowels and constriction of sphincter ani. 26th.—Headache abating; pelvic symptoms worse—more weight and bearing down, more pain extending into loins and down thighs in front, with constriction of sphincter hindering action of bowels. 27th.—All symptoms abating. Those of pelvic region lasted longest. On May 9th took dose at 12.30 p.m., and repeated it daily till 18th. 9 p.m., colic in upper abdomen; abdomen hard and distended; soreness and pain in sacral region of back. 10th.—Abdomen same, and tender to touch; sacral region do., with sense of bearing down; some pain in forehead and stinging in nostrils, as from a cold. 9 p.m., darting pains in vagina, l. side, from below upwards. 11th.—Slight colic during d. 12th, 10 a.m., desire for but inability to pass stool; intense constriction of sphincter ani. 3 p.m., hardness and tension of whole abdomen, with flatus and occasional colic; weight and bearing down in pelvis. 13th.—Weight and bearing down in pelvis and tension in abdomen; very difficult movement of soft small stool, insufficient, with constant urging; some flatulence. 14th.—Pelvic and abdominal symptoms the same; pains in hips and thighs, extending to near knees; stool soft, small, insufficient, with great straining, followed by heaviness in abdomen and aching in pelvis and thighs. 15th.—Stool as before, and bearing down; other symptoms not marked. 16th.—Abdominal and pelvic symptoms the same; constriction of sphincter to-day so intense as utterly to prevent stool. 17th.—On rising pain in sacrum and bearing down, with some yellowish leucorrhœa, which later became

profuse, creamy, and slightly bloody. There was pain in abdomen and back, extending down legs, as at menstruation; and the same ineffectual urging to stool. 18th.—Symptoms better in m., but returned in e. Sphincter was less constricted, and a small stool occurred. 19th.—All hypogastric symptoms continued; some glairy, amber-coloured, slightly offensive, occasionally bloody leucorrhœa; constriction of sphincter gone, but no stool or desire for it. 20th.—Stool free, with little straining; abdomino-pelvic symptoms continue, with lassitude in lower limbs when moving, and slight frontal headache. 21st.—Pain and tenderness in abdomen; pain in back across hips; some bearing down; sanguineous leucorrhœa, in gushes, but not profuse; headache in forehead and below temples. (Here the record abruptly stops.)* (*Ibid.*, p. 198.)

8. Dr. C. WESSELHÆFT also instituted some provings on 1 female and 7 male students with the 30th trit., of which a grain was taken n. and m. for 3—5 d.

a, *b*, *d* and *e* (the woman) had no symptoms whatever.

c, after 1 gr. at retiring and one the next m., had, p.m., burning heat in throat, with fulness and pressure in head; this gradually increased to a severe frontal headache, most severe over l. orbit. At n. took 1 gr. with increase of symptoms; also tightness and constrictive sensation in chest, and hard, dry, concussive cough. These troubles continued 4—5 d. He repeated medicine several times afterwards, with same effects.

f took 1 gr. at 8.30 a.m. 2 p.m., face flushed, nose dry, every symptom of cold in head, which felt swollen; sleepy, and must lie down, which relieved him. 3, repeated dose. Late p.m., stuffed nose; e., watery mucus from nose; slight frontal headache, passing round r. side to occiput; voice like that of one with cold in head. All symptoms gone next m.

g began, Nov. 15th, by taking a gr. n. and m. After 3 d. he took a gr. every n. till the 30th. On e. of 16th had severe headache, outward-pressure in temples, which continued till next m. (He had had similar headaches after strong coffee, but was taking no coffee now.) On 30th, 10 m. after taking nightly dose, felt dull pain in r. upper chest, then boring pain in l. testicle, finally pain in r. groin. This last remained constant, while the other two came and went at short intervals, till he fell asleep. Nothing more was felt.

h took 1 gr. on n. of Nov. 14th and on m. of 15th. About 2 p.m. had severe pain in a spot about $1\frac{1}{2}$ in. in diameter over spleen, deep. This continued till 3, when he began to have flushed face and dull frontal headache, with pulse of 100—110. 4.30, very hungry, but after a little food was satisfied, and stomach felt full; pain was relieved, and,

* We have given these provings of Dr. Wesselhæft's because they are his; but besides the obvious fact of *a* giving negative, and *b* and *d* merely curative results, we are not satisfied about *c* and *e*. The abrupt termination of the latter's narrative is paralleled in the former's, and in that the pelvic changes are no less abruptly introduced. We are told nothing, moreover, of *c*'s previous uterine health; while the slight and vague account of *e*'s is just enough to raise doubt as to the purity of symptoms arising in this quarter. The provings must be regarded as given for confirmation rather than with any endorsement on our part.—EDS.

feeling drowsy, he slept till 7.30. On awaking, pain was in lumbar region, more on l. side; dull aching was felt there all n. 16th.—Pain in loins better to-day, but far from gone. L. eye ached badly p.m., with dimmed sight as if mist was before it; pain ceased in e., and then came feeling as if head was stuffed. 17th.—Both pains again to-day; that over eye, coming on p.m., kept him awake a long time after going to bed. 18th.—All symptoms decreased, but general languid feeling. 19th.—Pains gone; but he felt all d. as if he did not care what happened. (*Ibid.*, p. 182.)

9.* a. W. A. FRENCH, in good health, urine 28—30 oz. daily, sp. gr. 1022. On Jan. 11th, 1875, took 200th dil. every $\frac{1}{4}$ h. all d. Urine 20 oz. only, sp. gr. 1027; on standing it clouded, and deposited white sediment. From 12th to 15th it was 23—24 oz., sp. gr. 21—24, clear and without sediment.

b. On 16th took 30th trit. all d. in same manner. Next d.'s urine was 19 oz., sp. gr. 1028; on standing, brick-dust sediment formed, and vessel was coated on sides with a white sediment, making glass look as if ground. Last n. restless, from very distressing dreams; saw mice, rats, and snakes; heard noises in street, and people talking, running, &c. 18th.—Again could not sleep from sights he saw and noises he heard; tossed about in bed. Urine 19 oz., sp. gr. 1027, bad odour, deposit of deeper red; smarting of urethra while passing it. Could not keep mind on books or follow lectures; moody feeling. 19th.—Similar n. Urine 22 oz., sp. gr. 1023, looks healthy and gives no deposit. At 9.30 p.m. dull pain over both eyes, seemingly in bone. On 20th, 21st, 22nd, urine was 24, 28, 31 oz.; sp. gr. 1021—2; otherwise natural.

c. On 23rd took 30th again in like manner. At noon passed water, which was clear, sp. gr. 1026; but after standing 4 h. there was brick-dust sediment, and sides of vessel were coated white. At 9 p.m. urine was 1034, flocculent when voided; and after standing 2 h. there was deposit and coating as before. He had same restless feelings as on 18th. On 24th his mind wandered very much, and he felt moody and depressed.

There was at no time any change in pulse, resp., or temp., and bowels always acted daily. (*Ibid.*, p. 184.)

10. ALFRED WANSTALL took same every $\frac{1}{4}$ h.—3 h. from Jan. 7th to 22nd. Quantity and sp. gr. of urine were noted daily; first ~~ink~~ and latter rose till 21st inclusive, on 22nd and 23rd reverse obtaining. Nothing is said of deposit, &c. 17th.—Teeth sensitive to cold air. 18th, tired pains about back and neck, specially r. side. N. restless. 18th.—Same pains about back and neck, also in r. forearm and thigh, over r. eye, and in forehead. 19th.—Slight frontal headache off and on during this d. and next, specially on l. side. Back and neck pains felt occasionally. Great sensitiveness to cold. (*Ibid.*, p. 186.)

11. H. H. TINKER observed his normal state Nov. 4th to 15th, and found temp. 97°—98°; pulse 72—80; urine about 6 oz. 5 times daily, sp. gr. rather high, 1028—1030 (p.m.), normal otherwise. Dec. 15th, took 30th trit. every $\frac{1}{4}$ h. from 6 a.m., being then perfectly well.

* The following provings, to the 13th, were conducted by students under the supervision of Dr. Allen of New York.

16th.—In e. head felt heavy on r. side. 17th.—Feeling, a.m., on side of head, nose, and throat as if he had taken cold; thick yellow discharge from r. nostril, which on putting finger into nose became bloody; r. eye looked red and felt sore; head stupid, cannot remember or do any real mental work; pulse 90. No stool since beginning discharge at 2 p.m. very severe headache from r. to l. temple, extending into forehead and nose, all feeling as if raw. 4, weakness about pelvis, fore back, and dragging pain round anus. In e. hoarseness, and slight swelling of r. parotid. Urine all d. high-coloured; passed 3 times only, and in smaller quantity; sp. gr. 1030. Pulse 80 in e. 18th.—Yellowish-red deposit adherent to sides of chamber in m.; sore feeling at anus; profuse yellow discharge from nose, with epistaxis after rising and raw feeling constantly; felt irritable, and found it hard work to fix mind on studies. In e., besides these symptoms, and the forehead headache through temples, eyes felt very sore as if bruised, and he felt great weakness with some pain in r. sacro-iliac region. Bowels confined; urine deeply red, 4 oz. passed three times, sp. gr. 1025 all d. 19th.—Throat still feels "skinned;" great dragging on movement in r. sacro-iliac region, with dull heavy ache constantly. He feels very dry, and crack. No desire for water even at meal-times. Mind as before. Urine very scanty, deep red, sp. gr. 1030. 20th.—Throat the same, hip and back easier. At last a stool, causing painful raw feeling in anus. Nausea all m., and distaste for food. Tongue coated brown with red edges. Mind still stupid, and inclined to worry. Quantity of urine to-day not mentioned, but sp. gr. in m. was 1025. 21st.—Tongue yellow coated at middle and back; tip and edges red. Thick yellow discharge from nose; both ears feel plugged, and he is a little deaf. Back still aches, and causes nausea and faintness on standing. Urine very scanty, giving red coating to glass; sp. gr. 1025. 22nd.—Same in m.; urine very scanty and high coloured, but sp. gr. only 1022. In e. head and throat were improving, but back still uncomfortable. Symptoms now gradually disappearing, but urine remained very dark red up to Jan. 4th. (*Ibid.*, p. 1)

12. S. B. BARCHET, æt. 31, nervous temperament, in good health but not robust. Observed sp. gr. of urine from Nov. 7th to Dec. 1st, and found m. average 1020, e. 1023. Temp. was subnormal, 97° to 98° m., 96° to 97° e. Dec. 14th to 24th, he took small doses of trit. every h. 14th.—1 h. after 1st dose shooting in a r. upper molar. During 2nd h. heaviness in forehead and temples; dizzy, unsteady feeling when getting up to walk; smarting pain in urethra. 15th.—Going into cold air in m. caused great discharge of tears from r. eye going off in warm room. Dull pain in upper l. lung. 17th.—Shooting in l. molars and in finger-tips, a.m. Again dizzy on rising to walk. Weakness and weariness in all joints, especially knees; headache d., worse 5 to 6 p.m.; least movement of head causes dizziness, movement from side to side produces feeling as if brain mass were swaying to and fro. 5 p.m., a slight chill. 6, flashes of heat, skin gets slightly moist; shooting pains along inner side of whole r. arm. sp. gr. of e. urine 1032. 18th.—Long-lasting pain under r. shoulder, sharp pain along canal of urethra; smarting pain on outer side of

hand. Slight nausea after lunch. 19th.—To-d. urine high-coloured, quickly becoming turbid and staining bottom of vessel. Sp. gr., e., 1030. Nothing specially felt till 5 p.m., when he had occasional stitches along urethra, stitching-smarting pains in l. knee and on inner side of thighs and arms. 20th.—Nothing special during d., save lame feeling in joints and stitching pains in temples; these last very marked on lying down at n. Sp. gr. in e. again 1030. 21st.—Same pains as yesterday, more severe on l. side. Sp. gr., m. 1028, e. 1030. 22nd.—Severe shooting in l. temple from noon till 7 p.m., also higher up on side of head; repeated shootings in heel; sour eructations. Old symptoms reappeared towards e. Sp. gr., m. 1026, e. 1032. 23rd.—No new symptoms. 24th.—Sharp shooting through heart, like an electric shock, at noon. He now went away till Jan. 5th on vacation, but frontal headache and pain in temples came on daily; mind was slow and dull; urine continued high-coloured, became turbid quickly, and showed in m. a fine reddish sediment. He could not take sp. gr. while away. Jan. 8th.—Sharp pains in finger-tips, upper incisors, and eyes. 9th.—Unpleasant exhalation from body on getting warm in bed; flashes of heat all over body about 8.30 p.m. 12th.—Sp. gr., m. 1028, e. 1030. Pains in various parts came and went for next fortnight; and from the 14th he had a vesicular eruption on scalp, chest, back of shoulders, calves, and knees. Some of the vesicles became pustules, and when squeezed yielded a tough sticky matter; but pressure was painful and made them look angry. Those on scalp itched. Sleep, hitherto good, was now restless. Urine often scanty, and then there was some vesical irritation. (*Ibid.*, p. 191.)

13. a. Mrs. A. G. S—, æt. 32, mother of 3 children, with fine delicate sensitive skin which chafes easily. Dec. 9th, 1874, took 2 gr. of 30th trit. at 9 p.m. Slept well till 4 a.m., when she awoke with sense of fulness in transverse colon; felt warm all over, perspiring on chest and neck; veins feeling full and ready to burst; seemed as if she could not move. Took dose of aconite, and in a few m. went to sleep again. 10th.—At 10 a.m. repeated dose. 4.30 p.m., sensation as if upper abdomen were bloated, with feeling as if something were moving about there. Hard stool at 6, fæces covered with slime; a slimy bilious stool at 8, and again at 11. Slept well all n. 11th.—A distinct chill at 9 a.m., followed by fever with chilliness across stomach and bowels and between shoulders. Urine thick, slimy, and very offensive, depositing yellowish pasty sediment on standing. Sweat following fever was also exceedingly offensive and pungent. The sense of fulness in abdomen continued 5 d., without other symptoms, save that she remained languid, and was troubled with offensive sour-smelling gaseous eructations.

b. On 19th, at 3 p.m., Mrs. S— took another dose. One h. after, coldness between shoulders, then general chilliness over body, followed by sudden loss of strength and weakness about chest, and she broke out into profuse perspiration over chest and neck; hands and feet became cold as ice, face pale; she thought she should vomit, but was relieved on getting up and moving about. She had pain and soreness through bowels all e.; slept 10—11, and then woke, feeling as if a

load was resting across epigastrium. After a dose of aconite she slept till m. On 28th she had a fine rash over body, particularly about bends of elbows and knees, attended by pricking, tingling, and itching. While in a warm room it remained out, and she felt well; if she went into cold air eruption would disappear, and she would then have severe rheumatic pains about these joints (elbows and knees). The rash, with these characters, remained some time, extending to axillæ and groins; when it reappeared after suppression by cold, profuse sweat accompanied it. [This lady proved under the superintendence of Dr. Owens.] (*Ibid.*, p. 174.)

14. a. A. J. SHERMAN took, Dec. 10th—17th, a grain of 30th trit. every h. At end of week he had severe itching on r. side of pubes, worse at n. on going to bed; becoming moist after scratching, and forming a thin scale easily pulled off. By the 28th this eruption had nearly disappeared.

b. On Jan. 14th he took 5 one-grain doses at hourly intervals from 1 p.m. At 8 p.m. a sharp pain under ensiform cartilage, as if a nerve were made tense, in a spot that could be covered by end of finger, worse from inspiring and going upstairs. Heart's impulse and rapidity were increased, especially during inspiration. (He had occasionally in the past noticed slight irregularity of pulse.) 17th.—Pain and disturbed action of heart have entirely gone off, but eruption on pubes, which had almost disappeared, has increased. (*Ibid.*, p. 195.)

15.* L. A. SNYDER took 30th trit. every 3 h. from 5 p.m., Oct. 31st, to 10 p.m., Nov. 1st. On latter d. slight dull frontal headache, which lasted 2 following d., on which also there was unwonted inclination to wonder over future events. This mental state lasted into next d. (4th), accompanied with dull, stupid, sleepy, confused feeling in head; dulness of comprehension; inability to collect or express his thoughts. On 5th took medicine every $\frac{1}{2}$ h., continuing it till e. of 10th. Only effect produced was, on 6th, slight itching and soreness in l. outer canthus, which on 7th had increased and spread; on 8th upper lid was much swollen, eye half closed; lower lid also œdematous, as if stung by a bee; lids sore to touch and on closing eye; slight itching. By 11th eye was better. Throughout proving there was distension of stomach after meals, especially supper. (*Ibid.*, p. 177.)

16. a. C. FRANKLIN MANSON took 30th, manner not stated. Burning pains in different parts of body, especially in l. hypochondrium; great itching of margins of eyelids; tongue white-coated; small white blisters inside cheeks; tip of tongue feels as if scalded; great dryness of lips; stitching in anus.

b. Same took 200th dil. Sores on septum narium; disgust for tobacco after smoking. Three or four d. after leaving off medicine had radiating pains in back of neck and occiput; and, later, alternate cold hands and feet. (*Ibid.*, p. 179.)

17. J. W. BECHTEL, jun., took a dose of 200th on Oct. 31st. He experienced nothing extraordinary till Nov. 4th and 5th, on which he had short-lasting rheumatic pains in insertion of r. temporal muscle and l. shoulder-joint. On 5th took dose of 30th. On 6th and 7th sudden stitching pains, leaving more gradually but very soon, in l. palm, l. lung, and r. foot. Appetite impaired while taking medicine. (*Ibid.*, p. 178.)

* The provings from the 15th to the 18th were instituted under the direction of the late Dr. Farrington.

18. W. H. TOMLINSON took 200th at times between Oct. 31st and Nov. 31d. In 1½ h. after 1st dose sense of fulness in l. axilla, after a few m. shifting to r. side. An h. later, while walking, same sensation in r. groin, soon passing off. Nov. 1st. —In e., after walking in cold wind, had sore, rough, burning feeling in eyes, aggravated by gaslight and on attempting to read. 2nd.—Headache all d. with great mental depression; cannot collect thoughts or recall things he knew very well. These symptoms passed off by noon next d.; but sense of fulness returned 1—2 p.m., first in l. axilla, then in r., then in groin, as before. On 5th resumed medicine, taking a dose at 3, 5 and 7 n.m. Mental dulness in afternoon; sore bruised feeling at r. of tip of nose and chin, also in l. elbow. 6th.—Continued medicine till noon. Sensation in nose and chin increased; spot on nose was quite red, but there was no point. 4—5 p.m. severe headache, beginning at root of nose and going to temples; it passed off in e., with nose and chin symptoms. On 11th, and slightly on 12th, sharp stitching pain in prepuce and frenum, with smarting raw feeling as if abraded; nothing found but some redness. Still occasional uneasiness in axillæ. (*Ibid.*, p. 180.)

19.* Miss E. F. S.—proved 200th dil., taking 2 doses Nov. 20th, 1 dose on 21st, 2 doses on 22nd, and 1 on Dec. 10th. A long array of symptoms set in, chiefly of the pelvic organs and the nervous system, and continued till Dec. 20th. Several times after this, especially when for other symptoms she had occasion to take a dose of nux vomica, the sepia symptoms recurred, lasting some days each time. (*Ibid.*, p. 157.)

20. Miss M. E. K.—proved same, taking a dose Nov. 10th, 11th, and 16th, and Dec. 4th, with a similar result. The record of symptoms extends to Jan. 24th. She, too, found symptoms recur (Feb. 28th) after a dose of nux. (*Ibid.*, p. 164.)

21. Mrs. —, æt. 41, widow with 3 children, catamenia regular but scanty and dark, in excellent health, proved same, taking a dose every h. from 10 a.m. to 3 p.m. on Jan. 5th, 2 doses on 8th, 2 on 12th, 2 on 24th. Pelvic and nervous symptoms set in as before, but latter were on the side of depression instead of, as in No. 20 and (partially) No. 19, on that of excitement. Pelvic symptoms were still present on Feb. 13th, when the record ceases. The next menstrual flow was brighter and more copious. [This lady's report is furnished by Dr. Emma Scott, who vouches for the healthy condition of her uterus at the beginning of the proving, and adds that "when the leucorrhœa began" she examined her and found "uterus congested and a yellowish discharge pouring from it, beginning to prolapse, slightly displaced." Nothing, however, is said in the daily reports of the occurrence of any leucorrhœa.] (*Ibid.*, p. 171.)

22. Mr. H. ROBINSON gave a young woman, every 3rd m., a teaspoonful of a sol. of 1 gl. of 30th in ʒviiij of water. She had had a leucorrhœa for a very long time, and this left her completely during the proving. After 2 doses she had depression on waking in m.; extreme nervous restlessness; frontal headache; eyes heavy, lids inclined to close; dry throat, with sense of thickness; taste very mawkish—sour after eating; no appetite; first relaxed bowels, then constipation; urine thick and turbid; anxious oppression in upper chest; strange tickling in lower chest; pain and weakness in small of back; weary pain in l. shoulder-joint; fatigue and powerlessness of both arms on waking; bruised aching in sockets of shoulders extending to elbows—intermittent, and generally only in one arm at a time; feeling as of weight pressing on thighs—momentary; very restless sleep; she is quite hot, then cold, with great faintness; m. perspiration, sometimes hot, sometimes cold, particularly in hands and feet; constant disposition to sweat, both n. and d. Menses came a week too soon; were scanty, and lasted only 1 d. (*Brit. Journ. of Hom.*, xxv, 331.)

23. Another young woman took, of a similar sol., a dessertspoonful each m. After 7—8 d. sad and discontented with everything; pressive headache at vertex; eyelids heavy, with much frontal pain; feeling as of a painful sore at tip of nose, followed by an eruption at spot, lasting 2 d.; constant sneezing for several d.; wrenching pain in all molars; bleeding from gums at slightest touch; lips sore, smarting, and disposed to crack; cutting pain in throat, with raw feel and much phlegm; tickling scraping, and again loose phlegmy, cough; pain in both sides of chest, passing round to between scapulæ; intolerable aching at coccyx just before

* Nos. 19 and 20 are furnished by Dr. A. K. HILLS.

action of bowels (several times); aching across loins, worse on movement; twisting pain in r. knee, and drawing pain on inside of r. thigh; dry burning sensation in soles; burning swollen feeling of feet; very heavy and drowsy; restless sleep, with confused dreams; flushes of heat, she feels in a kind of glow, then chills; profuse perspiration after coughing; sick and feverish all d., with thirst; heavy sweat, as from a cold; hard and inflamed boil on r. natis; feels weary, and trembles all over. (Menses, which were usually accompanied by cold aching pains in lower bowels, came on without the least distress.) (*Ibid.*)

24. Another took 1 gl. of 30th dry on the tongue each m. After 5—6 d. severe pressure in forehead over r. eye; r. eye inflamed, with great burning and lachrymation; jumping aching pains in lower molars; dryness and soreness of throat—at n. it feels quite parched; middle of tongue blistered; stitches in l. hypochondrium; urine unusually turbid; pains in tendons of r. foot about ankle; swelling of feet, which burn and are very dry. (*Ibid.*)

25. Another took 1 pilule of 30th n. and m., and had foul and filthy tastes of different kinds; griping diarrhoea-like feel in abdomen, followed afterwards by exhausting diarrhoea. (*Ibid.*)

26. Another took same, and had cramp-like pain in calves and shooting pain in ankles. (*Ibid.*)

27. A young man took same, and had intense headache, frontal and temporal. (*Ibid.*)

28. (No information as to dose, prover or time). Pressure and cutting in throat on swallowing, with much mucus in throat; on attempting to hawk it up the pressure, pinching and cutting are aggravated, as though the throat were cut with scissors, and blood comes; at same time confusion of head, heat of whole body, fever, pulse 108; towards e. in an intermediate state between sleeping and waking. At n. frequent waking with much mucus in throat and tiresome dreams. On rising weakness, sweat on forehead, and nausea, so that he must lie down again immediately. Slimy diarrhoea 3 times, with discharge of 2 round-worms and ascarides. Moist cough as after a tedious catarrh, especially n. Cough with expectoration, and at same time pain in r. side of chest, especially violent on stooping and lying on r. side. Itching of nipple, which sometimes bleeds and seems to be about to ulcerate. Yellowish-brown spots round neck, about a square inch in size, which desquamate when rubbed. (GROSS, *Archiv*, xix, 3, 187.)

29. Feb. 13th, took 2 globs. of 8th dil.—14th. Shooting pain in liver and kidney, pale face.—17th. Accumulation of flatulence.—18th. Same dose.—19th. Pain in gall-bladder, accumulation of flatulence, stretching with yawning, heaviness of bowels.—20th—24th. Very cold feet, frequent fever, much toothache, burning on palate.—25th. Same dose. After $\frac{1}{2}$ h. acute stitches in gall-bladder.—26th—28th. Very cold feet, much headache, especially towards e. and m., also n. Great prostration and laziness in all limbs.—1st—3rd March. As last report.—4th. Smelt at same dil.—4th—10th. Very cold feet, coldness of all body.—15th. Pain in throat, shooting in uvula, both sides rather red, very painful when swallowing, lasted all d. and was very painful, with rigor and deposit of viscid mucus, which could be detached.—17th. Coldness of all the body; icy cold, sweaty feet; icy coldness in stomach with borborygmus.—18th. As yesterday, borborygmus when stretching out abdomen. Before a meal frequent belching with cold feeling in stomach, the bowels feel tied up. Frequent fits of pinching pain in liver. Gall-bladder shooting as before, which is relieved by discharge of wind up or down. After unusual stool, a.m., of bright-coloured faeces in thin strips, looking almost like porridge, some drawing pain in r. side, just above hip; then extending up to ribs and down towards kidney, going off after discharge of flatus.—24th. Got chilled in church, so that he could scarcely get warm again. After dinner violent toothache in r. posterior upper molar. Thence the pain spreads to sinciput, and lastly enters head, cheeks and both rows of teeth on r. side; it goes off at n. in bed.—25th—28th. Severe coryza, sore throat, chest feels raw, head or teeth ache, especially after eating. As a rule had seldom good appetite, often insipid taste, sometimes nausea. Had usually 3 or 4 h. of good sleep at n., then frequent waking and restless tossing about. (*Ibid.*)

SILICA.

Silicic anhydride, SiO_2 . Pure flint, *silix*.

1. *Proving*s.—1. HAHNEMANN, *Chronic Diseases*, part v of original, vol. of translation. Contains 1193 symptoms, of which all but 150 (from 7 fellow-observers) are his own.

2. Took $\frac{1}{4}$ gr. pure, triturated Silica. Persistent cough (several months). Expectoration of thick purulent mucus, especially m. and a.m. He expectorates lumps of yellow mucus, causing the trachea and chest to feel sore. Great oppression of chest without pain, especially when walking, so that he must stand still every 4 or 5 steps. He frequently required to breathe deeply on account of the oppression of chest, but he can only do so by an effort. Perceptible emaciation of the whole body, at same time pallid ill-looking complexion with sensitiveness to the air. (KNORRE, *A. h. Z.*, vi, 37.)

3. From dust inhaled while triturating Sil. Scraping in throat, causing short cough and raw feeling in bronchial tubes, worst e. on going to bed and m. on waking (lasting 4 d.). Heaviness of head and full feeling, p.m. till n. (1st d.). Pressive pain in sinciput, especially in forehead and in eyes, increased by movement (2nd d.). For several d. uneasy dreams and even loud speaking in sleep. Tearing in both wrists and pain in l. middle finger, the finger appears to be somewhat swollen (after 4 d.). Small painful lumps on the inner surface of the 1st phalanx of middle finger like a ganglion in course of formation (after 6 d., went away after 8 d. spontaneously). (HENCKE, *A. h. Z.*, lv, 135.)

4. N. N.—, a soldier, æt. 25, took Jan. 19th, 7.30 a.m., 40 dr. 30th dil. At 8 a.m. vertigo, and vision so obscured that he could see nothing at 5 paces distant; throbbing tearing in l. shoulder. 8.30 a.m., tearing pain on lower posterior part of l. upper arm, lasting 6 m. 10 to 11 a.m., tearing pains in sinciput. Slight pains in abdomen for 2 h. 3 to 6 p.m., frequent urging to stool. From 2 to 5 p.m., very sleepy.—20th. Tension above eyes, limbs very tired.—21st, m., 40 dr. Slight vertigo, throbbing tearing in l. thigh. Until 11 a.m. frequent eructation, inodorous. Tearing worse in warm room and when sitting than when walking. From 3 to 9 p.m. severe headache, after which felt tired and sleepy.—23rd, 40 dr. From 9 to 11 a.m. vertigo, painful jerking tearing in head and pain in abdomen, relieved by discharge of flatus. From 1 to 9 p.m. very sleepy. 10 p.m., cramp pains in thighs and arms for 1 h.—30th, 1 a.m., 50 dr. 21st dil. After $\frac{1}{4}$ h. severe vertigo lasting 1 h., dimness of vision. After 1 h. on r. thigh above knee jerking for 2 h. 10 to 11 a.m., violent pains in abdomen. 2 to 5 p.m., persistent tearing in r. leg. From time of taking dose till noon some pains in sinciput, eyelids very heavy, sleepy, frightful dreams.—Feb. 1st, 50 dr. From 8 to 10 a.m. vertigo, weariness in lower limbs. After 11 a.m. urging to stool. Great drowsiness, disinclination for exertion, a stupefied feeling. 8.30 a.m., persistent tearing

in feet, lasting till 6 p.m.; it then went upwards and settled above knee, and lasted all n. till m. Two soft stools.—2nd, 6 a.m., the pain in thigh went into its posterior part. From 8 to 11 a.m. pricking sensation in sinciput. From 11 a.m. fever with great chilliness; the headache lasted till p.m. Stitches in both temples, head feels open. From 12 till 2 p.m. pressure in stomach as if a stone lay there. Two watery stools with tenesmus. 10 p.m., difficulty of getting to sleep.—3rd, 6.30 a.m., 10 dr. 17th dil. Pain in sinciput, vertigo till 9 a.m., then rheumatic tearing in l. thigh, and r. and l. forearms, lasting till 10.30 a.m. 11 a.m., same pain in back for a few m. Eyelids very heavy. Great weariness in arms and legs so that he could hardly walk or lift a pound weight. 11 to 11.30 a.m., sharp shooting in r. temple. 11.45 a.m., sharp shooting in l. iliac region. Tearing in l. foot for 3 or 4 m. Tearing in r. shoulder and r. wrist for a few m. Tearing in frontal region. From 11 a.m. till 3 p.m. slight pain in sinciput, vertigo, bitter taste. 12.15 p.m., shooting in back of r. upper arm for 10 m. 3 p.m., tearing in l. foot for 12 m. 3.45 p.m., rheumatic tearing in l. leg, l. forearm, and r. upper arm for 10 m. Severe tearing in wrist and fingers. 5 p.m., tearing in l. leg and thigh, in l. forearm and wrist for 10 m. From 7 till 9 p.m. headache, shooting tearing in sinciput; after this tearing in r. temple and after 10 m. in l. temple. Mouth dry and bitter taste and thirst, teeth loose, gums painful on pressure. Head confused and severe pain in sinciput. Disinclined to mental work, appetite bad.—4th, 2 a.m., rheumatic tearing in r. shoulder for $\frac{1}{4}$ h. 8 a.m., rheumatic tearing in sinciput and r. temple for $\frac{1}{2}$ h. 9 a.m., rheumatic tearing in r. leg for 6 m., it then went into shoulders, lasted 12 m., and then gradually went off. Limbs very weary, head heavy and confused, eyes very weak, memory impaired, low spirits. Bad appetite.—5th. Head somewhat confused, bitter taste.—6th, 7 a.m., 50 dr. 5th dil. 8 till 10 a.m., slight pains in belly. 10 a.m., vertigo, sight dim. Low spirits. Weariness in all limbs. Appetite bad for dinner. Febrile rigor from p.m. till 8.30 p.m. 1 p.m. till 9 p.m., pains in various parts of head, for 1 h. only in sinciput, then in whole head. 2 p.m., tearing in r. temple for 10 m. 2.30 p.m., tearing in occiput, for 15 m. 5 p.m., tearing in temples for 10 m. 2 p.m., tearing in r. shoulder for 15 m. Sharp stitches in l. side of chest at 3 p.m. for 15 m.; the pain then went into elbows and wrist for 6 m. 4 p.m., tearing in thigh for 10 m. 4.30 p.m., tearing in leg, ankle very painful for $\frac{1}{2}$ h. 7 p.m., sharp stitches in l. side of chest for $\frac{1}{2}$ h. 9 p.m., fell asleep, bad appetite.—7th, 7 a.m., 50 dr. Vertigo on rising. 7.30 a.m., pains in sinciput. 9 a.m., tearing in r. temple for $\frac{1}{2}$ h. 9.30 a.m., rheumatic tearing in occiput for 10 m. 10 till 11 a.m., colicky pains in belly, which is distended. 11 a.m., discharge of flatus with relief to colic. Great weariness in limbs. 11.30, tearing in r. thigh for 1 h.; thence the pains went into ankles. 1 p.m., tearing in r. forearm and wrist for $\frac{1}{2}$ h., it then went into elbow and finally into shoulder. Fever lasted till 7.30 p.m., after that all limbs felt paralysed. Bitter taste, inclination to vomit, violent eructations till 7 p.m. 5.30 p.m., tearing in r. temple, also in parietal bones, increased by stooping and moving. Little appetite. Gloomy humour, memory weakened.

—8th. Great cramp in limbs, slight vertigo, dimness of vision. (RUOFF, *Hygea*, viii, 1.)

5. O. R—, soldier, æt. 25, took Jan. 30th, at 4.30 p.m., 50 dr. 21st dil. After $\frac{1}{2}$ h. twitching in middle and anterior part of r. thigh for 20 m. Nausea, bitter taste, digging in belly, vertigo, drowsiness, and thirst.—Feb. 1st, same dose. Above symptoms. Severe burning in both feet for 8 m. Twitching pain in l. testicle. In e. pressure on chest. From 9 a.m. violent pains in forehead and tearing pains in sinciput.—2nd. Anxious dream about water.—3rd., 8 a.m., 100 dr. 17th dil. After $\frac{1}{2}$ h. digging and cutting pain in belly. Weariness of limbs, dazed head, tearing headache, bitter taste, bad appetite, thirst, dimness of vision. 3 p.m., twitching in r. shoulder-joint for 8 m. Febrile rigor. Hair feels as though it would fall off. 5.30 p.m., about 20 stitches in r. temple, and some palpitation of heart.—4th. Violent headache. Shooting and tearing in r. ear, then shooting and tearing in r. shoulder-joint. Stitches near l. ear, lips dry and chapped, appetite not good, sight weak.—5th. Stitches in l. temple, tearing in both eyelids for 15 m. 9.30 a.m., tearing in l. wrist, going thence to elbow and shoulder-joint. (*Ibid.*, 8.)

6. N. N—, a robust man, æt. 33, took, Feb. 18th, 100 dr. 24th dil. No symptoms.—20th, 70 dr., 23rd dil. Two soft stools.—23rd, 90 dr. 18th dil. Pressure in head, hoarseness, tongue feels sore.—24th. Feet tired. E., in l. side of throat swelling and tensive pain.—28th, 100 dr. No symptoms.—March 2nd, 100 dr. 12th dil. Chilliness and drowsiness after food.—3rd, same dose. No symptoms.—6th, 12 dr. 6th dil. Great itching all over body.—7th, 12 dr. 28th dil. Pressure in forehead. Tongue dry with sensation of pungent spice. Frequent discharge of flatus.—10th, 30 dr. 4th dil. Frontal pain, tongue dry.—13th, 70 dr. Backache, pressure in both temples, pains in chest.—14th. Headache on waking. (*Ibid.*, 9.)

7. E. N—, a girl, æt. 20, Feb. 18th, 10 dr., 24th dil. No symptoms.—19th, 24 dr. No symptoms.—20th, 30 dr. Stitches in various parts of l. side of body, chiefly in chest, increased by deep breathing. Pain in r. side of head, vertigo, weakness of wrists.—21st, 10 dr. Headache all d., sometimes shooting, sometimes pressive over forehead, going from one side to other. Very sensitive, weeping.—22nd, 30 dr. Shooting on l. side of head. At n. pains in chest. Sleep restless.—23rd, 30 dr. Pain as yesterday.—24th, 14 dr. Pain as yesterday, but worse on r. side of head and body, especially in r. hand; hot lips. Sleep at n. often disturbed.—25th. Same symptoms as yesterday, except in arms. Headache more pressive.—27th, 50 dr. 18th dil. No symptoms.—28th, 15 dr. After 1 h. painful contraction in r. calf, soon going off. Pains in ball of r. foot, pressure and heaviness in brain. Noon, 15 dr. Symptoms of m. repeated.—March 1st, 50 dr. Drawing and shooting pain in feet and legs. Burning on dorsum of r. foot. Yesterday's symptoms repeated.—4th, 50 dr. 12th dil. No symptoms.—5th, 30 dr. Tearing in head from one eye to other. Shooting in r. fingers, restless sleep, little appetite, cross humour.—20th, 40 dr. No symptoms.—25th, 30 dr. Tearing pains in feet and legs increased by walking, nausea and pressure in stomach. Noon, pain, with cramp-like contrac-

tion of l. calf.—27th, 30 dr. 9th dil. Contraction in chest for a short time.—28th, 109 dr. No symptoms.—31st, 70 dr. Pressure in stomach, headache as before. Very low spirits. Internal uneasiness and excitement.—April 16th, 70 dr. 4th dil. No symptoms.—17th, 95 dr. No symptoms for the first few d. After 6 d. burning in throat and chest, hoarseness, especially m., so that she could hardly speak aloud. Rough cough.—25th. Great weariness, hoarseness.—May 12th. The hoarseness and chest pains continue, are worst m. and e. Cough slight. Sensitiveness of hands, when squeezed has violent pains in them; they are always very cold.—30th, 1 gr. 3rd trit. No symptoms.—June 3rd, same dose. Hoarseness and chest pains gone. White scaly itching eruption on face and neck.—5th, 1 gr. 2nd trit. Symptoms as before.—8th, 1 gr. 1st trit. The eruption continues and smarts.—14th. Eruption goes off gradually.—July 2nd, 100 dr. 4th dil. No symptoms.—4th. Hoarse voice, cough with shooting in throat.—10th, 3 dr. Spir. Sil. in 100 dr. alcohol. After 6 h. hoarseness. In e. burning and shooting in throat, especially when yawning and swallowing.—11th. Hoarseness continues, throat feels swollen and painful.—12th. Great tickling in throat causing cough. (*Ibid.*, 11.)

8. Dr. C. C.—, æt. 40, Feb. 19th, 12 dr. 24th dil. Immediate tension in maxillary joint, transient.—20th, 15 dr. 23rd dil. At ¼ h. pain in dorsum of nose as if he had had a blow there. Pain ankle-joint. Pressive pain in occiput as if in bone. Pinching in belly urging to stool, which is copious and soft. Stupid feeling in head. Transient loss of senses. Roaring in ears, hardness of hearing sudden coming and going.—23rd, 10 dr. 18th dil. Immediately heaviness brain.—26th. Pain in sacrum after stooping. Irritability of nervous system. Cross and low spirited.—28th. Low spirits continue, easily excited to anger. Stiffness and pain in sacrum on rising from seat cutting in belly, cramp pain above hypochondria, through to back especially on moving.—March 1st. At n. dreamt of earthquake and violent storms, of downpour of rain and fiery appearances. The depression of spirits continues. Discomfort after eating. Pain in feet as if in bones from middle of leg down to ankle-joints and dorsum of feet, worst when standing and walking, causing restlessness. Two h. after eating urging to stool, which is copious.—2nd. After drinking beer restless, and pain like chilly tension in feet. On waking, n., restlessness, drawing and tension from nates to feet. (*Ibid.*, 17.)

9. Ad. Z.—, æt. 8, took several doses of 30th and 21st dil. without much effect. The symptoms were mostly undefined pains in various parts of limbs and head. (*Ibid.*, 97.)

10. a. M.—, trumpeter, æt. 23, Feb. 9th, 7 a.m., 200 dr. 25th dil. 7.30, vertigo, then heat in head, followed by perspiration and exhaustion, pale face. After dinner constrictive feeling about navel. Stool soft. P.m., digging feeling about navel.—12th, 100 dr. 13th dil. Vertigo, great exhaustion. Objects appear to be turning round.—13th, 25 dr. 6th dil. After 1½ h. pressive feeling about navel, then distension with discharge of much flatus, then vertigo, lastly heat of head. 11 a.m., weariness, dry lips.—14th, 6 a.m., 2 gr. 3rd trit. After 1 h. heat of head, then smarting in arms. 1.30 p.m., same dose. Head-

ache, sweat all over body. Smarting in arms and thighs and headache. 3.30 p.m., feels exhausted in limbs.—15th, 6.30 a.m., 2 gr. 2nd trit. 8 a.m., loathing, retching, then headache, pale face followed by heat. 9 a.m., sweat on head and smarting in limbs.—16th, 6.30 a.m., 3 gr. 3rd trit. 9 a.m., heat, griping, smarting in arms, some coryza.—18th, 3 gr. 1st trit. Only felt itching.

b. May 9th, 2 gr. 3rd trit. 10 a.m., hand felt tired, slight pains in belly, then inclination to vomit, stool softer than usual.—10th, 6.30 a.m., 3 gr. 3rd trit. 9.30 a.m., severe headache, then contractive pain in umbilical region, sometimes stitches under hypochondria, six watery stools up to noon, much flatus with stools.—17th, 3 gr. 2nd trit. Slight movement in bowels. 1.30 p.m., griping in umbilical region, stitches below l. hypochondrium for $\frac{1}{2}$ h., sweat broke out at first on both sides of spine, then the whole upper part of body became warm, then sweat broke out on face, especially forehead, tearing in r. side of head from occiput upwards and forwards, lasting till 3 p.m., drowsiness and frequent yawning. 5 p.m., drank a glass of beer; he then had a rigor which went off gradually towards n. After going to bed severe cough with difficult expectoration of thick yellow lumps of mucus, a scrapy feeling low down in throat. Slept after 12. Next m. short cough with easy expectoration.—18th, 7.45 a.m., 2 gr. 2nd trit. 10.30 a.m., vertigo, objects appear to whirl round in a circle, tearing in whole head from the occipital protuberance through both sides to front and crown, lasted $\frac{3}{4}$ h. After food great movement in bowels, pains in abdomen, four watery stools in rapid succession, with discharge of flatus and relief to pains for a short while. Next m. cough and expectoration with scraping in pit of throat.—20th, 6.30 a.m., 2 gr. 1st trit. 10 a.m., vertigo and tearing and shooting above eyes, so that he must shut down eyelids, head confused, dazed; headache all over head for 1 h. During dinner violent epistaxis from r. nostril for $\frac{1}{4}$ h., the blood, which was copious, was dark red; this relieved the headache. During his music practice he became weak in knees, so that he could not remain standing. The weakness extended to middle of thigh. On passing urine a burning pain, which was equally severe during whole act of passing water, and lasted all d. and next d., but not so severely. Urine red. The m. cough continued for some days. (*Ibid.*, 99.)

11. G. W—, performer in a regimental band, æt. 28. Feb. 9th, 7 a.m., 200 dr. 25th dil. Headache, slight cough, some stitches in chest. 10 a.m. weakness of all limbs so that he could scarcely walk. Great tearing in wrist for 2 h. The headache lasted all d. with vertigo, so that he must lie down. Cough that left off at 11 a.m.—12th, m., 100 dr. 13th dil. Soon pressive pain above eyelids, so that he can hardly keep eyes open, lasted till 9 a.m. Shooting appeared first in l. side of forehead, then extended as pressive pain to r. side and above upper eyelids, pain increased by opening eyes. 9.30 a.m., shooting pain about navel on breathing deeply, lasting till 10.30 a.m. 10.45 a.m., 25 dr. 6th dil. Pains in eyes as if they were drawn out. Headache increased, with nausea and inclination to vomit. Vertigo, rumbling in belly, movement in bowels, stitch in both iliac regions, flow of water into mouth and eructation, shooting in chest first in r. side then in l. only

when breathing deeply. 11.15 a.m., tearing in both arms commencing in shoulders and extending to wrists. The pain in middle of forehead increases. The vertigo and headache worse when sitting than when walking. The salivation lasted till 11.45 a.m., the nausea continued for some time. Noon, anxiety in chest. The tearing lasts till 2 p.m. Little appetite, weakness in thighs, discharge of flatus. 5 p.m., 5 dr. 5th dil. 6 p.m., headache over eyes recurred so severely that he could hardly see. Inclination to vomit, tearing in shoulders and wrists cannot lift anything. 6.30 p.m., great weakness of thighs, so that he can hardly walk. Tearing pains in ankle-joints which go off when he lies down.—13th, 6 a.m., 100 dr. 4th dil. 8 a.m., severe headache and weakness of limbs. 10 till 11 a.m., stitches in short ribs and in elbows and wrists. 2 p.m., tightness of chest. During n. following symptoms: After being in bed $\frac{1}{2}$ h. pains in shoulders and arms to wrist, then from hip-joint to ankle. The pains in shoulders and arms tearing, in legs throbbing like that of a whitlow. The pains lasted till 4 a.m. Restless sleep, occasional shootings in knees. In the early part of n. vertigo, belly distended, tense, pressive sensation, tongue furred, dry cough shortly before going to sleep, then increasing. No appetite.—14th, 6 a.m., 2 gr. 3rd trit. After 6 m. rumbling in belly, which is distended and hard. 6.30 a.m., pain in middle of forehead. 8.30 a.m., same dose, weakness in limbs. 6 p.m., 2 gr. 2nd trit. 7.30 a.m., stitch in l. side of forehead, then pressive tensile pain in r. side. Rumbling and constrictive pain in belly, which is distended; discharge of flatus relieves these symptoms. Since the day before yesterday every n. when he lies on l. side vertigo as if the bed turned round. For 3 d. in e. smarting on thighs and arms, worse in bed.—15th, 8.30 a.m., 2 gr. 2nd trit. Headache and weakness. 1.30 p.m., same dose. 3 p.m., very violent headache, tearing pains combined with violent shooting. The tearing pains spread over temple with stitch in l. ear. The shooting pains went from l. ear to root of nose, causing a stitch there. Stitch in l. shoulder, then tearing pains in r. hip-joint along outer side of thigh to knee, when there came a stitch, the shooting pains went off when sitting and returned when moving; the pain in knee lasted 8 m. He could not walk on account of stiffness of knees. After $\frac{1}{2}$ h. shooting and tension on second phalanx of l. fingers. Little appetite. He vomits when he eats anything warm. Since 8 p.m. the smarting on thighs recurs. Stuffed coryza.—16th, 3 gr. 3rd trit., in 200 dr. in alcohol. Took the half of this at 2.30 a.m., the other half at 6 a.m. 11.30 a.m., smarting increasing till 5 p.m. 2 p.m., vertigo, weakness of limbs. 4 p.m., some stitches in ears. 8 p.m., loose stool.—17th, 3 a.m., 2 gr. 2nd trit. 10 a.m., trembling in wrist. 1 p.m., transient vertigo. 3.15 p.m., smarting on inner and posterior side of thighs. On chest small, red spots the size of a lentil, raised above skin and smarting, also in axilla. Nose impermeable to air. Very great appetite for bread, none for warm food. Immediately after eating appetite and thirst all forenoon.—18th, 2 a.m., 3 gr. 1st trit. After 4 a.m., griping in belly, constrictive pains about navel, sometimes stitches there. Belly distended. The pains continue till he gets a stool, which passes with flatus and is thin. 5 a.m., lay down again; wants to

sleep but cannot, because the nose is so stopped up he cannot breathe through it. 11 a.m., violent cough for 3 or 4 m., so that water runs out of eyes.—19th. Cough slight during d., is worse at 4 p.m.—20th. After laughing has a violent cough; with every cough stitches under angle of scapula and in middle of sternum. Repeated fits of coughing about noon. The cough lasted some d., is worst m., with stitches in chest about centre of sternum. Stitches in middle of sternum on drawing a deep breath. The morning cough is accompanied by thick yellow expectoration. All d. the cough is slight and dry, it comes on when he gets up from bed. After 9 p.m. till bedtime, cough lasting $\frac{1}{2}$ h. Very stuffed nose, cannot breathe through it. Severe smarting on other side of thighs, where there is an eruption.—28th. For 2 or 3 d. hardness of hearing in r. ear, occasional tinnitus, persistent coryza, great discharge of thick whitish mucus from nose, which is, however, always stopped up. Smarting on thighs, where there are papules with red areola, that itch much in e. and in bed. Cough with thick yellowish expectoration, worst in m. in rising. Cannot sleep well because he cannot breathe through nose.—May 9th, 200 dr., 4th dil. Rumbling in belly; flatulence, causing shootings in sacrum. Loose stool at 4.30 and 6.15 a.m.—10th, 3 gr., 3rd trit. Pains in abdomen. Went to bed at 9 p.m., and had a severe attack of vertigo when he lay on his l. side. Loose stool.—17th, 8.30 a.m., 3 gr. 2nd trit. Inclination to vomit after $\frac{1}{2}$ h., and severe eructation lasting till noon. Then weakness of extremities, great drowsiness all d. (*Ibid.*, 103.)

12. J. Ph. W—, soldier, æt. 29. May 8th, 7.45 a.m., 100 dr., 25th dil. 9 a.m., humming and tearing above eyes towards crown and temples.—9th, 5 a.m., same dose. Same headache as yesterday. 10 a.m., pain in belly increasing till noon. The bowels feel as if shaken up together, with a gurgling sound here and there, and 3 watery stools.—10th, 6 a.m., 3 dr., 6th dil. Symptoms as yesterday, but head less involved. Diarrhœa only twice. No inclination for mental work. Head dazed.—17th, 5 a.m., 3 dr., 16th dil. 8 a.m., pain in temples across forehead into vertex, worst in forehead, a feeling of twitching in vertex like electric sparks.—22nd, 8 a.m., 6 dr. Spirit. Sil. (R.*). 10 a.m., tearing headache, especially severe in r. temple to vertex; it feels as if the scalp were pulled down. 11 a.m., full feeling in belly, mostly in umbilical region, as if the bowels were tossed to and fro, causing discharge of malodorous flatus, abdomen somewhat distended.—23rd. The humming and tearing in head recurred.—27th, 6 a.m., 18 dr. Sp. Sil. 9 a.m., same sensations in head and abdomen.—28th, 5 a.m., 18 dr. Recurrence of head, but not of the abdominal symptoms.—29th, 24 dr. 9 a.m., rumbling in bowels. Head rather more severely affected.—31st, 5 a.m., 30 dr. Head symptoms as before.—June 1st, 6 a.m., 36 dr. Headache as before.—July 4th, 5.30 a.m., 1 gr., 3rd trit. Dull pain in forehead and temples, occasionally tearing in forehead. (*Ibid.*, 109.)

* The Sp. Sil. was prepared in two different ways. That marked "R." was made with 9 gr. of Sil. made from silver sand to 6 drachms alcohol. That marked "L." was made with 2 gr. Sil. prepared according to Hahnemann's directions to $1\frac{1}{2}$ drachm alcohol.

13. Pastor F—, æt. 30, tried various dilutions from 30th downwards without result. It was only when he came to the 4th dil. that symptoms appeared. July 14th, 5 a.m., 30 dr., 4th dil. Severe palpitation of heart at every movement, a.m. and p.m. This lasted next d.—17th, 5 a.m., 85 dr., 4th dil. No symptoms, except that expectoration of mucus which he had long had ceased.—18th. Palpitation e., and some transient stitches on r. side of chest.—19th. Dry feeling deep down in throat from 8 a.m. till 9 p.m. Very restless sleep. From 10 a.m. constant twitching of r. eyelid.—22nd., 1 gr., 3rd tr.—23rd. From 7 p.m. till bedtime very agitating palpitation of heart and ebullition of blood in whole body. Slept uneasily till 11 p.m., when he had a copious loose stool with much straining, after that slept well.—23rd., 1 p.m., recurrence of palpitation from 7 to 9 p.m.—26th. Same dose. From 5 to 6 p.m. agitating palpitation when at rest and when moving, worst when standing.—27th. From 4.30 to 7 p.m. same kind of palpitation.—28th. M., when sneezing metallic taste up throat.—29th. 1 p.m., severe palpitation till e.—29th. Woke last n. with vertigo worst on rising up and stooping, lasted 2 d., but ceased during dinner.—August 1st. Still some vertigo. (This prover had never before suffered from palpitation.) (*Ibid.*, 193.)

14. C. Z—, a girl, æt. 17. Has several enlarged cervical glands, one of which had suppurated and discharged pus some years previously. After taking 2 doses of the 21st dil. the gland recommenced to discharge yellow matter. This continued while trying other dilutions, viz. 12th, 4th, and 1st. While taking the 4th dil. she got a cough with scraping in throat and mucous expectoration, chiefly m. The cough lasted about a fortnight, the discharge from the gland for over a month. No other noteworthy symptoms were observed. (*Ibid.*, 198.)

15. F. X—, æt. 27, took from July 7th to 27th repeated doses of the Sp. Sil. (L. and R.) without noteworthy symptoms.—28th, 7 a.m., 18 dr. Sp. Sil. (L.). 7.30 a.m., pain betwixt drawing and shooting in upper part of thigh just below inguinal band. 7.45 a.m., frequent pricking pains in upper and anterior part of l. upper arm, frequently repeated during a.m. (He had previously had rheumatic pain in r. arm.) Prickling in tip of l. index. Painful feeling in l. calf. Occasional cough from irritation in throat.—29th. When writing, a.m., must often lay down pen owing to paralysed feeling of r. hand.—31st. Penetrating shooting pain in l. eye.—August 1st, 6 a.m., 20 dr. 8 a.m., itching in nose. Frequent dry cough. Pricking pain in r. shoulder. Coughed frequently p.m. from irritation in throat.—2nd. Cough continues, more severe than yesterday. The urine passed, m., has a reddish-brown sandy sediment.—3rd. Frequent drawing and shooting pain in thigh. The cough this m. brought up a greyish lump, easily detached. This recurred every m. for the next few d. Frequent cough during d., but without expectoration. Stitches in lower part of forearm. Sudden dart of pain through l. eye.—4th. Woke early. Irritation in throat causing cough, which comes from deeper down than before; the abdominal muscles are now engaged in it. Frequent shooting pain in shoulder. Occasional tearing in middle of tibia. Cough several times in d., shaking abdomen. 10 p.m., 16 dr.—5th.

Cough continues worst in m.—6th, m. Erections. Occasional painful drawing in forearm and lower part of tibia. Cough very fatiguing, no expectoration. Tearing in wrist and upper part of forearm, repeatedly recurring, and lasting on and off all p.m.; the pain is sometimes shooting. Shooting pain in thumb. Cough worse in e. Tinnitus aurium, pain in hip. Shoots in r. wrist when writing. Tearing in thigh.—7th. Frequent pains in limbs, especially on l. side, and there principally in knee (drawing pain) and forearm. Drawing pain in lower part of l. upper arm, and lower and upper part of l. ulna, frequently recurring a.m. Sudden stitches in l. radius near elbow. Frequent shooting and tearing and sometimes drawing in upper part of forearm, a.m. Trembling of l. arm. Tearing in r. thumb at wrist. On l. thigh feeling as if a blister were under epidermis and suddenly burst. Tearing in distal joint of r. middle finger, which trembles for a short time. The same feeling of a bursting blister in r. thigh. Noon, shooting pains in r. thigh. Drawing pain in lower part of l. thigh. In flexor side of l. elbow feeling of a rising and then bursting blister. Stitches in l. knee. Drawing pain in middle of ulna. Frequent drawing tearing pains in l. forearm; these pains are sometimes contractive; they are situated nearer the wrist, whereas they were nearer elbow a.m. Shoot in upper part of r. thigh. Feeling of a bursting blister in r. thigh. Frequent violent tearing in wrist. Drawing tearing in tibia frequently recurring. Shooting pain in r. little finger. 7 p.m., frequent dry cough. Drawing and shooting in r. thigh. Repeated violent pain in lower and inner part of l. upper arm. Tensive pain in knee when walking. Twitching pain in thigh. Tearing in l. thigh. Drawing in l. little finger. Frequent pains in lower parts of l. upper arm.—8th. Drawing in tarsal joint of l. foot, frequently. Pulsating feeling in both legs. Shooting, drawing pressive pains in l. knee. Pulsation in ulnar artery. Shooting in l. thigh. Drawing in l. forearm. Shooting and drawing pain in l. upper arm. On rising up a shooting in os coccygeum, which is painful to pressure. During n. tearing pains in l. leg. Shooting, tearing and drawing pains in l. knee. Tearing in l. ulna near elbow. Momentary pressive pain in forehead. Frequent pulsating sensation in l. leg. Drawing in sole. Shooting in r. thigh. Pricking in distal phalanx of thumb. Drawing in shoulder. Pulsating feeling in r. thigh. Cough in m. violent but dry. Shooting pains in r. forearm and in posterior part of thigh. Drawing and tearing in l. wrist. Stitches through r. knee. Prickling in ball of r. hand. Stitches in r. wrist. Trembling when writing. Cutting feeling in r. eye. Stitches through genitals repeatedly. Stitches through r. elbow. Tearing pains in r. middle finger. Stitches in l. ear and on lower part of back. The pains last all p.m. (*Ibid.*, 204.)

16. L. S.—soldier, æt. 22, took several doses of 16th and 12th dil. without noteworthy effect. July 3rd, 1 gr., 3rd trit. 6 a.m., violent shooting in r. reg. mesogastrica till 8 a.m., with flatulent distension, vertigo, dim vision, mist and flickering before eyes. From 2 to 3 p.m. erratic pains in whole forehead. Violent tearing in head as if the forehead would be torn asunder.—11th, 7 a.m., 1 gr., 3rd trit. Drawing pains which he describes as bone pains, which commence in knees, go up

outer side of both thighs to hips as if a string were drawn through it. When walking the calf is tense as though he would have cramp in it. From 1 to 4 p.m. pains here and there.—12th. From 8 to 8-30 shooting pains in knees; p.m. they went into arms. His limbs are weak, prostrated, he is drowsy.—13th. 9 a.m., calves tense and contracted.—17th, 24 dr. Sp. Sil. (R.). 8.30 p.m., heat in head as if a flame of fire issued out of mouth.—18th. From 2 to 4 p.m. shooting deep in knee-joint when walking, not when sitting. Though he took some more of this preparation and of the 1st trit., he experienced effects, except that after the last dose, which he took at 6.30 a.m., had at 9 a.m. shooting in lower part of back extending sideways and upwards, and was pretty severe. (*Ibid.*, 330.)

17. (No information.) She is ill-humoured and peevish, a.m. (6th d.); vert all d. while stooping at work (1st d.); vertigo to falling, on rising from bed (4th 6th d.); headache which seems to come from stomach, weight in forehead with pain tearing that seemed to draw head sideways (10th d.); frequent sudden tearing head, e. in bed (3rd d.); dull stitches, sometimes like tearings, in whole head, m frequently in r. frontal eminence, 11 a.m. (5th d.); some fine stitches in r. forehead while stooping, 9 a.m. (2nd d.); ebullition of blood in head and burning of red face 4 p.m. (3rd d.); both eyes agglutinated with mucus in m. (2nd d.); hearing of ears stopped for a short time, p.m. (2nd d.); fine tearing under and behind r. ear p.m. (5th d.); two painful tearings in l. cheek extending upwards, during men a.m. (10th d.); she is very pale, as after a long illness, for several d. (3rd d.). T painful jerks in r. upper back teeth (1st d.); on early waking, slimy in mouth a qualmish at stomach (7th d.); everything tastes bitter, even water, for several (3rd d.); bitterness in mouth after rising in m. (3rd d.); she eats very little, everything disgusts her immediately; loss of appetite with clean tongue (4th—6th d. violent thirst, without longing for drink, even during the chill (3rd and 4th d. eructations after each meal with taste of ingesta, for several d.; immediately after eating, nausea even to vomiting, she scarcely dared to eat thin soup; she vomited food, 9 a.m. (4th d.); during supper, nausea at stomach and discomfort over whole body, so that she was obliged to lie down, after which she felt better (7th d. nausea with painfulness in epigastric region and ineffectual inclination to eructate, a (7th d.); pressure and nausea at stomach, with disgust for all food, e. (3rd d.); contractive feeling in region of stomach, not very painful, but frequent, and followed by soft stool, a.m. (5th d.); some sharp, very fine (burning) stitches in hypochondrium, p.m. (5th d.); while sitting, a very violent dull stitch in r. hypochondrium, going through abdominal cavity and out at opposite side, at same time violent pain in scrob. cordis, going off on bending forward, 2.30 p.m. (5th d.); pain like pinching about navel and then in whole abdomen, as during menses, with (after urination) emission of much watery leucorrhœa (4th d.); cutting and gripping about navel, 9.30 a.m. (1st d.); after midnight and during forenoon, pain with cutting about navel and urging to stool, going and returning frequently; very restless n. fr cutting pains in abdomen, which only remit for a short time (3rd d.);* violent transient tearing in both groins, e. (5th d.); constant but ineffectual urging to stool e. (1st d.); constipation for 3 d. (3rd d.); stool consisting of hard lumps, only evacuated with great effort, 6 p.m.; very sluggish, knotty stool, like flints, also requiring much straining (3rd d.); daily stool, very sluggish, with burning in an p.m. (5th d.); stool always sluggish, even after 10 d.; soft stool preceded by moments in abdomen (1½ h.); shootings in anus; constant urging to micturate for 3 urine passed guttatum only, with severe burning pain in urethra† (14th d.); frequent scanty emission of urine without pain (5th d.); scanty urine with burning in passage p.m. (5th d.); did not rise to urinate at n. as usual (1st d.). The expected menses

* The abdominal pains were relieved by warm applications; after olfaction of hepar sulphuris, they went off in ½ h., followed later by the gastric troubles and the tearing in limbs; as they remitted, there was audible rumbling of flatulence.

† Relieved by canth., after camphor and hepar had failed to mitigate.

do not appear; menses delayed 5 d., without other symptoms; catamenia continue 5 d. only instead of 10—14 as usual, very scanty but painless; leucorrhœa in e. (6th d.). Frequent sneezing, p.m. and a.m. following (5th d.); obstructed nostrils with thick voice (1½ h.); roughness in throat, urging to cough, after dinner (1st d.); dry cough, causing frequent waking at n., and returning several times in d. (4th d.); dry cough with painfulness of upper sternum after waking in m. (6th d.). Sharp stitches behind and under l. breast during dinner (1st d.); painful stitch under l. breast during expiration, 2 p.m. (8th d.); she cannot lie on l. side for continual shooting there, for 3 d. (3rd d.); pinching pain in r. neck for ½ h., going off on laying hand upon place, but soon returning, 9 a.m. (5th d.); some strong tearings in middle of neck, 10 a.m. (1st d.); a very painful stitch in sacral region, making her cry out (1st d.); a painful tearing in middle of r. upper arm, as if in marrow of bone, 9 a.m. (1st d.); tearing in skin of posterior aspect of r. upper arm, and at same time in l. calf (4th d.); fine stitch deep in middle joint of r. ring finger on inner side, while on outer surface there is burning pain, 9 a.m. (1st d.); tearing now here, now there, in whole l. leg, 11 a.m.; tearing in l. thigh above knee, to and fro, as if in marrow, later in knee,—when it was very bad she found that standing relieved it (1 h.); violent tearing in l. calf, towards ham, during chill, then came pain in l. axilla also,—e. in bed (3rd d.); tearing shootings in l. foot and heel, causing shuddering, lasting 5 seconds, then also in r. axilla, so that he must hang arm down, 10 a.m. (1st d.); fine tearing in middle of r. sole towards inner border, with tension externally, twice, a.m. (5th d.); tearing in ball of r. great toe several times, 11 a.m. (1st d.). Whole side on which she lies sore and painful, with constant chilliness on slightest uncovering, intolerable thirst and frequent flashes of heat in head (2nd d.); all limbs feel bruised, she cannot lie long in one position for pain, lasting 4 d. (2nd d.); sensation as if whole body had been broken, she could not keep out of her bed for weakness for 3 d. (3rd d., in another case, for 5 d.); she became extremely emaciated during her 5 d. illness. Voluptuous itching about nose, compelling constant rubbing, e. (3rd d.); after lying down at n., itching and biting over whole body, unrelieved by scratching, for ¼ h. (1st d.); itching pimples on l. side of nose (5th d.); a scarcely perceptible pimple at outside corner of mouth, with ulcerative pain (6th d.). Very sleepy at 7 p.m., she had to go to bed at 8, and slept soundly (1st d.); she woke at 2 a.m., and could not get to sleep again (7th d.); complete sleeplessness for 8—10 d., even after she had lost all her pains (2nd d.). Very chilly in a heated room, without thirst, the whole forenoon (3rd d.). She dared not put hand out of bed on account of the chilliness that followed, whole n. and following d. (3rd d.); rigor, she was obliged to go to bed and for a long time could not get warm there, 6 p.m. (3rd d.); painful shootings behind l. breast, during chill, the whole n. from e. and the following d. (3rd d.). (HARTLAUB u. TRINKS, *Arznei-mittellehre*, iii, 218. These symptoms are probably Nenning's.)

18. Loss of appetite; pale, suffering expression; perspiration every m., sometimes profuse; heaviness and weariness in legs, frequently obliging her to lie down; nausea; chilliness every e. before going to sleep; stitches now and then in sides of chest, in abdomen, in limbs, at times so violent that she started up in fright; pain under sternum during inspiration; itching on arms and legs, with small pimples there. He very readily takes cold. Small wounds in skin heal with difficulty and readily suppurate. Sudden crawlings as from fleas, at several parts of body, that became fixed at certain points, and then became most intolerable itching; this lasted all d., but was especially bad in e. while undressing. Red, itching, raised tettery spots on chin. Raised scabby spots on coccyx. (HARTLAUB, in *Ibid.*)

19. Dr. BECKER proved an "aqua silicata," in which the flint was rendered soluble by Berzelius's method (from fluor spar and quartz sand). It was found to contain $\frac{1}{1000}$, and so be about equal to the second homœopathic dil. He was 55; the few teeth he had left were bad,—loose and readily painful; he had difficulty in getting to sleep, and could not do so on l. side on peril of nightmare; bowels were costive. He took 10—20 dr. on most evenings for 10 d. It seemed to make the teeth firmer, sleep easier (on one n. he slept on l. side with impunity), and bowels more free. All 9th and two following d. he was chilly; from 11th to 13th d. there was free flow of saliva; and on 14th and 15th d. he was ravenously hungry. (*Hygea*, xxii, part 5.)

20. Mr. H. ROBINSON gave doses of 30th, 200th, and 1000th dil. to 4 men, 9

women, and a child ; and all report symptoms from drug. Nothing, however, is said of their state of health, and they were probably patients under Mr. Robinson's care. Under these circumstances we must content ourselves with a reference to his communication. (*Brit. Journ. of Hom.*, xxv, 333.)

SPIGELIA.

Spigelia anthelmia, L. Demerara pink-root ; worm-grass. (The *Spigelia marilandica*, Indian pink-root, has also been employed.) Nat. Ord., *Loganiaceæ*.

I. *Proving*s.—1. HAHNEMANN, *Mat. Med. Pur.*, vol. v of original, vol. ii of translation. Contains 130 symptoms from self, 525 from 13 fellow-provers, and 17 from authors.

2. (No information as to dose, &c.) In bed, m., but more after rising, a pressive pain in r. side of head, involving r. eye ; it is deeply seated, and is aggravated by movement ; on turning head quickly the brain seemed to waggle ; every shock, every step, also severe pressing at stool, increased or caused this headache. Some confusion of head, especially on r. side. Slight burning on *alæ nasi*, making him rub them, which does not relieve it. Simple pain in l. molars. After 2 h. a diarrhœic stool. Fluent coryza. On treading acute pain in l. ankle-joint, m. (*HELBIG, Heraklides*, i, 59.)

3. At 7.20 p.m., pulse 77, Dr. SHARP took 1 dr. of 1st dil. Pulse after 1 m. was 76, 4 m. 75, 8 m. 78, 10—20 m. 77 again. At 7.40 took another dr. Pulse after 2 m. 79, 5 m. 78, and was found at this rate 10, 15, and 20 m. later. A third dr. was then taken. Pulse after 2 m. was 80, after 10 m. 82, 15 m. 84, 20 m. 80, thence gradually falling to 77. At 5 m. he was surprised to feel breathing slow and deep, and found it 10 only. At 5 m. it had fallen to 8 and at 15 m. to 6 : at 20 m. it was 8, at 25 m. 10, at 30 m. 14 (no longer deep), at 35 m. 16, and at 60 m. 17 (its natural rate). A shoot of pain through forehead was also felt. (*Essays in Medicine*, p. 721.)

II. *Poisonings*.—1. Dr. THOMSON took large doses of root of *Sp. mar.* It caused drowsiness, acceleration of pulse, flushed face, and sensation of stiffness of eyelids. On patients he noticed no other ill effects beside slight giddiness, dilated pupils, and dimness of sight. (*EBERLE, Mat. Med.*, i, 201.)

2. Same gave to a boy of 6 large and frequent doses of a strong decoction of root. He was suddenly affected with complete mental derangement, like that of stramonium ; he distorted his countenance into a variety of shapes, had alternate fits of laughing and crying, and ran and skipped about the room incessantly ; pupils were greatly dilated, talk wild and incoherent : symptoms lasted 24 h. (*Ibid.*)

3. A girl of 4 took 3 doses of infusion for worms. It caused a peculiar wild staring expression of eyes, giving countenance a singular and ludicrous appearance ; pupils were greatly dilated, and there was strabismus of r. eye ; face, especially about eyes, including lids, was much swollen ; tongue pointed and tremulous ; pulse 110 and irregular ; skin hot and dry. On attempting to assume erect position patient would be seized with a general tremor, which would pass off in a few seconds, leaving her apparently quite exhausted. (*SPALSBURY, Bost. Med. and Surg. Journ.*, lii, 72.)

SPIRÆA.

Spiræa ulmaria, L. Queen of the meadows. Nat. Ord., *Rosaceæ*.

I. *Provings*.—1st d., 5 and 6 a.m., 2 dr. tinct. of root; 8 a.m., 4 dr. 1, 5, 8 p.m., 5 dr. No symptoms during d. Long of falling asleep at n., with restlessness, frequent waking and tossing about, nonsensical dreams, not remembered on waking.—2nd d., 7, 10 a.m., 5, 9.30 p.m., 8 dr. After the first dose warm feeling in gullet throughout the whole œsophagus to scrob. cordis, where it is concentrated. Burning sensation of heat in a small spot beneath ensiform cartilage, as though he had swallowed something acrid or hot. After the 3rd dose, e., this feeling became more marked, was almost like heartburn. The urine passed yesterday e. became turbid as if mixed with clay; it has a fine skin on its surface, which looks like grease, and breaks up on agitating the fluid. The colour of the urine is bright yellow, nearly straw-coloured.—3rd d., 5, 7 a.m., 4.30, 8 p.m., 10 dr. One h. after passing urine it shows a flocculent cloud suspended at top of fluid, which after 2 h. sinks to the bottom of the vessel. The feeling of heat is to-day less in stomach than œsophagus, in the region of the manubrium sterni, and is more burning, worse after every dose. In the interval from one dose to another this feeling sometimes diminishes so as to be hardly noticeable, but returns immediately after the dose.—4th d., 6, 7, 10 a.m., 4.30, 8 p.m., 12 dr. The urine passed yesterday turbid, cloudy, as if mixed with clay; on its surface an iridescent skin, on which are scattered reddish grains, which when collected have the appearance of sand, and give out a crepitating noise when crushed with a knife, and then form a brick-red powder. The urine passed this m. is brighter than yesterday's, but has the same cloud. The urine soon after being passed turns like whey, and after some h. deposits a bright, flocculent sediment, which when collected on a filter is slimy and of rose-red colour mixed with a number of red sand grains. Part of this was put into a tube and mixed with nitr. ac., which dissolved the slime with evolution of inodorous froth, the fluid became bright yellow, the sand grains fell to the bottom unaltered. Another portion of this slime was mixed in a glass tube with sulph. ac.; this dissolved the slime and the sand grains completely, and the fluid became of a dark brown colour, no froth was developed, but the fluid soon began to smell like putrid urine. A third portion was mixed with hydrochl. ac., but no change was observed. Symptoms were the same as yesterday.—5th d., 6, 7.45, 10 a.m., 5, 8 p.m., 20 dr. The urine passed to-day is brighter than yesterday's, and before growing cold, a cloud is formed at upper part. In addition to the burning feeling in the œsophagus at the level of the manubrium sterni observed every d. there is now a pressive feeling just like that which is felt when too big a morsel is swallowed, e. g. too big a lump of hard-boiled egg. Two stools, instead of the usual one; that passed m. is unsatisfactory, the fæces are not hard but lumpy, in balls like hare's droppings, and of normal colour. The e. stool was followed for a long time by a prickling contractive feeling in anus. During d. fre-

quent eructation of inodorous air.—6th d., 6, 8, 10 a.m., 4, 10 p.m., 20 dr. The burning in œsophagus goes off during n. and returns immediately on taking the medicine; this feeling is ameliorated a little by drinking and eating, but not by empty swallowing. The urine passed this m. is darker than yesterday's, and the cloud forms as soon as it cools. Pulsating headache in l. frontal protuberance like pressure and fulness, aggravated by stooping and sneezing, better in open air. Feeling as if the blood rushed into face, with hot feeling of face and eyes. Something hot seems to mount up to eyes, causing smarting and burning and a feeling as if tears would come, but they do not. The headache is especially felt on shaking head, at same time the hot feeling of body is increased, as if the blood flowed quicker through its vessels. Pulse 90, hard and tense. The stool does not come till 4 p.m. A small hard stool like goat's dung comes after much pressing and straining, as the fœces can scarcely be extruded from the rectum. Headache relieved towards e. Pulse 66, compressible, weak. Several times, e., a feeling as if a stool would come, at same time a stitch from vesical region to rectum, which is strongly closed, and it is only after long straining that some incarcerated flatus can be discharged. Frequent discharge of very fetid flatus. Prickly shut-up feeling in anus, especially e. Before going to bed a stool, one half of which is hard, the other soft and rather thin, along with prickling, eroding, burning, and smarting in anus, lasting a considerable time; during the stool a sensation as if the anus opened insufficiently. Burning at orifice of urethra when urinating during stool. Rumbling and pinching in hypogastrium when at stool.—7th d., 6, 8, 11 a.m., 4.45, 10 p.m., 25 dr. The burning and pressure in œsophagus extremely bad to-day, it feels as if the œsophagus were forcibly compressed at the indicated part, at same time much eructation of inodorous air; the feeling is ameliorated on eructating and by eating, but in the same place there is a feeling as if a large hard body were forcibly pressed through. Great prostration, p.m., with stretching of limbs and yawning; very vivid dreams during the midday siesta, which, however, he does not remember when he wakes. Confusion and heaviness of head, as after thirst, with pressive pain in both frontal protuberances, pain as if full, increased by moving and shaking head; it is as if something flowed to and fro in brain. Pulse 62. The urine passed on 5th d. had no sediment, only cloudiness; that passed on 6th d. also no sediment, but red sand was deposited on its surface, and the cloud that sank to the bottom was studded all over with numerous sand grains, which gave it the appearance of frog's spawn. The urine passed on 7th d. was of the same character. Tobacco smoking is not relished, it is as though he had not smoked for a long time, as after a long illness. The headache went off after a walk. After the headache had lasted all d. all over the forehead, it becomes concentrated under the l. frontal protuberance, and then goes off after a walk in cold air. The urine passed yesterday is still quite clear to-day, and shows no trace of decomposition, though it had stood all the time in a warm room. After the midday siesta a peculiar indefinable discomfort in the whole body, something like after illness or the premonitory symptoms of a fever, a kind of unsteadiness in walking

and movement; this went off in e. after walking in open air. A small stool, e., at first of large then of thin fæces, but not hard; after stool prickling and contraction in anus. After lying down at 11 p.m., as he was on the point of going to sleep, when in half slumber, a feeling as if his senses left him, with indescribable heavy feeling in head like vertigo; at same time a sensation as if all the blood receded from his head, with prickling feeling in face, hence sudden waking up, after which he could not get to sleep till long after midnight, at same time tiresome burning itching in hairy scalp. He did not get to sleep till towards m., vivid dreams about all his acquaintances, hardly remembered on waking. In bed, m., strong erections and great lasciviousness. The urine passed to-day while still warm has a cloud in it, is lighter coloured than on the 6th and 7th d., but darker than on 5th d.—8th d. 8, 10 a.m., 1, 6, 11 p.m., 25 dr. The burning sensation in the usual place in œsophagus is to-day more pressive, with sensation as if it were too narrow there, though swallowing was not impeded, it extends to the fauces and to the stomach, where a peculiar sinking sensation is felt. On breathing the air of the room it feels very cold, and it is as though he chewed peppermint. Confusion and heaviness of head. After a small meal fullness in upper part of abdomen and under false ribs. Frequent and copious eructations of air. After eating, rumbling about navel, with heavy feeling in hypogastrium and forcing down in rectum with discharge of inodorous flatus, immediately followed by a small broken-up stool, with increased heaviness in abdomen. Exhaustion, prostration, cramp with drowsiness, he must lie down and sleep for some h., p.m.; refreshed after the sleep. Heaviness in lower extremities as if full, p.m., especially when going upstairs. In flexor muscles of fore-arms feeling as if cramp would come on when grasping and lifting light objects; heavy things cause actual cramp; this goes off p.m. At 7 p.m. cough without cause, at first dry, afterwards loose, with tickling and scraping in throat, which lasts long after the cough. Slight drawing toothache in l. molars, he cannot tell whether in upper or lower row. Formication and prickling in rectum, with feeling as if it were drawn in. Feeling of strong closure of anus, with formication, prickling and shooting, more when walking than when sitting. Frequent call to stool, which goes off suddenly. Towards e. the feeling of coldness in fauces and in the above-mentioned spot of œsophagus is especially noticeable, and does not go off when eating. At 1 a.m. he feels remorse for a slight fault committed long ago, with the most frightful stings of conscience and horror of himself; he cannot quiet himself, must get up and walk about.—9th d., 7, 9, 12 a.m., 5.30, 9.30 p.m., 25 dr. Woke at 4 a.m. with pains all through head, as if a hoop encircled and squeezed head, with heaviness of head. On shaking head, felt as though brain waggled to and fro. He then went to sleep again and woke at 7 a.m. with the same headache, which went off on getting up, but heaviness and confusion of head remained. The urine passed on 5th d. is beginning to decompose, but is not turbid. That passed on 6th d. is like that of the 7th d.; that of the 6th and 7th d. is like that passed to-day. That passed on 8th d. has besides the cloudiness a whitish skin, glittering like grease. That passed to-day has a

cloud, though still warm. After washing in cold water, which was very disagreeable, sensation as if the head became large; this feeling came from the cheeks upwards, at same time the pressure and burning in œsophagus became worse and almost intolerable; immediately afterwards an attack of vertigo with hot feeling in cheeks. Pulse small, contracted, hard, 100. The above-described cold feeling in œsophagus extends to both sides of chest anteriorly under the nipples and in upper part of œsophagus, at same time tightness of chest, making him breathe deeply. The urine passed yesterday becomes turbid and like whey after 24 h., it has a slimy flocculent sediment of dirty rose colour. At 1 p.m. a small half broken-up, half normal stool. After a slight meal rumbling in hypogastrium and slight pinching, after which a feeling of desire to go to stool, but only inodorous flatus is passed. After all eating and drinking much eructation of air. At 5 p.m. he feels very warm in the room, which is at its usual temperature, and he has flushes of heat in different parts of the body, particularly head, shoulders, and chest, as if sweat would break out; the forehead is moist. The veins in his hands swell, the hands burn and are moist. Pulse full, large, 76. Very great heat of face like rush of blood into it, with burning of ears, which are red; face rather red. After $\frac{1}{2}$ h. perspiring skin all over body, with moist forehead and hands. After another $\frac{1}{2}$ h. weight and confusion of head. At 10.30 p.m. a small hard stool with burning and pain in anus during and after it, and a feeling as if anus were drawn up into rectum, and as if something hard still lay there. Towards e. the urine passed is quite clear and lemon-coloured.—10th d., 6 a.m., 30 dr. After rising, m., the eyes, especially the l., are full of mucus, which dries in crusts on the canthi and lashes; at same time sight as indistinct as if through a veil, better when he winks and rubs them; watering of l. eye, which feels sore and hot. Sclerotic very red. The lemon-coloured urine passed last e. has grown quite turbid to-day (6 a.m.). The pressure and burning in œsophagus and fauces continues in the same degree as yesterday.—11th d. No med. The urine passed on the e. of the 9th d. is quite turbid and whey-like, flocci sparkle in it, which sink very slowly to the bottom; it is quite putrid to-day. The urine passed the same m., and that passed on the 8th d., are not decomposed. The cloud that has sunk to the bottom is sprinkled over with a quantity of red sand grains. The urine passed on the 9th d. is of the same character, and has besides a whitish greasy film on its surface, on which are a number of red sand grains. The urine passed on the 10th day is of the same colour as that of the other days, *i. e.* rather dark yellow, has the same cloud at the bottom, but neither skin nor sand. After waiting a week he recommenced the proving.—12th d., 6, 8, 10 a.m., 30 dr.; 9 p.m., 60 dr. No symptoms except repeated eructations of air.—13th d., 7, 11 a.m., 5 p.m., 60 dr. Irresistible drowsiness and heaviness in all limbs, with confusion of head. Rising of heat to head and redness of face. Increased heat of whole body, with weight, the hands feel full, heavy, and hot. During and after midday siesta wakes up but cannot open the eyes for a long time, owing to lids being as heavy as lead; at same time frontal headache as after a debauch, which continues after getting up. Urine and fulness

of forehead. Towards e. the headache is mostly confined to l. frontal protuberance. At n. lascivious dreams and an emission.—14th d., 6 a.m., 1, 6.30 p.m., 60 dr. All the symptoms of yesterday gone this m. One h. after taking the dose weight and confusion of head, like commencing headache. Warm feeling from fauces to stomach. Hot feeling in cesophagus opposite manubrium sterni. Pressive headache and fulness in forehead, worse in the room than in open air. During and after a meal hot feeling in whole body and rush of blood to head, with slight outbreak of sweat on head, chest, back, and hands. Veins of hands very distended. Increased redness of face. Immediately after the dose the appetite went away, and only returned at 9.30 p.m., but was satisfied with a small quantity of food. The headache left at 8 p.m. (BOJANUS, *Hom. Vierteljahrsch.*, xiv, 113.)

SPONGIA.

Spongia officinalis, L. Turkey sponge. Class, *Porifera*. (The dry sponge is cut into small pieces and roasted for medicinal use.)

I. *Provings*.—1. HAHNEMANN, *Mat. Med. Pura*, vol. vi of original, vol. ii of translation. Contains 156 symptoms from self, and 235 from 10 others.

2. A woman, suffering from organic disease of heart, ate a piece of sponge just roasted. It had a sudden and alarming effect, producing terrible palpitation, and a suffocation which threatened to be fatal; lips became livid, respiration violently gasping; there was great pain in heart, terror, and fear of approaching death. After 10 to 15 m. these symptoms began gradually to subside, and the attack was followed by a very remarkable relief of her old cardiac symptoms, which lasted several weeks. (Dr. P. P. WELLS, *Am. Hom. Rev.*, iii, 301.)

3. Dr. HERING was 2—3 h. in a close room roasting Sp. After coming into open air, crazy feeling; head feels as if inflated, and as if elastic; feels strange all over, and sickish; sees everything double, cannot distinguish objects, things seem to move up and down; is obliged to lie down, when all the symptoms lessen. He lay from 3 p.m. till next m. without eating anything; during n. had copious sweat, and felt the better for it. Headache on rising in m., getting better after washing and taking breakfast. (*Mat. Med.*, vol. i.)

STANNUM.

Metallic tin (in foil); also *Stannum muriaticum*, stannic chloride.

I. *Provings*.—1. HAHNEMANN, *Mat. Med. Pura*, vol. vi of original, vol. ii of translation. Contains 204 symptoms from self, 451 from 7 fellow-observers, and 5 from authors.

2. *IBID.*, *Chronic Diseases*, part v. A mere reproduction of the foregoing.

3. *a.* Dr. W. H. STONE, æt. 25, in good health. Having on 1st d. taken at 6.30 a.m. 10 gr. of sacch. lact. without effect, on 2nd d., $\frac{1}{2}$ h. before breakfast, took 10 gr. of 3rd trit. of St. A frontal headache with which he woke continued all d., quite severe about noon, worse from driving in cold air, better from warmth, rest, and pressure. (Is not subject to headaches.) On 3rd d. took 10 gr. of 1st trit. at same time. Headache was gone, but dull heavy feeling continued there all d. Stool hard and dry (unusual).

b. On another occasion, took 10 gr. of 1 $\frac{1}{2}$ trit. $\frac{1}{2}$ h. before breakfast. 9 a.m., head uncomfortable, but no real ache; mental depression all d., at times severe; was cross, anxious and worried. At 4.30 violent colic of short duration, relieved by passage of wind; pain afterwards increased till 7 p.m., when he had a most profuse evacuation of bowels, whitish, frothy, offensive, leaving burning sensation in anus; felt very empty afterwards. Passed restless n., sleep full of dreams about business; head clearer next d., much borborygmus. On 3rd d. felt well, but had no stool. On 4th d. natural stool, followed by rumbling and distress in bowels for $\frac{1}{2}$ h. (*Trans. of Amer. Inst. of Hom. for 1885, p. 161.*)

4. Mrs. M. F—, æt. 40, normal pulse 85, took similar succession of powders. After first (sacch. lact.) at 8 a.m., felt drowsy for an h., and at 10 had nausea and pain at stomach. Pulse had by this gradually fallen to 65; and at noon was 55, when she had such vertigo that she could keep no further record. The subsequent powders, taken at intervals of 2—10 d., produced same symptoms of head and stomach; pulse remained throughout at 50—52, and was thus 30 d. after commencing proving, no medicine having been taken for 13 d.; health otherwise good. (*Ibid.*)

5. CHARLES H. WELLS, Philadelphia, æt. 29, married, good health. Took 3 pellets of 30th dil. every 4 h. for 6 d. without effect. (*Trans. of Penns. State Hom. Med. Soc., 1889.*)

6. Oliver H. PAXSON, Philadelphia, æt. 29, single, student. Height, 5 feet 7 inches; weight, 140 pounds; constitution, good; normal pulse, lying 77; sitting 83, standing 90; normal respiration, 19; normal temperature, morning 98.4°, evening 98.7°; urine, habitual quantity and character, 33.75 fl. oz., sp. gr. 1.023, no albumen, no sugar; stool twice a day, firm, and natural in colour. After a negative saccharum lactis test, proved 1 $\frac{1}{2}$ trit. of St. met. On 1st d. took $\frac{1}{10}$ gr. at 9 a.m., no effect. After an interval of 4 d., at 9.20 a.m. took 1 gr. Immediately afterward, while walking home, observed, first, slight sense of fullness in the l. temple, some pain over l. kidney, and feeling of nausea; did not retch or vomit. Nothing further noticed until 7 p.m., before supper, when he had an urging to stool; stool was liquid, and passed with wind, causing a sputtering noise. Nothing noticed next d. On 3rd d. took 1 gr. at 9.30 a.m., and immediately had metallic taste in mouth. 10 a.m., slight urging to stool, with some pain in abdomen, as though it was due to gas; saliva increased, causing frequent swallowing. At noon, bowels moved, stool mushy. After an interval of one week, took 1 gr. in e. Very restless all n., waking, and then falling asleep; bed felt hard, could not a comfortable

position. Next d., little appetite for breakfast ; soreness and aching in back and limbs ; seats at college seem unusually hard and uncomfortable ; cannot sit still, it seeming as though the ischia were sore ; dull pain in head, depression ; soreness over the abdomen, and yet no pain upon pressure ; little appetite for dinner ; urine less in quantity, and not passed so freely. Slept from 2 until 3.30 p.m. ; awakened feeling somewhat refreshed ; went to lectures in afternoon ; soreness still causes him to feel uncomfortable ; unpleasant sensation about heart, as though it was beating too fast and irregularly, causing him to take a long breath. 6.30 p.m., pulse, sitting 92, regular and hard, 96 standing, 87 reclining ; can feel heart beating through clothing ; respirations, 23 sitting ; temperature, 99.8° ; feeling of weakness and lassitude ; more comfortable when lying down ; pain and soreness over kidneys and in loins ; seems like an attack of malaria coming on, without the chilliness usually incident to it. Slept better, not so restless ; soreness and aching in the bones much better, could sit quite comfortably all d. ; appetite fair, but still do not have the usual relish for food ; urine passed more freely. At 4.30 p.m. noticed a flush of heat coming over body generally ; some depression still. 4th d., slept well last n. ; felt refreshed after waking, but more sleepy at 7.30 a.m. ; took breakfast without relish ; bowels not moved (habit to move in afternoon or evening) ; temp. 97°. (*Ibid.*)

7. a. Dr. EVERETT B. FINNEY, Philadelphia, æt. 21, single, practising medicine ; constitution, strong ; normal pulse, lying down 80, sitting 92, standing 100 ; normal respiration, 16 ; normal temperature, m. and e. 98.2° ; urine, normal ; stools usually regular, but a tendency to diarrhœa. After a negative sacch. lact. test proved 1x trit. of St. met. Took $\frac{1}{10}$ gr. at 9.35 a.m. At 12.45 felt a sharp cramp-like pain in region of navel. At 5.45 felt weak and had a death-like feeling ; limbs felt weak (has such a feeling once in a while when he gets very tired). Next d. at 2.15 p.m. had the sickly feeling coming on again ; brain feels tired, and it seemed as if he had not strength to go out and make his calls ; trapezius near its attachment to spine of r. scapula felt sore and bruised to-day, and at 3.30 p.m. felt a sharp pain running upward in the muscle. In making his calls this afternoon street seemed very strange to him, and head felt heavy on stooping ; once in a while had a crampy feeling in the abdomen. (After an interval of 1 d.) Last n. had a long dream of fighting and butchering. At 6 a.m. was called out to visit a case near by, and on returning at 6.35 a.m. felt faint and sick at stomach. At 10 took 1 gr., and at 3.15 another. Off and on this afternoon had slight crampy pains in abdomen, also some tickling in throat, causing hard coughing (but have similar coughing spells). 5 p.m., full feeling in throat, as if swollen. 8.20, feeling irritable, don't like to hear folks talk ; also feels as if he must keep moving ; has been coughing somewhat again ; it is a hard dry cough. 9.50, sharp pain in temples on stooping ; also full feeling. 10, nose is feeling quite dry, and burns—that is, on septum ; it has felt so greater part of d. 2nd d.—Last n. dreamed of many things. At one time was aiding a thief to escape ; at another was talking of the same things he had talked of during the d., and with the

same persons. This morning at 8 a.m. had colicky pains in bowels, relieved by passing flatus. 4.30 p.m., feeling of distress and heaviness in region of stomach, as if digestion was retarded; also hiccup and belching once in a while ever since dinner at 12.30. At 6 the discomfort in stomach seemed to have been relieved by eating supper, but at 6.15 belching commenced again; had full swollen feeling in throat, lasting till after 8 p.m. 9.35, have been belching up much wind off and on for a good while; mouth and throat feel dry; abdomen feels uncomfortably full. 3rd d.—Sleep disturbed much with dreams last n.; dreamed of talking over work of d.; awoke at 7.30 a.m., feeling as if he wanted more sleep. Took breakfast with usual appetite; some wind this a.m. passed from anus, but most by mouth; normal stool this a.m. at 9 o'clock. 11 a.m., on coming home from Dr. Mohr's office, had dragging and sinking feeling in abdomen, as one has when suffering from an attack of diarrhœa. About 1 p.m. began to feel a crawling, first in one part of body, then in another, as if there was something alive on him; it is still present at 2.20 p.m. 2.30, quite loud rumbling in the bowels, so that it was to be heard some way off. 3.30, l. elbow aches as if it was tired. 4.20, throat began to feel dry and thick or full, not an ache; also some dry cough. 5.10, aching in r. shoulder, as if it was tired. 4th d.—At 11.45 a.m. took 1 gr. 3.45 p.m., bowels felt as if they would move, but, on going to the closet, could only pass wind. 5.50, while eating supper he had a sharp stitching pain in left iliac region, which, on deep inspiration, was quite severe; it only lasted for a m. 10, r. side of tongue feels as if there was an ulcer in about the centre of it, and there is a little whitish blister there.

b. Same prover, after interval of several d., on 1st d. took 3 pellets saturated with 30_x dil. every 3 h. No effect. 2nd d.—At 11.30 a.m. felt slight pricking pain in r. ear. At 1.30, 4, 7, and 10 p.m. took 3 pellets of the drug. No effect. 3rd d.—At 8 and 11 a.m. and at 2.20 p.m. took 3 pellets. 5.20 p.m., 3rd d., have just returned from making calls; while on the street legs felt heavy and weak; now have just experienced an aching pain in r. ankle, also muscles of thigh ache. Had pain in r. knee in a few m. after pain in ankle, and there was a tender spot on pressure just internal to patella. At 10 and 11 p.m. took 3 pellets. 4th d.—At 8 and 11 a.m., and at 2, 5, and 8 p.m. took 3 pellets. Felt rheumatic aching of r. ankle and thigh many times to-day; head also felt bad, not an ache, but full. At 11 p.m. took 3 pellets. 5th d.—Took 3 pellets repeatedly, but experienced no effects. 6th d.—Last n., at 7.15, began to feel queer, and while in church felt quite restless; head was full, with some aching pain at base of skull, and eyes burned; so uneasy was he that he could hardly stay until the services were finished. Went home, and soon went to bed; began to feel feverish, and could not lie still for some time; could not bear many covers on him; after a while slept very well. This m. on rising throat was sore; slight pain on swallowing, and sensation of fulness; he blew from nose quite a quantity of mucus, white, with yellow streaks. While eating breakfast soreness of throat was not noticed, but he felt it as soon as he was through. All through d. had

frequent chilly feelings, and limbs ached a good deal as if he was going to have the malaria. Throat has continued sore all d., and head has ached much; nose is stopped up, but occasionally he can blow white mucus from it; eyes feel sore and heavy. R. side of throat is the side that is sore. Temperature at 8 p.m. was 100° ; pulse 112, sitting; cough quite hard at times; bowels are normal, and urine is scanty. 7th d.—Very restless all last n., did not sleep well, awoke many times, and while he did sleep dreamed a good deal. On getting up throat was still sore on r. side, head stopped up, and discharge from nose yellow and streaked with blood; temperature $99\frac{3}{8}^{\circ}$. Felt weak this m.; appetite poor for breakfast. Had some pain in the bowels when he had a passage, which was loose. 8th d.—All yesterday felt very bad; had headache, and pains all over body; muscles felt sore, and a feeling all the time as if he must stretch. About 2.30 p.m. headache changed from sensation of fulness to splitting pain, and the minute he would raise it head felt as if it would split; same also felt on moving it suddenly or on stooping. Throat was sore all d., and at n. was quite painful on swallowing. Slept very well, but was awake many times, and felt hot. Should say that last n., at 10 p.m., temperature was 100° ; this m. it is 99° , and throat not so sore. Headache gradually “let up,” but at 2 or 3 p.m. head began aching again, aggravation on stooping. Throat not so sore as yesterday; felt quite dry, and soreness was less on r. side to-night than other days, but l. side was the worse, and also was dry; temperature 99° at 10 p.m. Felt this afternoon a sharp pain in region of liver similar to stitch. Glands at angle of l. jaw sore and enlarged. Has had a sore spot at angle of r. scapula, not constant, but very frequently experienced. 9th d.—Got up feeling quite well; throat a little sore on l. side; glands at angle of l. jaw better; some soreness on swallowing, especially l. side; some phlegm, thick and yellow, from posterior nares, but not so much as on previous days; but slight headache to-day; temperature $99\frac{1}{2}^{\circ}$, 8 p.m.

c. Same prover, after an interval of one week, took at 10 a.m., 3.15, 5.10, 8, and 10.30 p.m., 3 pellets 30th. No effect. 2nd d.—At 8.30 a.m., 2.40 and 5 p.m., took 3 pellets. Some slight uneasiness in abdomen, feeling as if bowels would move, something like diarrhœa; head felt tired, as if he was overworked mentally. Has noticed all d. that he was irritable, easily provoked; feeling quite chilly this afternoon. 10 p.m., took 3 pellets. 3rd d.—At 8 a.m., 2 and 6.15 p.m., took 3 pellets. Crampy feeling in bowels several times during afternoon; also fainty feeling in stomach at those times. 9 and 11.30 p.m., took 3 pellets; had itching, burning pain on l. side of nose almost all afternoon and e., and bowels felt all this time as if he had diarrhœa, but such was not the case. For 6 d. more took same dose 5 times a d., but no symptoms resulted. (*Ibid.*)

8. Dr. PRYET took during 10 d. repeated doses of 3rd dil. of *Stannum mur.*—7th d. At n. sharp but transient pain in upper part of r. thigh above crural canal. Sharp pain in l. temple, less sharp in r. temple. Sharp pains, consisting of rapid and jerking shootings at intervals, sometimes rather long, in anterior part of thigh; same pains in l. thigh some instants thereafter. Painful feeling of weight at top of head near front.

—8th d. Feeling in velum palati like that caused by snuff when a strong inhalation brings it into throat, e.—9th d. Stuffed nose, m. Feeling in velum palati as if a foreign body or phlegm were there that could not be detached or swallowed; same sensation on back part of nasal fossæ.—10th d. Expectoration of thick viscid phlegm, apparently from the velum palati, where it seems to be secreted. Coryza of l. nostril. Painful heaviness of whole head, sometimes only in forehead or temples. Sensation of disagreeable roughness of velum palati. Sharp and deep lancination in inferior part of l. lobe of brain, above orbital arch.—11th d. Severe coryza all d. Dull intermittent pains in posterior aspect of l. metacarpus, e. In middle of sternum a kind of small red pustule distinctly circumscribed, and causing for a few seconds great itching, two successive e.—12th d. Coryza less. Occasional violent shootings on l. side and back; had sometimes great heaviness of head, sometimes general, sometimes partial, sometimes in one spot, sometimes in another.—13th and 14th d. Sharp pain in 1st r. metacarpal bone for moments. Occasionally e., n., and towards m., sharp pain in r. wrist-joint, sometimes extending to forearm.—15th d. Nocturnal emission when lying on back.—17th d. Nocturnal emission. Phlegm in throat; the effort to detach it causes inclination to vomit. Blows blood from nose, m.; roughness in throat. Painful heaviness at top of head and shootings in r. parietal region occasionally.—18th d. Blows blood from nose, m. Roughness in throat, m. Expectoration of a thick mucous mass of globular shape, grey colour, containing a clot of black blood, and apparently coming from throat. Shooting pains, apparently seated in upper part of external aspect of l. tibia near knee-joint. Sensation of roughness and dryness in throat without thirst. Voice low, veiled. Noise like a grasshopper in l. ear.—19th d. Frequent itching in tip of tongue.—20th d. Roughness and dryness of throat, m. Boring in tongue, m. Thick, viscid, greyish phlegm, mixed with streaks of blood, attached to throat; great effort required to detach it. General heaviness of head, especially occiput. The deep muscles of back of neck are painful to touch near the occipital insertion. The action of raising or lowering the head causes pain in the muscles that do this. Every step causes pain in head. Coldness and bruised pain in all limbs.—21st d. The symptoms of previous seem to diminish. Painful heaviness in occiput. Several sharp shocks in r. eyeball. Rough feeling in throat.—22nd d. Erotic dream without emission. Perforating and gnawing pains in a point of l. side chest, sometimes in front, sometimes behind scapula. Thick phlegm adheres to throat, and the efforts to detach it provoke almost irresistible inclination to vomit. Persistent roughness and dryness in throat, as when swallowing painful feeling of burning. Occasional acute transient pains in r. temple.—23rd d. Extreme dryness and roughness throat, without thirst, aggravated by swallowing. Thick grey greenish phlegm adherent to throat, requiring great effort to detach which causes inclination to vomit. Respiration by nose is hindered by the permanent congestion of the palato-nasal m.m. During remainder of d. constant efforts to detach greyish and bloody mucus from throat which cause inclination to vomit. Shooting in r. side of front part

brain.—24th d. Shootings proceeding from metacarpo-phalangeal joint of l. index extending to end of finger. Shootings in the second joint of r. middle toe. Shootings in second joint of l. middle finger. At n. persistent sharp pain on r. shoulder in fibres of trapezius, hindering the raising of arm, pain aggravated by touch. Transient tearing pain in forehead, top of head, and occiput, then sometimes at one point, sometimes at another, and sometimes all through head, generally worst in forehead. Acute jerking pains in r. anterior lobe of brain, above orbit. Acid eructations 5 h. after supper. Malaise in epigastric region as if digestion were slow, though he has eaten less than usual.—25th d. The rheumatic pains felt yesterday on r. side of nape in fibres of trapezius increased during n. Restless sleep, disturbed by the pain. Bruised feeling in all limbs; heaviness and tearing all through head. Persistent tearing on both sides of brain at the level of the protuberances. Painful almost constant heaviness in occiput. Bruised feeling and coldness of all limbs. Dull or acute pain in internal part of first phalanx of l. index near metacarpo-phalangeal joint. Same sensation in r. index. Dull pains in r. wrist-joint. Acute drawing pains in second joint of l. little finger. Acute shootings in tip of r. big toe.—26th d. Acute drawings in second joint of l. middle finger. Dull pain in inner side of proximal extremity of first phalanx of l. index. Violent needle-pricks in lower part of rectum extending to anus.—27th d. Repeated acute and jerking pulsations at inner part of r. inguinal canal, in the course of spermatic cord.—29th d. Tearing on internal aspect of sternum at the level of 5th and 6th ribs, extending towards l. side of chest.—30th d. Acute pain in second joint of l. little finger. Almost constant heaviness of whole head, sometimes only on crown.—31st d. Acute shootings at end of rectum; wandering pains at different parts of chest, and drawing pain here and there. Sensation in thoracic wall at level of apex of heart as if an insect were gnawing the part. Same sensation next d.—32nd d. All d., but not continuously, sensation in a part of r. flank as of a vessel through which a liquid quickly flowed. Shooting in r. caruncula lacrymalis.—33rd d. Digestion slow, acrid fluid rises into throat a long time after dinner. Shooting in r. caruncula. Shooting in upper eyelids, with slight swelling. Formication in trachea, causing dry cough, e. Sensation of internal gnawing in a point of anterior part of l. side of chest. Constant tiresome formication in roots of lower incisors.—36th d. Obtuse shootings in l. side of sinciput. The secretion of mucus in throat, and inclination to vomit while making efforts to detach it, persist. Itching in upper eyelids with slight swelling.—36th d. Shooting in l. eyeball, e.—37th d. Flatulent colic, m.—40th d. Flatulent colic during d. Several times during d. incisive penetrating pains in l. side of anterior part of brain, they cease for some instants to return later. Colic, fetid flatus. A violent needle-prick in rectum. Sharp quick pains in first l. metacarpal bone. Same pain in r. wrist-joint.—42nd d. At upper part of r. orbit shootings, which dart from before backwards in substance of brain. For several successive e. soft stool, preceded by colic.—43rd d. Pain in middle joint of l. middle finger.—44th d. Violent shootings in metatarso-phalangeal joint of r. second toe. Soft stool, e., preceded by

colic only at the moment of urging to stool.—45th d. During n. dull vague pains in anterior part of l. side of chest and behind l. scapula, with sweat on chest. Frequent colic in abdomen and rectum. In e. soft stool, preceded by colic when the desire to go to stool is felt; fetid flatus. Shootings in metatarso-phalangeal joint of r. big toe. All through the proving frequent itching in anterior third of tongue. The following days the symptoms became less intense, and gradually went off. (PITET, *Journ. de la Soc. Gall.*, iii, 209.)

9. In a young woman some doses of *Stan. mur.* caused after a few d. itching in vulva, especially e.; constant inclination to vomit and vomiting of mucus, and hordeolum at internal canthus of r. eyelid. (*Ibid.*, 216.)

10. Another woman after a few doses of same med. felt itching in vulva, dryness of throat, intense coryza alternating with stuffed cold in head. (*Ibid.*)

11. After 1 dose a woman felt almost immediately acute pains in r. lumbar region, m. The next d. in the m. expectoration of a mass of thick, viscid, tenacious, bloody mucus, with violent expulsive efforts accompanied by inclination to vomit. (*Ibid.*)

II. *Poisonings.*—1. A cook used some of the chloride by mistake for salt. Several guests partook of the soup and other food so seasoned. They were seized with colic, which in two persons lasted 2 d., and was accompanied by diarrhœa. None had vomiting. (ORFILA, *Toxic.*, sub voce.)

2. T. A. E.—, æt. 14, swallowed a solution of the bichloride. He felt great pain at stomach, and vomited a quantity of thick slimy mucus of dark green hue. His mouth and fauces were much congested, he could scarcely swallow, and his mouth felt hard and leathery. Free emesis was induced. A cold clammy sweat broke out, and pulse was indistinct and fluttering. Strong reaction ensued, with severe pain and great soreness of stomach and bowels, as also of mouth and throat. It was some weeks before he had quite recovered. (HAZELTINE, *Bost. Med. and Surg. Journ.*, xxxi, 38.)

3. MEINEL, from a solution of the chloride with common salt, saw pain in præcordial region and hiccup, with vomiting of similar matter as in II, 2, followed by hot and dry skin with pulse at 100. (*Schmidt's Jahrb.*, lxxiv, 167.)

4. A family ate a cold chicken pie baked the previous d. in a new tin pan. All had violent pain in epigastric region and frontal headache, loss of appetite, and yellow tongue: with some there was constipation, with one a severe attack of something like dysentery. Dr. Angell, who attended them, ate of a similar dish very heartily as a test; it brought on most distressing debility, almost preventing his riding home, a distance of a few miles. Another family who ate a custard similarly cooked were affected like himself. (*Ohio Med. and Surg. Rep.*, ii, 152.)

III. *Experiments on animals.*—1. ORFILA found that a solution of 6 gr. of the chloride injected into the jugular vein of a dog killed it in 1 m.; that 2 gr. caused tetanus, and death in 15 m.; and $\frac{1}{2}$ gr. death in 12 h., the only symptoms being somnolency and catalepsy or

fixedness of position. When swallowed, however, dogs required 18—44 gr. to kill them—in 1, 2, or 3 d., efforts to vomit and great depression being the only symptoms; after death stomach was found excessively inflamed and sometimes ulcerated. ζij applied to a wound caused violent inflammation and sloughing of the parts, and death in 12 d., without any internal symptom during life or appearance after death. (*Op. cit.*)

STAPHISAGRIA.

Delphinium Staphisagria, L. Stavesacre, palmated larkspur. Nat. Ord., *Ranunculaceæ*.

I. *Proving*s.—1. HAHNEMANN, *Mat. Med. Pura*, vol. i of original, vol. ii of translation. Contains 283 symptoms from self and 438 from 12 others.

Delphininum, alkaloid obtained from *Staphisagria*, $C_{24}H_{35}NO_2$.

I, II. *Proving*s and *Poisoning*s.—1. SCHROFF found, from grm. 0.006 to 0.01, intensely bitter taste, with sensation of burning in tip of tongue and lower lip, increased secretion of saliva, eructations, nausea, feeling of pressure in stomach, and diminished rapidity of pulse. (*ALLEN's Encyclopædia*, iv, 70.)

2. TURNBULL, from grm. 0.03, repeated 8 times in d., had diuresis, and sensation of burning and prickling in various parts of body, such as is produced by rubbing it on the skin. (*Ibid.*)

3. FALK and ROERIG, from 1—3 dr. of an alcoholic solution, of which 1 dr. = 0.01 grm., found sense of burning and crawling on tongue, which, however, did not seem red or swollen, lasting 1½ h. (*Ibid.*)

4. ALBERS, giving 0.015 grm. 4 times a d. for several d. in a case of torpor of brain and irritability of spine, produced salivation; redness and inflammation of fauces, with gnawing burning sensation; nausea, efforts to vomit, diminished appetite; urging to stool without relief; urging to urinate, with sensation of burning, but without diuresis; itching and prickling in whole skin, so that patient could not lie in bed; pulse small but otherwise normal. (*Ibid.*)

III. *Experiments on animals*.—1. The general result of experiments on animals is that, after certain introductory local phenomena, a general paralysis of all movements is gradually developed, the breathing becomes laboured, the beating of the heart is slow and weak, and sensation is annihilated. *P.M.* always discovers passive venous hyperæmia in all cavities of the body; occasionally, also, there is local inflammation in the intestines. (*PHILLIPS, op. cit.*)

2. The chief action of D. is on the heart. The researches of Falk and Roerig, van Praag, and Boehm show that it produces cardiac paralysis by acting on the cardiac muscle, its excito-motor nerve-centres, and the inhibitory apparatus, so that (after a temporary initial increase of the frequency of pulsations) a steady reduction in the number of the cardiac contractions ensues. This is followed and

accompanied by disturbances of the respiration (dyspnœa). At the same time, as Cayrade especially states, a paralysis of reflex action is apparent. In this process the poison most probably produces a paralysis of the spinal marrow; but the muscles also are in a high degree sensitive to the action of D., and they also are paralysed by it, and so contribute to the diminution of reflex activity. The reflex paralysis extends from behind forwards, and the paralysis of the spinal marrow precedes that of the voluntary muscles (Cayrade). The diminished frequency of respiration depends mainly on paralysis of the respiratory centre; but the general muscular paralysis, in which the respiratory muscles share, contributes essentially to the difficulty of respiration, and to its ultimate cessation. (v. BOECK, in *Ziemssen's Cyclopædia*, vol. xvii.)

3. Delphinine resembles aconitine in many respects, and like it causes slowness of pulse and breathing, paralysis of spinal cord, and death by asphyxia. It stimulates the vagus centre in the medulla, and also the accelerating centre for the heart (making this organ beat still faster after it has been quickened by section of the vagi). It slows the respiration apparently by exciting retarding fibres in the vagi, for when those nerves are cut it quickens respiration. In advanced stages of poisoning it paralyses the ends of the vagus in the heart, and also the cardiac muscle. It removes the still-stand caused by muscarine and digitaline (Boehm). By depressing the action of the spinal cord it arrests the convulsions caused by strychnine. (LAUDER BRUNTON, *op. cit.*)

STICTA.

Sticta pulmonaria, Hook. Lungwort lichen. Nat. Ord., *Lichenes*.

I. *Proving*s.—1. Dr. BURDICK took, Nov. 9th, 1859, at 7 a.m., 10 dr. of a strong tinct. In 1 h. sharp darting pains in arms, legs, and shoulders, commencing in muscles of arms, then going to finger-joints and shoulders, next in thighs, knee-joints, and toes. Also dull sensation in head, with sharp darting pains through vertex, side of face, and lower jaw. There was sense of fulness at root of nose and in l. hypochondrium. These symptoms were well marked; they continued for 2 to 3 h., and were followed by general feeling of dulness of 2 to 3 h. duration. Next d. at same h. repeated dose. Similar symptoms followed; there was also a dull oppressive pain in cardiac region, slight oppression of lungs, dull pain in r. hypochondrium—all lasting 3 to 4 h. On 11th, at 8 a.m., took 20 dr. In 1 h. experienced the previous dull sensation in head, with dull heavy pressure in forehead and root of nose; darting pains in temples; burning in lids, with soreness of balls on closing or turning eyes. There were burning, biting, sticking pains all over body; lancinating pain in second joint of middle finger; inability to concentrate mind on any one subject; general confusion of ideas. Above symptoms increased in intensity throughout d., and most of them continued till 18th, without repeating drug. (*N. Amer. Journ. of Hom.*, xi, 202.)

2. Dr. C. H. LUTES took for 4 d. the 2x dil., increasing dose from 5 to 60 dr. It was without effect, as was also the 1x taken for same time in like manner. On Feb. 6th began proving tinct., taking 5 dr. at 8 a.m., and 10 dr. at noon and in e. 7th.—Took 15 dr. at 10 a.m. 12, slight frontal headache, dull, heavy, intermitting. 12.30, took 15 dr. 2, headache increased, worst in r. supra-orbital region. 3 and 4, headache still worse, seems to extend through brain, especially bad on r. side. General feeling of weariness; mind inactive; could not collect thoughts. 8th.—At

7 a.m., 30 dr. In 10 m. pain in r. temple, deep, shooting, intermittent. 8, pain in head worse; extends through forehead and r. parietal region, as if deep in brain. 9, took 40 dr. 11, headache increased, worse in r. supra-orbital region; pain dull, heavy, intermitting; eyes feel heavy; mind inactive; inability to concentrate thoughts; sensation as if scalp were too small, or were drawn too tight. 2, took 60 dr. 5, headache almost intolerable; seems to extend through brain. (HALE, *New Remedies*, 2nd ed.)

3. Dr. BURDICK (*loc. cit.*) relates a case where a lady, soon after taking the 1₂ dil., said she felt the medicine "over her." A m. after she said her l. leg felt as though it was floating in the air, feeling light and ethereal, without any sensation of resting on the bed. This continued for some time, and passed off gradually. Dr. Lilienthal observed a similar case. A girl of 12, with a slight influenza, having been sleepless the n. before, was given a few pellets of S. (dil. unnamed) in e. After taking them she became very lively; felt as if she would like to "strike out," "only for fun," and actually, lying down, kicked up her heels, saying she could not help it, and felt exactly as if she wanted to fly away. (*Amer. Journ. of Hom. Mat. Med.*, ii, 234.)

STILLINGIA.

Stillingia sylvatica, Willd. Queen's root, queen's delight, yaw-root, silver-leaf.
Nat. Ord., *Euphorbiaceæ*.

I. *Proving*s.—1. a. Dr. E. B. NICHOLLS, æt. 25, well, but for a chronic cutaneous affection, took, Dec. 16th, 1865, at 8.30 p.m., 10 dr. of tinct. In 20 m. dull heavy pain in forehead, which after a time became a feeling as if a heavy substance was pressing on front part of brain; pain then became very sharp and darting, almost unendurable. Therewith dizziness; heavy pain in hypogastrium; sense of constriction in larynx, and smarting and stinging in fauces. This last subsided after an h., leaving feeling of rawness. At 11 had sharp darting pains through chest and shoulders, very severe; boring pains in region of heart; pulse irregular; distressed feeling with dull pain in head and dryness of fauces. 17th.—At 10 a.m. took 10 dr. Slight return of former symptoms; smarting, stinging, and dryness of fauces all d. At 9 p.m. repeated dose. 18th.—Slept well; bitter taste on awaking. At 9 a.m. repeated dose. Felt miserable all forenoon, pains in head, eyes inflamed and watery, soreness of muscles all over; feels as if he had taken a severe cold. At 2 p.m. again 10 dr. Immediate aggravation of symptoms; throbbing and dizziness of head; smarting and stinging pains in fauces; oppression of chest; pulse 90. 3, pulse 100; violent frontal headache; slight perspiration; stinging darting pains in face; constriction of larynx; colicky pains, violent about umbilicus. Took another dose before retiring. 19th.—Repeated dose at 9 a.m. and 2 p.m. No marked effects from first; after second, headache and smarting in fauces. 20th.—Took 10 dr. in m. Darting pains through thorax; tickling in throat and short hacking cough. 21st.—Cough continues, at times quite severe. 23rd.—Violent burning, smarting pain along urethra for 2 h., aggravated by micturition (which was difficult), and dull pain in region of kidneys. This recurred at times up to 28th; no discharge.

b. On Jan. 4th, 1866, took 10 dr. at 10 a.m. and 2 p.m. After second dose slight headache, dryness and tickling of fauces; short hacking cough. At 11 p.m., on passing urine, there was sharp pain in glans penis, extending up urethra, so severe as to cause perspiration to start. Took another 10 dr. 5th.—Awoke with dull pain across kidneys and sharp pains in penis; short hacking cough; fauces inflamed. Pain continued all d., and he discontinued the drug; but it had not entirely subsided (nor had the cough) on the 10th. (*Trans. of Amer. Inst. of Hom.*, 1869, p. 194.)

2. a. Dr. THOS. ECKLES tested his urine on several occasions before commencing drug. Sp. gr. ranged about 1023; on one occasion, after standing 24 h., a flocculent mucous sediment was deposited. On Nov. 16th, 1866, began proving tinct., commencing with 10 dr., repeating it 3 times a d., and at each repetition increasing dose till at last it reached a tablespoonful. After a short time bowels became very loose

and irregular, but afterwards constipated, with nausea and a slow irregular pulse while lying down. Subsequently he experienced irritation of fauces, slight headache, and sensation as if diarrhoea would set in. Appetite was increased; there was coldness of whole body on going to bed, though after a short time whole surface seemed gently perspiring, with continuous feverish heat; slight but persistent headache, mostly in vertex and forehead; pulse full but very irregular; tongue slightly white-coated; bruised feeling of trachea on pressure; inflammation of l. tonsil, lasting several d.; severe pain in or near r. kidney, of short duration; at times dull pain in r. side of head; excessive itching on skin below knees, though no eruption was perceptible. This last continued for 8 weeks, greatly aggravated by exposing parts to the air, especially if cold.

b. Jan. 19th, 1867, took 10 dr. at 6 a.m., 12 m., and 3 p.m.; 15 dr. at 6 and 10 p.m. On going to bed felt slight uneasiness and tickling in trachea and bronchial tubes, which was worse on rising next m. 20th.—Took 15 dr. 5 times during d., and 20 dr. at n. 21st.—Chest and throat feeling about well. Took 20 dr. 6 times, but experienced only a general feeling of malaise. 22nd.—After a good night's rest felt somewhat better. Took 20 dr. 5 times. Towards e. tickling sensation, producing an excessively dry spasmodic cough. 23rd.—Took 20 dr. 4 times. Cough looser and deeper. 24th.—Took 20 dr. at 6 a.m., noon, and bedtime. Had, a.m., slight lame feeling, seemingly in cartilages of trachea. At 6 p.m. griping in epigastrium, soon followed by diarrhoeic evacuations, with abundant flatus. 25th.—Took 25 dr. at 6 a.m. Continued feeling of impending diarrhoea. 26th.—Took 100 dr. No further symptoms. (During the proving a pustular eruption, that had persistently remained for a month, rapidly cleared away.)

c. Jan. 5th, 1869, took 10 dr. of a fresh tinct. (1 part of root to 10 of dilute alcohol). 6th.—Took 10 dr. after breakfast, and half a tablespoonful before dinner. 7th.—Same dose 3 times. P.m., an abundant white sediment appeared soon after urine was voided. 8th.—Felt quite weak; general sense of malaise; pulse about 90, weak and very irregular. Took half a tablespoonful after breakfast and dinner. Noticed during d. that he would have "spells" of feeling as though room was too warm; would then break out into general perspiration. Pulse during these spells was regular. 9th.—Pulse very irregular. After breakfast took half a tablespoonful, and repeated this after dinner and at bedtime. Towards noon pulse became more regular, and continued so till n. Stool at 2 p.m. (19 h. over regular time), with pain in rectum and anus. Aching of legs in e. 10th.—Took a tablespoonful. No further symptoms, save on 12th general malaise with irregular pulse, and on 13th bruised feeling in sphincter ani.

d. Jan. 17th, on going to bed, took 5 dr., and on 18th, 10 dr. 4 times. Till after last dose experienced no symptoms; but previous to going to sleep had burning sensation in l. ear, on which next m. appeared a vesicular eruption. 19th.—Took 10 dr. 3 times, and 15 dr. twice. Felt severe irritation of bronchi and bruised feeling of trachea. 20th.—Continued taking drug, increasing dose to 100 dr. General malaise about bedtime, but after sleeping all n. felt somewhat better in m.; tongue slightly coated. Towards e. (21st) tickling in trachea, producing very dry cough, which later became loose and deep. Griping in epigastrium, followed by diarrhoeic stool. (*Ibid.*)

3. J. M. CUNNINGHAM, æt. 21, in good health. Proved tinct. for unknown number of days in Nov., 1867, taking 15 dr. m. and e. "The first symptom experienced which I thought might be attributable to the action of the drug was burning itching of legs below knees, worse on exposure to air. Heartburn was constant during proving, commencing about 2 p.m. and continuing till bedtime. Stool was delayed several h. while under influence of the medicine." (*Ibid.*)

4. E. H. INGRAHAM, æt. 35, in good health save for ready gastric derangement, from Feb. 1st to 7th, 1868, took 10 dr. of tinct. 3 times a day. On 3rd felt sleepy in e. much earlier than usual. 4th.—Same drowsiness in e., and also by spells during d.; slight headache, running from anterior part of temples, pain dull and constant. 5th.—Catarrhal discharge from nose, at first watery, then mucopurulent; nostril sore inside. Urine 30 oz. (average is 33), high-coloured, with brick-dust sediment. 6th.—Slight frontal headache; urine 40 oz., high-coloured and inclined to foam; some catarrh, small abscesses in l. nostril. 7th.—Drowsiness. Urine 45 oz. On 8th began taking 100 dr. per d. instead of 30 (does not say how long he continued

it). Headache in e., a current of pain flowing from median line of forehead to occipital process and l. cerebellum. Less sleepy this e. Urine 38 oz., tolerably clear, though containing some brick-dust sediment. 9th.—Same headache; mind dull and stupid; slight retraction of l. testicle; urine 40 oz., thick and milky, containing much chloride of sodium. 10th.—Urine 58 oz., tolerably clear, but inclined to form bubbles as discharged. Head and mind the same. 11th.—Slight, constant, dull headache through temples; depression of spirits; tongue coated heavily, yellowish white; spells of neuralgic toothache; return of nasal catarrh, discharge more watery than before; urine 40 oz., almost clear. 12th.—Same headache as yesterday, pain under malar bone, extending transversely through face; drawing pain in l. knee, affecting gastrocnemius and biceps muscles; depression of spirits and gloomy forebodings; tongue white. 13th.—Urine 35 oz.; head same. 14th.—Head same, with low spirits, stupidity, slight nausea, tongue coated white. 15th to 18th.—Urine has now returned to normal quantity. Headache through temples continues to trouble at intervals. (*Ibid.*)

5. R. F. C.—, Nov. 6, 1869, at 10 a.m. took 5 dr. of tinct. in $\frac{3}{4}$ ss of water. In $\frac{1}{2}$ h. aching pains in r. leg and r. foot over instep. After 8 to 10 h. pains as before, and also in r. hip and l. foot. After retiring same pains in back of r. leg. 8th.—Took 5 dr. of same in forenoon, and 5 dr. of 3rd dil. in e. Two h. after last dose severe pains in r. foot over instep, increased on standing and attempting to walk. 9th.—In m. pains in sole of r. foot and in leg. P.m., while driving, pains in l. lower anterior third of leg. While sitting, some pain in l. lumbar region, shooting from behind forward; later, while riding, pain in both hip-joints, worse from bending backwards or forwards, increased after getting out and walking, with stiffness of joints. While in house pain in 3rd toe of r. foot. While walking, pain in metatarsal joint of great toe, running back to heel, in both feet. Pain in both outer malleoli. 10th.—Pain in r. elbow, forearm, and wrist, aggravated by motion; pain in finger-joints; aching pain on outside of r. thigh and leg, running down to foot. (*Dr. M. PRESTON's* provings, in *Trans. of Penns. State Hom. Med. Soc.*, 1870-1.)

6. M. P.— took same dose on same d. and h. as No. 5, while suffering from great soreness of muscles of extremities caused by severe exercise. After 7 to 8 h. soreness was much increased, and great aching of extremities was experienced. 8th.—In m. took 5 dr. In e. pains in r. elbow and leg, of aching and pulsating character, with soreness; aching pains in back, extending down thighs and legs; sore aching along l. clavicle and in shoulder. At 8.30 p.m. took 10 dr. of 3rd dil. Soreness and aching on olecranon, uninfluenced by motion. 9th.—Aggravating pains in l. elbow, extending towards shoulder and hand, as though bones were sore and would separate; slighter pains, of like character, in r. elbow; aching also in l. carpal and metacarpal bones. These pains are temporarily relieved by change of position. Stabbing in r. knee. On Dec. 6th Dr. P. notes, "Symptoms continue. I feel some of them nearly every d." (*Ibid.*)

7. W. O. G.—, Nov. 8th, at 8.30 p.m., took 5 dr. of 3rd dil. In 2 h. dull heavy aching sensation in r. thigh and leg. 9th.—At 10 a.m. repeated dose. In 1 h. sharp pains at bend of l. elbow, increased by hanging arm down. 10th.—9.30 a.m., sharp shooting pains in upper third and inner side of forearm, aggravated by letting limb hang down, and relieved by pressure. 4 p.m., took 10 dr. of same. 5, sharp shooting pains in both arms, from middle third of humerus to fingers. 10, severe sharp shooting in r. side of frontal bone, running down to eye. (*Ibid.*)

For Dr. TABER's provings see Appendix.

STRAMONIUM.

Datura Stramonium, L. (including *D. tatula* and *ferox*). Thorn-apple, Jamestown-weed. Nat. Ord., *Solanaceæ*.

I. *Proving*s.—I. HAHNEMANN, *Mat. Med. Pura*, vol. iii of original, vol. ii of translation. Contains 96 symptoms from self, 90 from two others, and 383 from authors.

2. a. Dr. BERRIDGE proved B. P. tinct. of seeds, taking 8 dr. at 1.35, 20 dr. at 4, and 30 at 6 p.m. Since 5 p.m. frontal headache, now (6.50) worse on walking in open air (better an h. later when at rest indoors); dryness of throat, especially felt on swallowing saliva (this lasted all e.); pain in muscles of outer side of hip-joint while walking for a few m. 7.55, feeling of mucus at back of throat, causing hawking and hoarseness. In e., after sunset, unsteadiness in walking. 2nd d.—8.40 a.m., took 40 dr. 10.15, dryness of throat, worse on swallowing saliva. 10.25, 50 dr. Soon, feeling of mucus at back of throat, causing him to swallow and hawk, which relieved; slight transient tingling in back of l. hand; feeling of general heat for some m. 12 m., lips dry and sticky, throat still dry. Has had frontal headache nearly all m. 1 p.m., unsteadiness in walking, tendency to turn in a circle to l.; face and forehead flushed. 1.30, lips and throat still dry; when talking, hoarse voice, it almost fails now and then, causing him to hawk in order to set it right. 1.50, feeling in throat as before; took 60 dr. Almost directly, feeling of great heat. During afternoon, palpitation on every slight exertion, later giddiness and unsteadiness when walking, and faint feeling, so that he was obliged to go into a shop and sit down. 3—7 p.m., several diarrhœic stools, brown and watery, sometimes brownish yellow and frothy, preceded by pain in abdomen; during their passage, scalding at anus; rectum feels filled, but, on straining, only liquid stools pass. 5.30, nausea and retching, ending in vomiting of a whitish fluid; attempts at vomiting caused pain in stomach. Looked pale and felt weak. Afterwards, 6—7 p.m., chilly. 3rd d.—When speaking, put words in wrong place, and made mistakes in spelling when writing. From 5th to 7th bowels failed to act, but no inconvenience was felt.

b. On a subsequent occasion B. took 100 dr. at 9.15 a.m. Immediately feeling as of mucus in throat. 9.20, slight headache, lasting all d. 10, lips and mouth dry, lips sticky; the dryness lasted all d. 10.50, voice hoarse; when walking legs felt heavy. P.m., when reading print, letters seemed indistinct, felt languid. E., after dark, sleepy; eructations. Next m. headache still on waking. 8.30 a.m., luminous vibrations before l. eye by daylight. (*Monthly Hom. Rev.*, xv, 298; xvi, 34.)

3. a. Mr. THEOBALD proved same. Sept. 14th took 10 dr., and 15th, 20 dr., without effect. 16th.—Took 30 dr. at 11.30 a.m. and 20 dr. at 2 p.m. At 1 p.m. disagreeable dryness in mouth, throat and nostrils came on, lasting till dinner at 5, frequent sneezing from the dryness of nostrils. In e., dull headache, not definitely localised. Sight troubled, could not focus letters of MS., they looked confused;

distant objects not affected. Pupils rather contracted. 17th.—20 dr. before breakfast and at 1.30 p.m. Same dulness of vision for small objects near the eye; the lines of written letters look double. 1.45, sudden sharp pain in r. heel, which returned in a few m. and then ceased; severe gripings of short duration in centre of hypogastrium; constant dull pain in entire head, deep in brain. P.m., while walking, sudden shooting pain in outer part of r. thigh, which felt numb on rubbing it with hand. 18th and 19th.—Took 20—30 dr. twice or thrice daily. On 18th, while playing piano in e., two severe stitching pains simultaneously in both lumbar regions, midway between hypochondria and iliac crest. On 19th, great presbyopia; obliged to use the spectacles of an old person; without these, distant and large objects are seen as well as ever, but small and near ones are completely confused. Great dryness of mouth, throat, and nostrils; could not eat bread and butter for breakfast, but must take sopped bread and milk instead; the dryness prevented insalivation, and made swallowing difficult. When in the dark has several times seen bright flashes, suddenly coming and going, like faint and small sheet lightning. A dull general headache, deep in brain, is constantly present. Dryness in nose often causes sneezing, rather violent. 20th.—Took 30 dr. before breakfast and at noon. Presbyopia and dryness of mouth, &c., continue. 10 to 12, violent sneezing; nostrils stuffed but not much flow; rasping, loud, violent dry cough, pain between shoulders during the act, nothing seemed to affect it. In e., frequent offensive bilious eructations. Several times in d. dull griping in pubic region,—also during stool. Unusual straining required to empty bladder; stream stops before it is emptied, and then ejection has to be completed by several successive efforts, flow stopping as soon as effort is discontinued. While thus straining on bladder, a slightly relaxed stool occurred. Quantity of urine increased, also passed more frequently than usual. To-day and yesterday, two natural stools instead of one. Unsteady, half-staggering feeling while walking in e., a slight swaying to either side or forwards. During forenoon, constant but slight bitterness in mouth. Took 30 dr. more at bedtime. 21st.—Woke several times in n. with excessively disagreeable dryness of mouth and throat, had to sip water. 8 a.m., 30 dr. Occasional staggering in walking; constant dull frontal headache, not severe; inclined to be forgetful. Stool this m. rather relaxed, of a darker brown than usual. 22nd.—Took 40 dr. early in m. During breakfast, besides dryness of mouth and presbyopia, a clouded state of mental faculties, a horrible obfuscation. Took ʒj of vinegar as an antidote, which immediately produced violent vomiting of food. He lay down; got up afterwards to see a patient, who was alarmed to find how bewildered and incapable he was. He upset everything he touched; patient seemed to be talking out of a cloud, or as if he was a figure in a vision, and when he ceased talking prover subsided into a sort of bewilderment, from which he could with difficulty rouse himself to attend to the case. His writing was an almost unintelligible scrawl. He lay down again all d. till e., dizzy and incapable, with dull headache on vertex, but not much pain; could not realise anything, his wife sitting by his bedside seemed like a phantom, and he put out his

hand occasionally to assure himself of her real existence. There was dull pain in lower colon, and one or two dark, chocolate-brown, relaxed stools. Urine as before. (Before this extreme bewilderment came on, he was excessively forgetful; his speech was thick, as if his tongue were too large for his mouth. Several times when walking along the street he experienced a sort of aura running swiftly through body from r. heel straight up to occiput. Occasionally he would feel suddenly arrested as by a thrust in the popliteal space, causing knees to give way under him.) On 25th (nothing is said of intervening days) was kept in bed till 4 or 5 p.m. by a severe pressure in vertex, which seemed affected by nothing, but made him unwilling to get up. After 25th he lost the severe disabling symptoms, but had headache twice ever d., towards e. and (waking him) about 4 a.m. Headache was a rather severe heavy pressure on vertex. When he woke with it, he always found himself lying with arms (especially r.) stretched above head, and so strongly as to make muscles feel strained and rather bruised. This occurred for 10 d., and on last occasion he detected himself gently raising r. arm in act of waking. Presbyopia ceased 2 d. after medicine was left off.

b. Same prover, Oct. 13th, chewed 6—8 seeds p.m. Next morning smart attack of diarrhœa, lasting all following d.; stools were exactly like those in former proving—pappy, fœculent, dark brown, with dull griping across hypogastrium before stool, some straining during it. Straining in bladder at same time, and only thus would urine pass when bearing down was intermitted, as to take breath, the flow stopped.

c. Same took 10 dr. of 3rd dil., Oct. 22nd, 23rd, and 24th. On last d., e., after mental work painful throbbing in forehead. 25th.—At midday, while reading in open air and walking, sudden dizziness, with staggering as if he would fall forward and to l. P.m., painful and difficult stool, requiring much straining; last part could not be thus evacuated, but came easily after straining ceased. Took 5 dr. before bedtime. Midnight in bed, quivering in r. upper eyelid. (*Ibid.*, xvi.)

4. a. Mr. — proved homœopathic tinct. (from whole plant). On 1st d. took 5 dr. without effect. On 2nd d. same dose; shooting in lower abdomen from before backwards for $\frac{1}{2}$ h., 20 m. after dinner. 3rd d.—10 dr. Depression of spirits, indisposition to converse. 4th d.—Spirits buoyant. 5th d.—15 dr. In 2 h. violent purging, with it and for 2 h. afterwards pain in rectum, shooting downwards. 7th d.—5 dr. 3 times. Shooting inwards in scrob. cordis and r. abdomen. 8th d.—Same doses. Sharp pain in chest about junction of middle and lower third, first on l. side, then on r., worse on walking, going off entirely while in a warm place. 9th d.—5 dr. General dull headache, worse over eyes; head feels heavy. Uncomfortable sensation in middle line of chest, with feeling of nausea. 10th d.—Headache as yesterday.

b. Same took 5 dr. 3 times a day for 4 d. 1st d.—Thirst, drinking much at a time; feverish. 2nd.—For short time, very acute shooting inwards in scrob. cordis. 3rd d.—Bowels have not acted for 2 d. Feeling in r. eye as if water ran about in it. 4th d.—Black spots before eyes, moving with eyes, in e. after dark, by gaslight.

r. Same took 5 dr. at 7 p.m. for 5 d. 2nd d.—Spots before eyes as before, by daylight only. Shooting inwards in stomach, first on l. side, then on r. 4th d.—Bright spot before eyes, only when looking at gas-flame. Took same on 9th, 11th, and 12th d. 10th d.—Slight stationary pain in stomach-pit. 11th d.—Watery diarrhœa, preceded by violent crampy pains in bowels. This lasted 3 d. 14th d.—E. after sunset, soon after a meal, vomited food mixed with nearly black, thick, and clotted blood; vomiting was difficult, causing shooting pain at stomach-pit, and was preceded and followed by retching. (He never vomited blood before.) (*Ibid.*)

5. SCHNELLER began with 5 dr. of the tinct., this was irregularly increased up to 120 dr.; after an interval he took again 50 dr., and as a last dose 200 dr.,—altogether about $\frac{3}{4}$ oz. Up to 30 dr. for dose he had only flying stitches in gullet, pappy taste, and rumbling in abdomen. At 40 dr., after 4 h. confusion of head and dryness of mouth. During doses up to 100 dr. these symptoms increased; vision became somewhat weak; nasal secretion diminished during forenoon, increased in e.; oppression of stomach and diminished appetite. These symptoms went off after omitting medicine for several d. After 120 dr. they returned, with some variations. In 2 h. there was nasty bitter taste, with yellow furred tongue; after 3 h. spitting of white frothy fluid, dryness of mouth and nasal mucous membrane, and confusion of head; later, flowing of liquid, fœtid, yellow mucus from nose, with relief, hoarseness, difficult speech, drawing pain in fauces, oppression of stomach, inodorous eructations, want of appetite, disgust at food, some thirst for certain fluids. In e. most of these symptoms went off. After leaving off for 4 d., on again taking 50 dr. exactly the same symptoms were experienced as when he took such dose before. He then took 200 dr. Same symptoms were repeated; and in addition frequent yawning, with desire for sleep, which was, however, restless; also increased irritability of temper. (*Wien. Zeitschr. d. k. k. Ges.*, Jahrg. ii, Bd. 2.)

6. A student took 5–6 gr. of extract. “Two h. after having taken dose my throat began to feel intensely dry, which increased to that extent that I could not swallow, and with great difficulty breathe; my tongue felt quite spongy and totally devoid of moisture. The narcotic effect soon became evident, and I reeled as though intoxicated; pupils were very dilated, and I was at one time nearly blind. I felt very nervous, excited, and irritable, and continually paced up and down my room. The next d. I could scarcely see, and was quite unable to read a book when I tried. For 3 weeks afterwards I had a very sensible pulsation over my r. eye, and even now—after 5 weeks have elapsed—seem to feel the effects of the poison in my eyes, sight being at times quite dim. I was always relieved for a few seconds by imbibing any liquid. The serious effects lasted about 8 h.” (TAYLOR, *Guy's Hosp. Reports*, 1865, pp. 293–5.)

7. Dr. J. R. COXE, jun., æt. 57, took, Sept. 20th, 1857, 3 doses of 10 dr. of 1_x dil., and the same on the 3 following d. 20th.—No symptoms save pain in r. temple, sticking and stabbing, at 8 p.m., felt till he fell asleep at 11. 21st.—Out of temper, irritated all d.; headache

in both temples, shooting to back of head, with considerable thirst, drank much more water than usual; eyes inflamed, and weep much, particularly r. Face slightly swelled and eyes puffed (*i. e.* skin below them); head all d. wet with perspiration. 22nd.—Violent headache; great confusion of ideas; very irritable; r. eye weeps very much, l. eye a little; hears better to-day than for a long time; dryness of mouth; drinks a good deal. A kind of burning pain in stomach comes and goes, lasting for $\frac{1}{2}$ h., then intermitting for an hour or more; mouth full of saliva; unable to pass urine freely, had to strain; dryness in throat; pains in lumbar region like rheumatism, back very stiff but not very painful; pulse, usually 72, was at 9 p.m. 84; skin hot. All above symptoms continued, in diminished degree, up to m. of 26th. In addition, on 23rd and 24th, hands and feet up to knees were affected with slight spasms or jerks, especially fingers of l. hand, which jerked repeatedly and without pain; numbness and stiffness of l. leg, with tickling creeping feeling under cutis, which passed off by rubbing and stretching. (*Amer. Hom. Rev.*, iv, 559.)

8. CHAS. CHAUNCEY COXE, æt. 11, took twice on Sept. 21st, and thrice on 22nd and 23rd, 12 dr. of 3x dil. 22nd.—Great pain in head; stiffness of neck and sore throat; head perspired more than usual. 23rd—29th.—Headache and stiff neck, gradually wearing off; pain in r. leg, worse at patella; much saliva in mouth; throat feels sore the whole time. On Oct. 1st had only slight pain in r. temple, and sore throat, which disappeared on 3rd. (*Ibid.*)

9. An old man, suffering from pains in r. shoulder and leg, and permanent contraction of r. arm, but otherwise well, took powdered leaves of *D. tatula*. On 1st d. took 12 gr. in 2 doses. 2nd d.—Took ʒj. Colic pains, frequent stools; dryness of mouth and fauces, fear of inability to swallow; pain in temples; opening between eyelids contracted, pupils dilated; vision disturbed, cloudy; no sleep; agitation; pain in head and r. arm. 3rd d.—Same dose. Colic; slight headache in temples; bad n., with agitation. 4th d.—Took ʒss. Troubled and extremely weak vision in m.; at noon l. eye natural, but r. eye blind; all r. side more affected. 5th d.—Same dose. Colic with stools; difficult micturition, face rather pale; r. eye still affected. 6th d.—Same dose. Sleep disturbed; great headache during n.; weight of head p.m.; urine scanty and voided with difficulty; dryness of mouth continues; singular expression of countenance; eyes seem smaller. 7th d.—No medicine. Vision of r. eye still disturbed. 8th.—Effects of drug passed off. Had taken 158 gr. in 8 d. (*BARBIER, Mat. Med.*, 1824, iii, 415.)

10. A man with r. prosopalgia took 9 gr. of powder in 3 doses. E., great dryness of mouth and throat; pupils dilated; apparent dryness of surface of eye; no stool. 2nd d.—Took 12 gr. in same manner. Dryness of mouth; constant thirst; slight colic pains; eyes drier and irritated; agitated n., no sleep; pulse generally quick. 3rd d.—18 gr. Great dryness of mouth; thirst; colic; 3 stools; micturition slow; rushes of heat to head, causing threatening of syncope; pain in l. head; no cephalic congestion. 4th d.—24 gr. Symptoms continue. 5th d.—24 gr. Cannot distinguish objects; conjunctiva

red and irritated; singular expression; pain in limbs; cannot keep himself up; no weight of head; calm sleep part of n. 6th d.—30 gr. Great weakness of limbs; no depression; sleep agitated; eyes irritated; painful pricking over whole body during n. 7th d.—36 gr. Effects increased. 8th d.—45 gr. 9th d.—45 gr. Some oppression of head, which is heavy, especially when the rushes of heat to it take place; muscular strength annihilated; difficult micturition; sleep disturbed by dreams; transient blindness. 10th d.—Medicine discontinued. 12th d.—Debility of limbs continued, with dryness of mouth and throat. 13th d.—Only weakness of limbs, which lasted some d. longer. Took 243 gr. in 9 d. (*Ibid.*)

II. a. LEONARD PRATT, student, took 5 dr. of tinct. at 7 a.m. After 3 h., feeling of enlargement and protrusion of eyeballs; jerking of muscles of arms, followed immediately by darting pains through forehead. After 5 h., dartings through head in different directions, extending to balls of eyes and down r. side of nose; tearing pain in r. ear, with shooting through forehead and vertex. After 6 h., sharp twinging pains near external condyle of humerus; jerking twinging pains in muscles and tendons of back side of l. forearm, extending to index; constant throbbing in head, deep-seated; dim sight, as though atmosphere was foggy. After 9 h., sense of fulness in head; beating in vertex and forehead, felt also in eyeballs; throbbing pain in l. lower molars, and in submaxillary gland of same side; pulse fuller and 10 beats quicker than usual. After 13 h. fulness of vessels of conjunctiva and sclerotic, eyes looking red, particularly near external canthus; soreness in eyeballs on turning them. After 14 h., frequent sneezing. On 2nd d., at 7 a.m., heavy beating in arteries, particularly felt in head and chest; throbbing in teeth of l. lower jaw and in eyeballs, worse in l., with lachrymation; pulse 15 beats faster than usual, and very full and heavy. Did not rest well at n., frequent waking; wandering indistinct dreams; obliged to get up 4 times to urinate. Without note of time,—beating in forehead and balls of eyes.

b. He now took a dose every m., about $\frac{1}{2}$ h. before breakfast, beginning with 3 dr. and gradually increasing up to 20. There resulted continual ringing in ears, worse l. side; and looseness of bowels, with flatulence and borborygmus, and occasional sharp pains, continuing nearly a week after omitting medicine. (*Inaug. Diss.*, Penns. Hom. Med. Coll., 1852; from *Allen's Encyclopædia.*)

II. *Poisonings.*—1. a. On the 26th ult. my little daughter, aged 2 $\frac{1}{2}$, called with her mother at the house of a friend, where it appears that the child whilst amusing herself swallowed unobserved some seeds of the datura stramonium, that were lying on a side table to dry for garden use. The quantity eaten, or more properly swallowed, for there were none of them masticated, was afterwards ascertained to exceed 100, and weighed about 16 gr., as ascertained by subsequently weighing a similar number of seeds. No symptoms of a nature sufficiently alarming to arrest particular attention presented themselves before the lapse of an hour, although on reflection the child had previously (indeed, from within $\frac{1}{2}$ h. of having swallowed the seeds) evinced great irritability of temper, accompanied by general itching of the whole surface

of the body, but more especially of the face, and conducted herself like a person slightly intoxicated. Her mother, ignorant of the cause of these indications, had regarded them simply as the effects of bad humour, and reproved her accordingly. To these succeeded flushed face, wildness of manner, suffused eyes, maniacal expression, ineffectual efforts to vomit, incoherent and rapid utterance, which very soon became wholly unintelligible; screaming, catching at imaginary objects in the air, or rather striking at them—for it was evident that these spectra were of a frightful nature, since at the moment of darting out the hand in the direction where the eyes were fixed, she always suddenly and with great vehemence withdrew herself, expressed the utmost terror in her look, and then hid her face; at the same time screaming and sobbing violently. Her eyes would to appearance follow the imaginary object for a moment or two before she made the effort to escape from its supposed approach. She rapidly became furiously delirious, struck at, pinched, or attempted to *bite* every person who came near, or any object that was offered to her.

b. By 2.30 p.m., *i. e.* within a space of $2\frac{1}{2}$ h. from the time that she must have swallowed the poison, the child had lost not only the power of utterance, but that of voice also. She could now only utter a hoarse croaking sound, attended with a sonorous croupy barking cough, and was unable to swallow in consequence of the violent spasms which affected the muscles of deglutition* when she made the effort. This state of spasm, judging from the nature of the cough and the croupy character of the inspirations, pervaded also the muscles of the larynx. She now knew no person, and had been wholly insensible to surrounding objects for above $1\frac{1}{2}$ h. The pupils were dilated, had been so from the first, and continued in this state till she died. The voluntary power of the extremities was gone, and the limbs were violently agitated by spasmodic twitching and jactitation (not by regular convulsions), alternately with short paroxysms of tetanic spasm (opisthotonos). Notwithstanding all this active excitement, accompanied with hot and perspiring skin on the surface of the trunk, and flushed (slightly swollen) face, the pulse was almost imperceptible from the first, but as far as it could be felt it was natural with regard to velocity, and the inferior extremities were cold. Neither was there apparently any active determination of blood to the brain, if we may estimate this from the state of the anterior fontanelle, which was neither tense, hot, nor in the slightest degree raised by the cerebral pulsations; these, on the contrary, were scarcely perceptible.

c. In this condition, the severity of the symptoms undergoing occasional remissions of a few m. duration, she remained for about 3 h., when a state of coma supervened, but she did not sleep, though at first somewhat so disposed. She still continued to be affected with convulsive twitching and jactitation of the limbs, alternated with short paroxysms of rapid vibratory spasmodic motions of the hands and fore-arms, of a peculiar though, I believe, diagnostic nature as regards the

* This symptom, conjoined with those enumerated, excited in my mind apprehensions of hydrophobia, until the matter ejected from the stomach by vomiting removed all doubt of their cause.

effects produced by poisons of this class. The muscles of the face were never affected by spasm, nor the expression of the countenance contorted in the slightest degree during the whole course of the operation of the poison. This comatose state lasted about 2 h.; like the former it was attended with incapability of swallowing, but evidently the cause was of a totally opposite nature to that which had produced the same symptom in the first stage. It was now decidedly the result of atony or paralysis of those parts which had been formerly affected by spasm. A slightly stertorous state of the breathing indicated that a similar change had taken place in the muscles of the larynx. During the continuance of the coma the pulse returned, it was uncountably quick, and estimated to exceed 200, sharp, small, and thready; the respiration was extremely hurried, averaging about 100; each respiration, however, completely filled the lungs. A tympanitic state of the bowels now proclaimed itself; the belly became extremely tense, and in consequence prevented me detecting another symptom that manifested itself on examining the body after death, viz. paralysis of the bladder and consequent incontinence of urine from repletion of that viscus. It need hardly be added that the evacuations were passed unconsciously, which added to the difficulty of detecting this symptom. At 1 a.m. there was a return of excitement, but not so severe as that which first presented itself; neither was it attended by ocular spectra or tetanic spasm; the respiration at one time exceeded 140 in a m. At 8 a.m. on the 27th the child again became comparatively tranquil, and began to manifest symptoms of exhaustion, but was still affected with frequent twitching and the vibratory motions already described. In this state she continued, gradually becoming weaker, till noon, when she expired, exactly 24 h. from the time of swallowing the seeds. (Emetics and purgatives had been given, and had acted, evacuating the seeds swallowed.)

d. Post-mortem inspection.—The natural appearance of the body externally was not at all changed; the countenance remained placid, the limbs more supple and pliant than usual; abdomen considerably swollen, tense, and tympanitic. The scalp when divided was very exsanguineous; dura mater unusually adherent; arachnoid membrane perfectly transparent, somewhat more adherent to the pia mater than common, but not morbidly so; pia mater natural in every respect. A medullary section of the brain might be said to present rather more red points than usual; this was observed more particularly on the l. side, but not sufficiently to admit of being regarded as a morbid appearance. No effusion in the ventricles. The blood was found to be semi-fluid throughout the body; the few coagula which were met with in the auricles of the heart and large veins were very feebly formed and easily broken down. The medulla oblongata was divided very low down so as to afford an opportunity of judging of the condition of the spinal marrow, but nothing particular presented itself to notice. The lungs were natural; the l. ventricles of the heart were found empty; the parietes of the l. side very hard and powerfully contracted; no coagula in the r. A slight unusual blush pervaded the pharynx and œsophagus to about one third their extent; but a very distinct band of vascularity

about $\frac{1}{2}$ in. broad was formed at the junction of the tube with the pharynx; the larynx was similarly injected, but not quite in so marked a degree; the rima glottidis was thickened and very turgid. The gall-bladder was distended; bile had transuded and was effused on the intestines. The stomach and intestines presented an extremely healthy appearance throughout; the peritoneal surface was rather paler than usual. Not a single seed was found in the whole extent of the canal. There was one slight invagination of the jejunum, about $\frac{1}{2}$ in. in extent. The bladder was distended with urine. The only appearances, then, meriting the appellation of morbid were those detected in the pharynx and larynx, and extending to the tubes proceeding from these. (DUFFIN, *Lond. Med. Gaz.*, xv, 194.)

2. A lady had suffered from intense periodical headache, which destroyed sleep, and rendered her totally unfit for any occupation; her health in other respects was unimpaired. Various remedies had been in vain tried, and at last a grain of an extract of *S.* was given every successive m. for 4 d.; as no relief followed, the dose was doubled on the 5th, and in about 4 h. afterwards symptoms of poisoning by *S.* were developed. The face was of a purple-red colour, swollen; eyes prominent; pupils dilated; eyelids half closed, and vision nearly lost; hearing impaired; muscles of lower jaw, lips, right arm and leg convulsed; l. side completely paralysed, and the intellect singularly disturbed; continual incoherent stammering; weeping, and other expressions of dreadful suffering; deglutition difficult; abdomen sore; pulse small and frequent; respiration tight and hurried; temperature natural; cold sweats, confined to the paralysed parts. Ten leeches were applied behind the ears, sinapisms to the feet, injection of common salt and vinegar administered, and vinegar and water given internally. The phenomena gradually subsided, the paralysed limbs began to execute slight movements; about midnight there came on another but less violent attack, which was relieved by antispasmodics; weakness and indistinct articulation only remained; the headache never recurred. In 9 d. the patient was completely restored. (SIGMOND, *Lancet*, 1836-7, ii, 392.)

3. A man and his wife who were both rheumatic consulted a druggist, who recommended them to take an infusion of *S.* A strong infusion was made, and the wife took a cupful of it on going in to bed, and 5 m. afterwards the husband took a similar quantity, and went to place himself in bed, when he found his wife powerfully agitated, making singular movements, her eyes fixed and staring, and unable to reply to the questions put to her. At that moment, as she afterwards related, she felt as if a fire had mounted to her head, and also affected her stomach. The husband became sick and vomited; after which he wished to go out to get assistance for his wife, but he had scarcely gained the door of the room ere he felt so enfeebled that his knees bent under him, and he was forced to sit down, but in a few seconds he fell senseless to the ground; on recovering he vomited repeatedly, was greatly agitated, became torpid, with a lethargic tendency, and lost for some time all sense of feeling. These symptoms continued 8 h. with the husband and 13 with the wife, and the latter was after-

wards affected with gastric irritation which continued nearly a month. (THOMSON, *Ibid.*, p. 819.)

4. *a.* An Indian labourer named Hitoo was condemned by the Court of Assizes to ten years' hard labour in chains. He worked very unwillingly for about a month, and was brought into the prison infirmary on February 10th, 1846, in a state of insensibility, with stertorous breathing, dry black tongue, injected conjunctivæ, and dilated pupils, pulse ranging from 100 to 120. He was said to have eaten stramonium, which grows where he was sent to work that morning, 6½ h. previously. The stomach-pump was applied, which brought up many entire seeds and fragments of seeds of the *datura stramonium*; but the action of the heart soon became more feeble, and notwithstanding the administration of stimulants he continued to sink, and died an h. after admission, being about 7½ h. after he was supposed to have taken the poison. The heart was felt beating several seconds after respiration had ceased.

b. The body was examined 19 h. after death, at which time there were evident marks of commencing putrefaction (therm. 88°). It was muscular, 5 ft. 4 in. in height, and about 45 years of age. *Head.*—Great turgescence of the integuments as well as of the dura mater, tunica arachnoides, and pia mater; brain firm and highly injected; the choroid plexus turgid, and the ventricles contained a little bloody serum; there was a small plate of bone deposited in the falx near the crista galli. *Chest.*—Old ribbon-like adhesions between the pleura of left lung and that lining the cavity of the chest on the anterior part; the substance of both lungs very vascular in many parts; heart flaccid. *Abdomen.*—Liver, spleen, pancreas, kidneys and bladder normal; the stomach contained about 4 oz. of ingesta, composed of rice, 89 seeds of stramonium, besides many fragments, pieces of manioc, and tripe; there was a patch of extravasated blood the size of a shilling in the mucous coat of the larger curvature of this viscus, and a smaller patch of extravasation near the pyloric orifice; the whole mucous coat of the stomach was slightly congested; many entire seeds as well as fragments of seeds were also found throughout the entire length of the small intestines. (ALLAN, *Ibid.*, 1847, ii, 298.)

5. In the winter of 1825 I was called in the n. to visit Mrs. S. R—, who had been afflicted a few d. with a severe cold, but who was suddenly affected on the n. of my visit with very distressing and alarming symptoms. I found her in a state of extreme agitation, declaring that she should not live, that she had taken poison which would immediately destroy her life. She was blind; the pupils were dilated to the utmost extent; her pulse was rapid so as scarcely to be counted, and very feeble. She had puked frequently; complained of pain and vertigo and great confusion in the head, faintness and indescribable anxiety at the stomach; was extremely restless, not at all disposed to sleep; her skin was cold and covered with sweat; countenance wild, exhibiting excessive anxiety and alarm; and, notwithstanding that her friends had made every effort to allay her fears, and satisfy her that she had taken nothing but herb tea, she still insisted that she had taken poison and should die. Alarmed myself at her

singular appearance and symptoms, I inquired of her mother (who was an experienced nurse) what she had taken, and learned that she drank freely of a tea of coltsfoot and liquorice, the former having been gathered by the mother herself and carefully labelled, and the latter had the previous evening been procured of an apothecary. Fearing that some narcotic poison had been accidentally mixed into the ingredients of which the tea was made, I gave an emetic, which operated freely without affording relief. I then gave her 25 dr. of laudanum in a weak brandy sling every hour, till relief was procured; applied mustard paste to her stomach, warmth to her extremities, and gave her freely of warm aromatic drinks. After 6 h. of the most indescribable distress and frenzied delirium she fell asleep, and remained in quiet repose for some hours. When she woke she was calm; so blind as to be unable to distinguish one person from another; pupils of the eyes greatly dilated; she was very thirsty; tongue dry; vomited frequently through the d. Pulse was frequent and soft. I was now satisfied that she was under the influence of stramonium. As I could gain no information from the apothecary, I examined the bundle of coltsfoot, and found it mixed with a considerable quantity of the leaves of the stramonium, which solved the whole difficulty. The thirst, dilated pupil, and dimness of sight continued for some d., when my patient recovered. (*Bost. Med. and Surg. Journ.*, ix, 10.)

6. On the m. of June 24th, 1825, I was requested to visit Miss E. F—, who was represented to be in great distress and furiously deranged. When I arrived about 4 p.m. she had sunk into a state of complete insensibility, was unable to swallow any fluid, or to be aroused sufficiently to take the least notice of me or her friends. Previous to my arrival she had been greatly excited and delirious. I found that the pupils were dilated; the skin cold and moist; pulse 120 in a minute, small and soft; her countenance pale; extremities cold, &c. Her mother informed me that, being a little unwell, she had given her some lettuce and gold thread tea, which she took very reluctantly. This was taken at 11 a.m. I immediately directed that compresses be wetted in oil of turpentine and applied to her limbs while covered, so that rapid evaporation could not take place. An injection of the turpentine with sufficient laudanum to retain it was thrown up the bowels. Volatiles were applied to the nose, and warmth and friction to the surface to excite the action of the skin. Not long after this course was adopted she was suddenly aroused; was highly delirious, nearly blind, thirsty, mouth very dry. Her pulse varied from 110 to 125, very soft and compressible. If she raised her head from the pillow she had vertigo, vomiting, and faintness. These symptoms satisfied me that she had taken some narcotic and probably stramonium. I called for the cup of herb tea which was still standing, and found that stramonium had been used instead of lettuce in making the tea. I gave her brandy and water, and every 2 h. 20 dr. of laudanum till the extreme distress and restlessness abated; when quiet sleep was restored, all danger was over, and she recovered very gradually. (*Ibid.*)

7. In 1825 I was called in great haste to see Mrs. W—, æt.

about 40, who was represented to be in a profound coma, having slept uninterruptedly all the afternoon and e. of that d. Mrs. W— had just recovered from an attack of dysentery, of which disease two of her daughters were at this time seriously sick. When I visited the daughters in the m., Mrs. W— informed me that she was seriously afflicted with piles, which had followed her disease and were very painful, and she wished me to prescribe for her. I directed her to take a leaf of the datura stramonium as large as three of her fingers, and make a strong infusion and take it as an injection. She prepared the remedy and administered it herself, no member of the family having any knowledge of it. When her husband returned from church he found her asleep in her bedroom. As she had had so little rest during the sickness of her daughters, he was gratified to find her so quietly reposing, and directed that she should not be waked to tea. Before bedtime, however, he became anxious at the length of time she slept, and attempted to arouse her. All his efforts were unavailing. She was perfectly comatose. Under these circumstances I was sent for, collecting my prescription for her in the m., I hastened to the house and inquired if she had taken the injection. No person had any knowledge of it. Search being made, however, a vessel containing a large quantity of the leaves of stramonium was found, from which, as I afterwards learnt, nearly a pint of strong infusion had been drained off and taken as directed by injection, she not knowing that the plant was poisonous. Her symptoms were of the most alarming character, and exhibited the operation of that dangerous narcotic to a greater degree than I had ever before seen. She was perfectly insensible as if dead, less irritated by the harshest means; her pulse was 120 in a minute, small and soft; pupils fully dilated; tongue flabby and hanging out of mouth; surface pale and cold; respiration slow and irregular. I gave her a wineglassful of oil of turpentine by injection; applied mustard and oil of turpentine to the surface; frictions, volatiles, &c.; put into her mouth frequently diluted brandy, spirit of ammonia, and other stimulants. It was many hours before she was effectually aroused. Before m., by the most persevering efforts—pinching her, stinging with nettles, external heat, internal stimulants, and turpentine injections—she revived, and after a while was enabled to tell the story of her proceedings with the stramonium. It was ten or twelve days before she entirely recovered from the symptoms produced by it.

The effect of stramonium on the pulse is different from that of most narcotics when pushed so far as to produce ultimate narcosis. I have almost universally found it increased in frequency, but not in power. (*Ibid.*)

8. An Irish family was taken suddenly ill after eating a dinner of corned beef and boiled greens. The family consists of five persons, Mr. T—, his wife, and three children—the oldest about eight, the youngest about five years of age. I saw them about an hour after dinner, when the symptoms were immediately recognised as the effect of the datura. The countenances had a wild idiotic expression, the pupils widely dilated, the sensorial functions perverted, and the muscular system subject to an irregular agitation somewhat resembling

that of children. The appearance of the family was extremely ludicrous. The children were laughing, crying, singing, dancing, and playing all imaginable antic pranks. They had no correct estimation of distances or the size of objects; were reaching their hands to catch hold of objects across the room, and again running against persons and things which they appeared to view as distant. The nailheads in the floor were pieces of money which they eagerly tried to pick up. A boy, apparently fancying himself undressed, caught a hat belonging to a student, thrust his foot into it, pulled with both hands on the brim, and began to fret that he could not "get on his trousers." The parents frequently called on the children to behave themselves; but their own actions being equally eccentric, they afforded a ridiculous exhibition of family government.

Emetics brought from the stomach a large quantity of the datura plant with other green vegetables; and under the use of camphor, carb. ammoniac, and warm aromatic infusion, the narcotic symptoms soon subsided. (HOCKER, *Ibid.*, xv, 60.)

9. On the e. of Nov. 25th I was called to F. S—, a male child, aged four years, and was requested to be as quick as possible, as the messenger said the child was in spasms. I saw the child in about 10 m. after I was called. Found him in great distress; pulse 120; throwing his arms and limbs to and fro, and very restless; colour of skin a bright scarlet; pupils dilated. The scarlet colour extended over the face, body and limbs. I questioned his mother as to how he was taken; she replied that an hour before, he had been at play with the children, and came into the house and wanted some water; said his tongue felt big, and he appeared not to want much supper. She put him to bed as usual. He had not been in bed long before attention was called to him by a scream, as though he was frightened in his sleep. She found it impossible to do anything with him, and his father was called. As he inclined to be sick and to vomit, they gave him an infusion of snakeroot, which checked it. He being no better as to other symptoms, a messenger was despatched for me. From the appearance of the child, and the mother's history, I concluded it was a worm fit with stoppage of water, as his father told her he had often complained when urinating, and accordingly I gave him some simple remedies for the urinary trouble, with little or no effect. I then ordered injections, and at least twelve ounces were thrown up the rectum. After waiting one hour, and no movement of the bowels occurring, and the symptoms not much better, I came to the conclusion that there was a want of action from some cause, and accordingly gave calomel and jalap at 9 o'clock, and left another powder to be given at 1 o'clock if no movement took place from the bowels. No passage taking place by 1 o'clock, and the symptoms being the same, the powder was given, which caused full emesis and brought to light the cause of the trouble, viz. about a tablespoonful of the seeds of the datura stramonium. How the little fellow lived so long with them in him, it being about 7 h. from the time I first saw him till he vomited them up, and how much longer they had been in him, I know not. The medicinal dose is but $\frac{1}{2}$ gr. At the same time the vomiting com-

menced, the bowels passed off quite freely watery stools mixed with the seeds. (CALKINS, *Ibid.*, liv, 398.)

10. a. L. G—, a boy about 6, was found standing at the back gate of his father's house at about 6 p.m. on Saturday afternoon. He was known to have gone away from home immediately after dinner, and had not been seen by his family afterwards. He staggered into the house, drank a cup of tea in the kitchen, and was carried upstairs, having said in reply to a question, "I don't care;" but these were all the words spoken by him till after midnight. I saw him a few minutes before 9 o'clock. He was sitting in a lady's lap, his r. cheek against her breast. The whole surface was of a bright crimson, but the skin was not dry, and the redness disappeared on pressure, returning very rapidly. His teeth and lips were separated. The tongue was very dry and its tip was curled up, but not touching the roof of the mouth. Both pupils were fully dilated, the iris being scarcely perceptible; the respiration strongly stertorous. The pulse was rapid and feeble. Both sounds of heart were distinct. The abdomen was tympanitic.

b. The history, so far as could be made out, was that he had eaten bread and butter with tomato catsup for breakfast; had been at school in the morning; had taken a dinner of bread and butter with milk, and had gone away to play immediately afterwards. With whom or where he had been could not be discovered. His usual companions had not seen him. He had vomited just before I saw him a parcel of seeds, supposed to be tomato seeds. On comparison, however, there was an evident difference. The tomato seed was about the same size but balloon-shaped. These were, as described in the books, "small, kidney-shaped, flattened on the sides," but *white*, not of a dark brown, as the ripe stramonium seeds are. Convinced that they were stramonium, I gave him by the mouth about a scruple of ipecacuanha, and as much more in half a pint of warm water as an enema. When removing him to bed I noticed that his limbs, though flexed, were rigid. Soon after, by irritating him, he was made to move, but the power of motion was mostly confined to the r. side. Within 2 h. his l. side recovered its power. He did not vomit for 2 h. after taking the emetic, and then vomiting was much aided by putting the spoon down his throat. The enema came away in part while vomiting. Before this time his skin was losing its redness, and he was inclined to get up, but would fall asleep in the act of rising. As in one stupefied with opium, his waking was with a start, as though dreaming. He picked the bedclothes as one in the low stage of fever, and if the hand were held before his eyes he felt for it at varying distances. When pinched or tickled after 10 o'clock, he became very angry, and muttered incoherently, turning upon his face and kicking backwards with alternate movements of the feet. There was no strabismus throughout.

c. Dr. Ellis, with whom I left him at 11 p.m., reports that he gave him a grain of tartrate of antimony in four doses, in the course of the following hour. After each dose he vomited, but nothing came up except those white flat seeds. There was no bile at any time. About midnight there was a voluntary dejection. He was then moving about, apparently conscious, but could give no account of himself. About

that time Dr. Ellis gave him 4 grs. of calomel, which were at once thrown up. The doctor left soon after, directing senna and salts in the morning. This dose operated twice in the morning. On Sunday, at 1 p.m., I saw him again. He was about house and came to the door. The pupils were still somewhat dilated, and he could not distinguish figures from letters. Otherwise he seemed well, except that he could not remember the names of the boys with whom he had been on Saturday afternoon. He must have vomited some 250 or 300 seeds—I think more than the latter number. (BUCKINGHAM, *Ibid.*, lxx, 261.)

11. A girl æt. about 2½ lately died from eating unripe thorn-apple. The child ate it between 5 and 6 p.m. on an empty stomach, but the quantity taken could not be ascertained. About 6 p.m. she was observed to stagger and appeared as if intoxicated. At 8.30 p.m. the symptoms were complete insensibility, dilatation of pupils, swelling of the under lip, voluntary muscles in a state of great relaxation, respiration hurried, the extremities cold, and the pulse little or none perceptible. The torpor gave place at irregular intervals to severe convulsive fits, during which the child shrieked violently, and the voice was particularly hoarse. Full vomiting was excited, and a considerable quantity of stramonium was thus dislodged from the stomach, but without any return of consciousness, or any abatement of the symptoms. At 1 a.m. the paroxysms of excitement of the brain which had produced the convulsions had ceased to recur, and the jaw had become locked. At 8 a.m. pulse 160, strong and regular; heat of whole surface great; eyes half closed and lifeless. At 11 a.m. pulse 120, unequal and intermitting. The child lived till 3 p.m. On opening the body a large quantity of thorn-apple was found in the ileum; some of it in pieces that admitted being felt through the coats of the intestines, but the greater part in a state of minute division. A great part of the poisonous substance was intimately blended with the fluid secretions in the intestines, but as much of it as could be got away separately weighed nearly half an ounce. In the stomach only one particle of stramonium remained, and none in the duodenum or jejunum. The bladder was distended, the blood-vessels of the pia mater remarkably loaded, and more water than usual in the ventricles of the brain. (GRANGER, *Ed. Med. and Surg. Journ.*, xvi, 155.)

12. Thursday, Nov. 10th, 1844, 10.15 p.m., was called to visit 3 women who were said to be in a dangerous condition from the use of some article that they had taken in the course of that e. It was soon ascertained that they had steeped, as they supposed, about half an ounce of horehound in a pint of water for a slight cold, but the herb proved to be stramonium, and they had each of them taken a portion of this infusion. M. L— was upwards of 60, previous health feeble and delicate. J. L—, æt. about 30, constitution good. E. B—, upwards of 80, naturally of a very vigorous constitution, had suffered lately from bronchitis, but was now convalescent. *Appearances.*—They lay in bed stupid, with a muttering delirium, unable to articulate a single word. There was a certain and peculiar wildness of countenance. Their faces were flushed; pupils much dilated; conjunctivæ highly injected, with a

total insensibility of pupils. Lips and tongue parched; no vomiting; breathing at times stertorous and laboured. Hands cold, with a trembling and slightly convulsive movement. Great rigidity of the muscles of the back and neck. At times active attempts at utterance. For the space of 3 h. at intervals various emetics were given, with little effect. Stimulants were then substituted, apparently with some beneficial effect. Their use was continued at intervals.

a. M. L—, Friday, 3 a.m. There is a decided improvement; can raise herself in bed, but mutters. 9 a.m., is conscious, though there is a wildness in her look; pupils dilated; talks at times coherently and then wanders. A purgative was ordered each patient. Saturday m., complains of soreness of the throat and fauces. Has a loose rattling cough, with some expectoration. Mucilaginous drinks were ordered. She continued to droop gradually, and died apparently without suffering the following m.

b. J. L— could sit up, but was unable to stand, and resembled one intoxicated. Her symptoms were somewhat of an hysterical character. Friday, 3 a.m., is conscious, speaks distinctly, and seems aware of her condition. 6 a.m., pupils continue dilated. Saturday m., well. An incident in her case is perhaps worthy of remark. She is a seamstress by trade, and is much occupied in sewing. At times, when under the influence of the poison, she would seem to herself to be engaged in her usual avocation, and then would thread the needle, tie the knot at the end, and imitate in every respect the routine of procedure of one thus engaged.

c. E. B— drank the most freely. The wildness of countenance in her case was very striking and almost startling. Pupils very much dilated, and almost insensible. Friday, 3 a.m., but little if any improvement. 9 a.m., is conscious, though the wildness continues. Pupils considerably dilated, is much excited, talks thickly, and articulates with difficulty. Saturday m., is better, but complains of great soreness and dryness of throat. Has improved slowly since then. Has at present some hoarseness of voice and cough, for which she is under treatment. (SPENCE, *Bost. Med. and Surg. Journ.*, xxxi, 361.)

13. On July 23rd, 1797, at 11 p.m., I was called in great haste to visit a child of Mr. S—, æt. about 2 years, suddenly attacked and said to be dangerously ill. When I arrived I found her apparently in the greatest agony, with a high fever, and burning heat and redness of the skin, attended with an itching eruption over the whole face and trunk of the body, but her feet and legs were paler and cooler than natural, her countenance appeared suffused and bloated, the pupils were greatly dilated, the tongue furred and dry; pulse weak, and so frequent as hardly to be counted. She had an incessant hiccup, and frequent ineffectual retchings to vomit. Sometimes she would appear for a moment to be relieved from her anxiety, and sit silent with her eyes fixed on the ground as if absorbed in contemplation, whilst her hands were employed in picking at her clothes, or anything that happened to be before her, similar to those in the last stage of some fevers. Then again she would start involuntarily, quick as if a shock of electricity had passed through her body, with an air of affright and a loud shriek; her

limbs writhed with convulsive motions and her countenance and body distorted in every direction, apparently affected with great pain and anxiety. At other times in her intervals of ease she would sing and sometimes laugh, but could not be made to utter a word, neither did she appear to take notice of anything that was said to her. In short, the functions of her mind appeared to be entirely deranged. These paroxysms occurred at irregular intervals of 5 or 10 m., and continued about the same period. She manifested great aversion to fluids of every kind. When a cup of water was brought to her lips she would instantly start from it, and sometimes relapse into her paroxysm; so great was her aversion that it was with the utmost difficulty a teaspoonful of any fluid could be forced down her throat. On particular inquiry I found that she had been in the garden that afternoon, and some of her playmates had observed her to take some seeds in her mouth, which from a specimen brought me proved to be the thorn-apple's. I exhibited an emetic. When it operated she brought up a tablespoonful or more of the unripe seeds, and diffused the rank smell of that plant over the whole house. After this the child appeared to be better and easier; her pulse became somewhat stronger and slower, and her skin a little cooler. 24th.—At daybreak I found her in a stupor, from which she could with great difficulty be roused, resembling a person in the highest stage of intoxication from spirituous liquors. She had frequent startings and twitchings of the limbs; her pulse was fuller, stronger, and slower than last e.; skin a little cooler; feet warmer; eruption stationary. I ordered a dose of castor oil to be administered immediately. Towards e. the oil had operated; she had somewhat recovered; stupor diminished; pupils not quite so much dilated; eruption not so red; she looked sullen and fretful. 25th.—Slept well last n.; has recovered rapidly, but is much debilitated; staggers a little when she walks; skin nearly of its natural colour, but rough and dry; pupils of the eyes contracted to nearly their natural dimensions; eyelids swelled, and face rather bloated. At 12 o'clock was attacked with high fever and slight return of the eruption; was much disposed to sleep. She now became thirsty, and inclined to drink; was directed to use lemonade. The pupils of her eyes were now contracted more than natural. Ordered repetition of *ol. ricini*. 26th.—Fever continues; pulse preternaturally tense. I administered a more powerful cathartic. 27th.—Purgative had operated well, it brought away a large quantity of greenish fæces; no fever; pulse natural. 28th.—Observed a great many vesications on her skin, filled with a pellucid fluid; they were extremely numerous and very small, many of them not larger than a pin's head, covering her whole face and trunk of her body. Ordered a continuation of the laxatives, and the lemon juice for common drink. 29th.—She recovers strength fast; plays about the house; appetite increases; vesications drying up. (DEWITT, *Med. Rep.*, ii, 27.)

14. A young married woman had taken a decoction of more than a tablespoonful of the dried seeds as a cure for some trifling complaint. Shortly after, she was seized with a delirium; her tongue furred; her cheeks flushed; skin warm, and her pulse full and tense. I immediately administered 6 grs. of tart. antimon, in divided portions. Three h.

afterwards the emetic had operated but little. She was now in a furious mania, requiring several persons to hold her. She passed large quantities of urine involuntarily as she walked over the floor. Pulse quick and tense; directed venesection to fifteen ounces, and administered a brisk cathartic. In 2 or 3 d. she entirely recovered, without the least recollection of anything that had happened during her illness. (*Ibid.*)

15. About 10 a.m. a child was observed to catch at the blaze of the fire in a very singular manner, and a few m. afterwards fell on the floor as if she had been paralysed on one side. In a short time symptoms of violent fever came on, with delirium, and a scarlet efflorescence over the whole body, which had not entirely disappeared when I saw her first at noon. This efflorescence was much more bright and lively than that which characterises scarlatina. Through the day the delirium continued, with short intervals of reason. An unceasing disposition for motion in all the muscles, weeping, screaming, laughter, and rapid, incoherent exclamations formed the leading features. Once or twice the child had made feeble efforts to vomit. On presenting a candle to the child I discovered an unusual dilatation of the pupils and a remarkable squinting of the r. eye, which, however, was not constant. The pulse was extremely irregular; sometimes it was hurried and fluttering, sometimes it was tense and strong, and frequently its action was not discernible. The motions of the limbs and body resembled those which mark the highest grade of *chorea Sancti Viti*, but were much more convulsive and violent, and excited in the spectators rather a painful than a ridiculous emotion. I administered a strong dose of emetic tartar. It was long before I could produce nausea; and, as the first efforts to vomit were abortive, I made use of a feather, which excited one feeble motion. No seeds were discharged, and I found great difficulty, even by the feather, in awakening the powers of the stomach. I then gave 18 dr. of ol. tartar., *per deliquium*, in a teaspoonful of warm water. It had not reached the stomach 2 m. when full vomiting took place, and 7 seeds of stramonium were thrown up. In the m. I found that, notwithstanding she had slept well, some slight convulsive symptoms, together with wildness of countenance and dilatation of the pupils, remained. (SAMUEL BROWN, *Ibid.*, v, 36.)

16. On Sept. 20th, 1840, two children, a boy *æt.* 4, and a girl *æt.* 2, whilst amusing themselves with the fruit of stramonium, bruised them between two stones, and being attracted by the seeds, still white, were induced to eat them. Some extraordinary sensation, some hallucination, interrupted their sport, which lasted for about half an hour, for suddenly the two children ran into the house, terrified and uttering cries. Their gait was staggering; they leaped rather than walked; their face was red and excited, and the eyes haggard. They both complained of extreme pain at the lower part of the throat, and eagerly drank cold water. Ineffectual efforts to vomit soon supervened; the most violent contractions of the stomach only expelled some stringy foam from the mouth. The pupils became extremely dilated, the injection of the face augmented; both the children were agitated with convulsive motions, and uttered hoarse, incoherent, and often inarticu-

late cries. Olive oil was given at once. The boy vomited copiously, and experienced an almost immediate improvement; the girl was not so fortunate, and was soon attacked with violent delirium, so that she could with difficulty be restrained; her heart pulsated violently; she was violently agitated, and scratched the attendants who endeavoured to confine her to bed. Leeches behind the ears, sinapisms to the legs, and sugar and water as a drink, were prescribed, and these means quickly subdued the symptoms. The boy, indeed, seemed to be cured, save that he talked with great volubility, and often incoherently. In the e. the symptoms returned with the greatest intensity in both patients. During the n. the boy shrieked violently; his eyes sparkled; the heart pulsated with the most extraordinary violence; he suffered from the most ardent thirst, and passed urine almost incessantly; exposure to the light of a candle caused him to utter the most terrible cries. The girl was affected somewhat similarly, but less violently. She was more depressed, perspired from the entire surface, and passed scarcely any urine. Towards m. the symptoms had almost entirely ceased in the boy, but the girl was motionless and almost cold; her respiration was short, and her pulse small and quick. A cupful of water acidulated with vinegar was administered to the boy every 15 m. As the condition of the girl was more alarming, sinapisms were applied to her legs and thighs, and purgative enemata were administered. She soon passed several frothy stools, in which the seeds of stramonium were discerned. After 2 d. passed in tranquil sleep the symptoms had all disappeared. (DASSIER, *Dubl. Med. Press*, vii, 54.)

17. Oct. 12th, 1777. M. S.—, near 6 years of age, and of a healthy constitution. Between 12 and 1 p.m. the d. before, she had swallowed three quarters of the seeds of a fresh, ripe, middle-sized thorn-apple. About 2 p.m. she began to look stupid, seemed to forget herself, and gave incoherent answers. At 3 p.m. they gave her some bread and milk, which she attempted to swallow, but could not, upon which they laid her down upon the bed, where she seemed to sleep for about half an hour; but when she awoke her belly, tongue, face, and eyes were obviously swelled, and the two latter were also very red. These last symptoms abated about 6 p.m., but from 3.30 to 7 p.m. she seemed to sit like a perfect idiot. At 7 p.m. she seemed to have a motion to stool, and passed a living *lumbricus teres*, 14 in. long, with a little water, but without any fæces or relief of symptoms, for soon after she began to grow worse, biting a man's hand, sometimes crying out that she saw cats, dogs, and rabbits, at the top, sides, and middle of the room; at other times with great eagerness catching at imaginary objects with her hands, and declaring that she saw many people who were not present. She suffered a continuation of these symptoms with little variation, and totally without rest, from 8 p.m. to 6 a.m. this m., being all that time restrained in bed by force in a raving and maniacal state. At 8.30 p.m. last n. she took about $\frac{1}{2}$ oz. of ipecacuanha wine, and about $\frac{1}{2}$ h. afterwards, that not operating, they gave the child 4 grs. of powdered ipecacuanha, but without effect. Towards m. she had a small costive stool. About 8 a.m. she drank near an English pint of milk, and was become somewhat more composed, but still not rational. At 9 a.m. (the time

at which I first saw her) I found her a little come to herself, but still frequently incoherent, and looking rather stupid. Her pulse was about 100 strokes in a m., and her breathing not difficult. I gave her immediately a powder composed of 4 grs. of calomel and 8 of jalap, and in $\frac{1}{2}$ h. it made her throw up once very freely, upon which she immediately fell into a sound sleep, and did not wake till near 1 p.m., when she was perfectly sensible and composed, and made no complaint but of a pain in her head. 13th.—The purgative seemed to operate freely yesterday afternoon. She had 3 loose stools before 5 p.m., 2 more in the n., and 4 or 5 to-day. Since the operation she has had a tolerable appetite, slept well, and has no complaint but the remains of the headache. Pulse 96. 15th.—The remains of the headache went off yesterday, and she is now entirely free from complaint. (FOWLER, in *Med. and Phil. Comm.*, v, 161.)

18. On June 23rd I was sent for in haste to see a child of Mr. C—, æt. 1 year and 8 months. On my arrival I found the child labouring under the following symptoms:—The whole body of the child was of a scarlet-red; skin hot and dry; tongue redder at the apex than the base, and dry; fauces almost white, and dry; respiration somewhat accelerated; pulse full, but not preternaturally frequent; face somewhat swollen; pupils enormously dilated and insensible to light; the muscles of the whole body convulsed, and the child screaming almost incessantly. At about 1.30 p.m. (a few m. after my arrival) I administered the following:—Calomel, gr. v; jalap, gr. v; to be followed in a few h. by a dose of ol. ricini. I then had warm pediluvia ordered, and also cold water poured continuously upon the head; after using these means for 20 m. the child dropped into an apparent sweet slumber. In about 20 m. more it awoke, and was like a mad child; it would hold out its hands as if it wanted a glass of water, then bring them to its mouth, and sip as if drinking water or other fluid; it would put its fingers into its mouth, and even bite them, and also its mother's fingers whenever she put them about its mouth, also screaming incessantly. I had the cold water continuously applied to the head, and administered ipec., gr. v, followed by warm drinks every few m. I continued this for about an h., but could not produce emesis. I then administered sulph. zinc, gr. v, followed by draughts of warm water, for 15 or 20 m., and again administered sulph. zinc, gr. v, in the course of 15 or 20 m. longer; vomiting commenced, and there was thrown up about 20 stramonium seeds, intermixed with some indigestible matter of the stomach. I endeavoured to keep up vomiting with some warm drinks (which the child took very reluctantly) and irritating the fauces, until it had thrown up 55 seeds. At this time (about 5 p.m.) the vomiting had ceased, although ineffectual efforts were made, and my efforts in reproducing it seemed to be unavailing. I had a mustard sinapism to the epigastrium, and the cold water assiduously applied to the head, which seemed to compose it more than anything else. At 9 p.m. the child went to sleep again; the pulse at this time natural; respiration natural; skin warm, and not so red as before; pupils still dilated very much, but previous to going to sleep the patient was much more composed. I then left the following powder:—Calomel, gr. v; jalap, gr. v;

to be followed at 5 a.m. by a dose of *ol. ricini*. At 7 a.m. I found the patient much better than I anticipated, and was informed by the parents that they had to wake it to give it the medicine I had left; and when they had given it to him he soon went to sleep again, and did not wake till the m., when they administered the castor oil, but as it had no effect on the bowels when I arrived I ordered another dose, and another if it did not operate by 9 a.m. As I have remarked, I found my patient much better than I anticipated, although the pupils were very much dilated yet, and it could not yet walk; on attempting to walk it would stagger like an intoxicated man, and would fall, although rational. When I returned at 2 p.m. I found my patient running about, and was informed by the mother that the medicine had operated well (it took 3 tablespoonfuls of oil to move the bowels) and had brought away at least a tablespoonful of stramonium seeds. (FAUST, *Charleston Med. Journ. and Rev.*, ix, 743.)

19. Charles L—, æt. 3, ate a few seeds with the following result:— He was not seen till about 5 h. after he had eaten them, at which time his sensorium was much disordered; there were strong convulsions, alternating with great excitement of mind; the pupils of his eyes were so much dilated as almost to obliterate the iris; pulse rapid and contracted; face and upper part of body universally covered with a vivid erysipelatous redness, which gradually disappeared after venesection. This state of things continued for about 14 h. The restoration of his senses was sudden and unexpected. Three days afterwards his body became covered with an eruption resembling rubeola, except that it was more prominent; this eruption lasted about 12 h. (GRIFFITHS, *Am. Journ. of Med. Sc.*, v, 251.)

20. On Sept. 3rd, 1861, three well-marked cases of poisoning by stramonium seeds were admitted to the Pennsylvania Hospital. One was a man, æt. 31, the other two were women, æt. respectively 34 and 58 years. They partook of some whiskey which contained some stramonium seeds. The man drank a cupful, the elder woman about a gill, the younger only one or two mouthfuls. A child of the latter was also given a little of the mixture, and it was in this case that the effects of the poison were first noticed. Within 4 or 5 m. after taking the draught the child became violently flushed in the face, the eyes glittered and rolled about, and it tottered so as almost to fall from its chair. This alarmed the mother, who, although already giddy and half blind, managed to run with the bottle to a neighbouring druggist. With much difficulty she again reached her house, where she found the other woman and the man lying speechless on the floor. They were at once taken to the hospital. The man and elder woman were nearly comatose, their faces flushed to an almost violet hue, the conjunctivæ injected, and the pupils were insensible to light and so strongly dilated as to leave visible merely a rim of iris; the skin of the face and upper extremities was burning hot; the tongue and throat parched and dry; respiration slow and laboured; pulse 100, and very tense and full. The younger woman had taken a smaller dose of the poison, and had reached only the maniacal stage of its influence; the skin was scarlet and burning hot, and tasis as marked as in

the other cases; the tongue parched; intense thirst, but no constriction of the fauces on swallowing; the respiration was hurried; the pulse fluttering, and beating 140 to the minute. The patient was violently delirious, resembling in a marked degree the most excited stage of *delirium tremens*, struggling to get out of bed, and continually rolling from side to side; she was unable to stand by herself, and, unless supported, fell forwards to the ground. When her hands were not restrained it was observed that she pursued imaginary objects in the air, or picked at the bedclothes, as in the delirium of typhoid fever. The man exhibited much the same symptoms as the woman, catching and striking at imaginary objects around him; but the retina was insensible to light, for a hand passed close in front of the eye failed to make him wink unless the cornea was touched; he was also more comatose at first, and with a more feeble and rapid pulse—150 per minute. Another alarming symptom was an apparent somnolency, which, according to some authors, marks only the worst cases. Next m. he was able to walk and to read large type. Some abnormal dilatation of the pupil and vertigo remained during the d.; by e. he was quite well. Opium and morphia constituted the principal portion of the treatment. (LEE, *Ibid.*, N. S., xliii, 54.)

21. C. McK—, æt. 10, and his brother, æt. 8, left their home at 10.30 a.m. upon an excursion to some vacant lots at a distance of over a mile from their residence, whence they returned about 3 p.m., and asked for their dinner as if nothing unusual had occurred. While eating, the mother observed a peculiar uneasiness and a tendency to wander from the subject on which they were being questioned, and she asked their comrades if they had not been using intoxicating drinks, but was assured that such was not the case. The two children were then unable to walk. In $\frac{1}{2}$ h. the symptoms became more alarming, and I was sent for, and reached the house at 4.30 p.m. I found the children lying on their backs; their eyelids slightly drooping; corneæ very bright; pupils widely dilated and insensible to light; conjunctivæ injected; face deeply suffused, and of a dark crimson colour; an apparent difficulty in breathing; inability to articulate, and a state of complete insensibility, broken occasionally by a paroxysm, during which they would utter some indistinct sounds and throw the hands about the head as if attempting to ward off some threatening evil; this would soon subside into a semi-comatose state, not the stupidity, however, which results from opium, but rather a state of intense apathy which persisted for a few seconds, when the delirium would again recur, unless sooner produced by the efforts of those about to render assistance, when the state of excitement assumed such a form and violence as to render necessary a certain amount of restraint to prevent escape from the imaginary object which engaged the attention; occasionally they would grasp at something in the space in front, appear as if they possessed or rejected it, then turn the head as if called by a voice beside them, and attempt to speak to it, the sound resembling a squeak more than the natural tone of voice. Neither of them was able to support himself alone upon his feet, but would take a step or two with a staggering gait, falling to the floor as if intoxicated or in a state of

complete exhaustion. During the period of excitement the extremities were in constant motion, co-ordinate only so far as they related to the corresponding limb, yet wanting in that harmony of action which is found in those movements of a higher order, as standing in an erect posture, walking, &c. ; there was constant action of the fingers, as if attempting to pick something from the person or bedclothes ; at times they would burst into a paroxysm of excessive laughter, which would persist for some seconds, then suddenly cease ; at times they would have a smile so quiet and pleasant that we could not but contrast it with the highly excited state previously witnessed. To each was given an emetic of sulphate of zinc, gr. v, and pulv. ipecac., gr. x ; their jaws being closed, and as they could not be made to comprehend our object, there was no little difficulty in causing them to swallow. Emesis followed, consisting of food and about half a drachm of the seeds. Cold water effusions were employed and seven drops of tinct. opii. At 5.15 p.m. the sulphate of zinc was repeated without immediate result, and also the opium. Twenty m. later, no marked effect having been produced, 10 dr. of laudanum were given ; they are now lying more quiet ; dilatation and immobility of the pupils ; general appearance unchanged ; still insensible, and even when loudly spoken to the eyes would scarcely be turned towards the speaker ; still continue to pick at the bedclothes and grasp at the imaginary objects about them ; suddenly move as if spoken to, and apparently attempt to articulate some reply, the limbs being at the same time actively moved, not spasmodically, however, but as if attempting to perform some action which failed for want of a proper guiding influence. 6 p.m.—They appear to lie more quiet now, and the iris still remains dilated and uninfluenced when exposed to the action of the light ; are not so frequently excited, though at times they laugh immoderately ; surface of the body continues very red, though less so than a short time previously. 5 dr. of laudanum to each. 9 p.m.—Both children are held sitting upon the knees of an attendant, whose attention is fully directed towards preventing them from falling during the periods of excitement, which are less violent and appear to be more in the direction of intelligence. The skin remains as from the beginning, somewhat relaxed, though not moist, and very slightly elevated in temperature ; pulse 95, compressible, and full in volume, and has varied but little from this since the commencement of the symptoms, even during the paroxysmal state, and this is to be attributed perhaps to the muscular movements rather than to direct action on the heart. Pupils now are less dilated, though very slightly influenced by light ; children are able to articulate, but cannot be made to comprehend questions put to them, and occasionally laugh or attempt to sing. 5 dr. more of laudanum are given now, and repeated in 30 m. 9 a.m.—The youngest child was now quietly sleeping, but could be awaked without difficulty. During the n. 10 dr. more of the laudanum had been given to each. The eldest was quietly lying on the bed ; pupils more contracted than when last seen, and became more so when exposed to a strong light ; skin moist and cool, has lost that efflorescent appearance which was before so strongly apparent ; pulse 86 ; respiration normal ; responds yes and no to necessary

inquiries, but does not complain or attempt to converse; is wholly uninterested in all that passes about him, and as he lies on side smiles as if amused at some ludicrous idea passing in his mind; at intervals has slept during the n., though frequently disturbed by illusions. 6 p.m. —Much better; pupils nearly normal in diameter, but not quite so susceptible to light as desired; complain of slight dryness of the fauces; some vertigo, with occasional delirium through the d.; and the eldest, when asked in reference to his thoughts, replied that he felt as if dreaming, though not asleep. Next d. all were well.

There were five others younger who had eaten the seeds, in whom there was dilatation and immobility of the pupils. (TURNER, *Ibid.*, xlvii, 552.)

22. T. B—, æt. 27, swallowed a large wineglassful of tincture of stramonium at a draught. He was immediately attacked with vertigo, dilatation of the pupils of the eyes, with double and confused vision, nausea but not vomiting, and drowsiness, followed by coma. I did not see him till 2 h. after he drank the tincture. In addition to the above symptoms he was violently convulsed, every muscle in his body appearing to be in violent commotion. He was continually beating his breast with his hands, like a Catholic doing penance. His jaws were set as in tetanus; he moaned continually; his breathing was stertorous, and occasionally there was rattling in his throat. His extremities were cold, his pulse nearly obliterated; he had cold clammy sweats, and his countenance was Hippocratic. I resorted to friction over the whole surface of his body, applied bladders of warm water to his hands and feet, and endeavoured to restore the circulation. I prepared a powerful solution of tartarized antimony, and with great difficulty prised open his jaws and endeavoured to get a little into his stomach by half a teaspoonful at a time. After unwearied attempts he at length swallowed a little of it, but it almost caused strangulation. This was continued for 2 h. Deglutition now became almost or quite impossible. In about $\frac{1}{2}$ h. after he last swallowed he began to vomit it. He threw up considerable matter, having the smell of stramonium; he was then able to swallow without much difficulty. He remained senseless till m., when he woke totally unconscious that anything had happened to him. He still saw indistinctly, and the pupils of the eyes remained dilated, but they gradually returned to their natural state. He recovered in the course of a few d. (Since the poisoning he has been averse to spirits, in which formerly he indulged freely.) (WILLIAMS, *N. Engl. Journ. of Med. and Surg.*, xii, 253.)

23. A boy, æt. 7, ate some green seeds (the quantity being uncertain) in the afternoon. About 5 p.m. his mother noticed some hesitation in his speech, and that his face was flushed. At it was some 2 h. to dinner she gave him an apple to eat; as he divided it she noticed a peculiar twitching of his fingers, and as he handed his mother a portion there was a movement of his hands like a patient with chorea. On biting the apple, which was quite juicy, he said it was dry like flour, and that it hurt his throat; he threw it aside, and lay down on the lounge. His mother inquired if he were sick, and he replied in tones so loud and violent that it startled her. As the twitching increased

she lifted him up to get him upstairs, when she found he staggered so as hardly to be able to walk, and in passing through the door fell against it. An emetic was given at once. I first saw the child at 7 p.m., about $2\frac{1}{2}$ h. after he had eaten the seeds. He was then tossing violently in his father's arms, with a spasmodic twitching of the hands, like a child agitated and suffering from chorea. The pupil of the eye was enormously dilated, more so than I have ever seen from the full action of belladonna; the face, and especially the mouth, was much swollen; he was perfectly blind, the full flash of the gas failing to produce the slightest contraction of the pupil. There were such violent movements of the hands and subsultus tendinum that it was impossible to count the pulse. The heart's action was feeble, but not increased in frequency. There was no perspiration in any part of the body. The feet and whole lower extremities were cold and palsied, and hung powerless over the father's lap, in marked contrast to the rest of the body, which was so much agitated. There had been some emesis from the emetics given, but not free; a tablespoonful of mustard and another of salt were immediately mixed with warm water, and pressing the tongue strongly down I attempted to make the child swallow it; considerable difficulty, however, was found in deglutition, and such severe symptoms of strangulation supervened that the parents would not allow me to repeat my endeavours to make the child swallow. Free vomiting soon followed, consisting of food and seeds. As there had been no action of bowels, a strong soap-suds enema was given. The child now seemed to be going into convulsions, and his head was immediately placed under the cold shower-bath, while his body reclined in warm water, as the coldness of the limbs had increased. Strong coffee was also forced down, though with great difficulty, as the child seemed to choke at every attempt to swallow. 9 p.m.—The child has had no convulsions; is picking at imaginary bodies in the air, and has a violent maniacal action; cannot articulate, but the words he attempts are loud and harsh; the pupil is extremely dilated, and does not respond in the slightest degree to light; the coldness of the extremities and loss of power marked. Coffee continued. 10 p.m.—Hears sounds more distinctly. His brother played on the guitar, and sang a favourite tune; boy noticed the music but turned in an uncertain manner towards him; attempts to sing, but cannot; is very violent in the attempt to articulate; involuntary movements of his hands continue; pupils still dilated; extremities cold and palsied. Continue coffee. 5 a.m.—Pupil still enormously dilated; perfectly blind; hearing good; cannot tell whether the gas is lighted or not; the pupil does not contract in the slightest from the full glare of the light on it; the limbs are still paralysed; some improvement in his speech, can now articulate more distinctly, but not so that a stranger can understand him; the same fierceness in his speech continues. The bowels now moved for the first time since eating the seeds; choreic movements of hands continued. As he vomited every time the coffee was given it was suspended. 7 a.m.—Swelling of face subsiding; twitching of the fingers continues; the pupil is dilated as before, and he cannot tell whether the light is burning or not, though his face is

turned to the gaslight; there is now a more distinct utterance, but the voice continues loud; he has no power over his limbs. Thursday m.—Pupil does not respond to the light, though it is now forty hours since taking the stramonium. Twitching of fingers is much less, and he has considerable fever; he still picks at imaginary objects. Friday m.—Pupil responds better to the light, and he sees more distinctly; the brilliancy of the eye is less marked; power of legs is restored; he wishes his playthings, and has more desire for food. Saturday m.—The pupil responds well to the light, though not perfectly. There is some redness of the fauces still remaining, and the child is unusually nervous. (JOHNSON, *Amer. Med. Times*, i, 22.)

24. A man and his wife took an enema containing stramonium and papaver nigrum.

a. Dr. Sarlandière found the man in a state of permanent convulsion with commencing symptoms of opisthotonos, the eyes being fixed and open, and the pupils so much dilated that the circle of the iris was scarcely perceptible; the limbs were at first convulsively moved in an automatic manner, which movement afterwards gave place to a kind of tetanic spasm. (The woman was likewise affected; she was, however, without the convulsive agitations of her husband; but she had fixed eyes with excessively dilated pupils. Purgatives and acid injections and drinks were given.) At the end of about an h. from the commencement of this treatment the spasmodic rigidity gave way, and he almost immediately placed himself in his bed, in the same attitude as when sitting on his board (he is a tailor), and now the symptoms of somnambulism became completely marked. He was imaginarily engaged in his usual occupation, appeared to be extending or folding up cloth, took hold of something which he supposed to be a needle, appeared to be threading his needle, and made a knot on the imaginary thread. Sometimes, supposing that he had let the thread slip, he renewed the operation of threading; and he appeared to make several unsuccessful attempts at pushing it through the needle's eye, till at length he seemed to have succeeded. All endeavours to make him hear and see were fruitless. He took not the smallest notice of loud sounds addressed immediately to his ears, nor did he regard any object placed before his eyes, intent only on his imaginary occupation. At times he seemed to conceive that some one had entered the room, and his countenance then assumed a smiling aspect, and he moved his lips as if speaking (no sounds, however, were emitted); the motion of his lips then ceased for some time, and he appeared to be listening to the reply of the visitor. He occasionally made the motion as of spitting, though in effect he did not spit. Now he seemed occupied in measuring for clothes, now in arranging and folding his cloth, cutting it with his scissors, and, in fact, doing everything in the way of his calling. He was thus occupied for 15 h., without eating or drinking anything, excepting a few spoonfuls of citric lemonade, and this it was difficult to make him take. By degrees he recovered the power of speech; he then commenced a conversation, imagining that he received answers to his remarks. It was not till towards the evening that he actually understood what was said to him, and replied rationally. His sight

was not restored till after the return of his speech ; he shortly, however, was able to distinguish the persons who were about him. His head, notwithstanding, still continued to run upon his business ; he persevered in his supposed employ, and actually conceived that he was making use of his trade utensils. At Dr. Sarlandière's sixth visit he was under the same delusion ; he was conversing familiarly with those about him, but still on the subject of his business ; and all endeavours to convince him that he was not on his board, but in his bed, proved unavailing. Dr. Sarlandière now held a watch to his ear (at midnight), letting him hear it strike the time, and telling him that business had better be abandoned for the present, or it would prove too fatiguing, injure his health, and prevent him working next d. The patient now descended from his imaginary board, undressed, and laid himself down to rest. During the rest of the n. he was calm, with the exception of some involuntary startings ; and on the following day his senses returned. A slight fever followed.

b. In the case of the woman, she found herself almost immediately affected with giddiness ; her arms seemed to have the weight of lead ; she saw thousands of flies about her, to which succeeded a number of serpents, lighted kilns, and apartments hung with black ; but in the midst of these objects she occasionally perceived those by whom she was really surrounded ; she saw her own apartment, her husband, her furniture, &c. She continued the whole of the d. sitting in a chair, and she thought that needles, scissors, and pieces of cloth lay about her. Sometimes she tried to lay hold of these things in order to occupy herself at her accustomed work, but they seemed to elude her grasp. Sometimes she felt that she had succeeded in getting hold of them, and she set about using them as usual. The above she afterwards related from recollection ; and Dr. Sarlandière had noticed that her actions during the paroxysm corresponded with her accounts. In her, as well as in her husband, the pupil was excessively dilated ; the eyes themselves were fixed and fully open ; but throughout she was more alive to her actual condition, and when questioned as to the cause of her disorder, she attributed it to the enema she had taken in the morning. Sometimes she suddenly started, as if urged by a momentous impulse ; sometimes she rose up as if to run rapidly from a pursuing enemy. But during the whole time she preserved the use of her speech, her ears, and even her eyes, when her attention was forcibly called to surrounding things. (*Lond. Med. Rep.*, xv, 337. 1821.)

25. A girl, æt. 2½ years, ate some seeds in the forenoon. The first symptom was a high degree of exhilaration, in which she excited much merriment by her extravagant gestures and speeches. This soon became alarming ; and when I was called to see her she was laughing, crying, and singing by turns, proceeding from one to the other state with the greatest rapidity. She occasionally started with great force and alarm, crying out that she was going to fall ; when she would cling to her mother with as much desperation as if she was about to be thrown from a precipice. She would next become calm, then whistle, and afterwards point with her finger at *muscæ volitantes*, which she followed with her eye and hand, at last clutching at them with an

appearance of disappointment at the want of success. The colour of her face was of a scarlet red. I have certainly never seen so intense a red in scarlatina. Her skin was hot; pulse much accelerated; tongue and fauces dry and red,—the former so dry that it glistened. The face, neck and breast were covered with hundreds of small brilliant petechiæ, many of which had a stellated form. After an emetic and purgative the cerebral symptoms gradually diminished till midnight, when she fell asleep. 2nd d.—Tolerably well. The petechiæ still quite evident, not being much changed. A troublesome itching of the whole skin, which came on yesterday, was gone. 4th d.—Child is well, but petechiæ not gone. 12th d.—Petechiæ no longer visible. (MEIGS, *Ibid.*, N. S., iv. 422.)

26. A man, æt. 69, drank a decoction in milk of $1\frac{1}{2}$ apples of stramonium about 8 a.m., fasting. Presently afterwards he became vertiginous or giddy, and therefore rose from his chair to take the air, with an intention to pluck more fruit. In walking 200 or 300 yards from his house he staggered as if drunk, feared he should fall upon his head, and that he was about to lose his senses, but had no sickness or the least inclination to vomit. As soon as he got home he went to bed, and complaining of an excessive dryness of his tongue and throat, a little water mixed with wine was given him; he also felt an odd sensation of dryness in, and violent girding across, the thorax. In less than $\frac{1}{2}$ h. he began to falter in his speech, became insensible, restless, and muttered frequently, in which condition I found him. His extremities, and also the trunk of his body, were cold; his pulse small and quick. He often raised himself on his knees, continually stretched out his arms, and employed his hands as if searching for something he wanted; his eyes were dull and heavy; after some time he became dumb and more quiet; had almost no pulse; and upon his being taken out of bed, that it might be put into better order, his limbs were visibly paralytic. Although he changed postures a little, yet he remained stupid for 6 or 7 h., then he raged furiously, requiring two persons to hold him in bed; notwithstanding which he raised himself up, tossed greatly, and seemed to catch at the bystanders with his hands, uttering incoherent sentences. At last he became sensible and more quiet; restless and delirious by turns. At about 10 p.m. of same d. he had perfectly recovered. After taking a purgative he slept well all n., and had several stools in the m. For the space of 14 h. he neither slept, vomited, nor discharged anything by stool or urine, though he frequently passed urine at other times, being grievously afflicted with the gravel. (SWAINE, in *Essays and Obs.*, Edinb., ii, 267.)

27. The patient, who was about 70, a fine, tall, stout, well-built man, suffering from asthma, took ʒiiss of tincture of stramonium about 1 a.m. He had gone to bed about 11.20 p.m., and had been heard pacing his room, and making an unusual noise, up to a late h. The last time he was heard moving was about 4 or 4.30 a.m. About 7 a.m. they rapped at his door as usual, but obtained no response. At 8 a.m. they tried to open the door, but found some resistance. They pushed it open by force, and then saw the patient lying on the floor in his night-shirt, with his feet at the door, as if he had been pushing against

it, and his head right under the bed. They spoke to him, and tried to make him reply, but found him cold and apparently dying. I was at the house in 7 or 8 m., and on going to the bedroom found a strange scene of disorder as regards the furniture, and the patient in an alarming state of collapse, just in the position in which he had been discovered. The features were sunken; the skin icy-cold, and covered with clammy sweat; the hands and feet livid (the former much bruised); no pulse to be felt at the wrists; the heart's action excessively feeble and intermitting; the pupils so contracted as scarcely to be discernible, smaller than I have ever seen in a cat's eye. I endeavoured to pour a little brandy down the throat, but there was not the slightest attempt at or power of swallowing. He remained perfectly unconscious and could not be roused; paid no heed to the loudest shouting; did not feel the smartest pinching; while the arms and legs, when lifted, fell flaccid and lifeless. There was terrible dyspnoea; indeed, the function of respiration was rather a succession of deep gasps and sobs, and the little vitality still left in him seemed becoming rapidly expended by the tremendous effort and increasing struggle to breathe. The first evidence of returning power was that of a slight gurgling in the throat, induced by my pouring a teaspoonful of brandy into his mouth, and then tipping the head gently back to help it down the throat. This gurgling continued about 2 m., when I thought he made a slight attempt to swallow, but the presence of the brandy instantly produced a violent spasm, and it was again seen running from the mouth. After about 2 h. there were signs of returning animation. The pulse was perceptible at the wrist; the heart's action became firmer; the breathing less gasping, and the surface warmer. I had an immensity of trouble still to get him to drink the smallest sip of brandy and water. Every attempt at deglutition brought on a spasm, evidently from violent constriction of the pharynx. As the powers of life gradually returned there was a constant sort of gulping, as if striving to swallow even when no fluid was being given, and it appeared to be the cause of much distress to him, though he was still unconscious. Sulphate of zinc was given, which caused the ejection of the whole contents of the stomach. He then gradually rallied, opened his eyes, and stared wildly about him, though evidently unable to see anything; the pupils still intensely contracted, and on waving the hand before them he never blinked or took the least notice. I now gave him ammonia and ether. There was still the same terrible spasm of the throat at each attempt to swallow, like that in hydrophobia, though still the fluids did pass, eventually, after much struggling; but there was no other kind of convulsive movements in any other part of the body. The ammonia and ether draught was vomited almost immediately, and at the same time, from this effort, a large quantity of peculiarly offensive urine passed involuntarily. The vital powers now gradually returned. About 12.30 the pupils began to expand, and vision gradually returned. He looked inquiringly round the room, and with some degree of terror, apparently wondering at the strange scenes dawning upon him. He continued gulping, as if striving vainly to get rid of some substance in the throat; and he made ineffectual attempts to speak, but not a syllable

could be articulated, the mouth was too dry and parched, the secretion of saliva being evidently entirely suspended. Before 1 p.m. the castor oil he had taken acted, bringing away a highly offensive evacuation. Shortly afterwards smart reaction set in. The face became flushed, the head congested. He muttered unintelligible sounds, looked wildly around, and could not be made to do what he was told, though he apparently understood all that was going on. He kept wanting, seemingly, to clutch at some person or persons who he imagined were before him, but he could not use his arms, though he tried to do so. There were no convulsions, but the arms and legs were quite rigid, and when they were moved remained in any position in which they were placed. The room presented a disordered appearance; all the furniture was displaced or broken, and the whole apartment appeared as if a desperate struggle had taken place. He kept improving all that d., but wandered in his mind and could not articulate. He took what was given him, became more tractable and gentle, and all the different symptoms gradually disappeared. He could not, however, speak at all intelligibly till the end of the next d., and then continually misplaced words, calling his head his foot, his arm his leg, and misnaming the things he required, though ludicrously unconscious of his perpetual misnomers. All this d., too, he simply answered when spoken to, but never volunteered any remarks, and was constantly muttering a strange jargon of sentences. It was several days ere he could converse without calling something by a wrong name. At my evening visit on the 3rd d. he could speak with tolerable distinctness, but thickly, like a person with quinsy, and the throat and tongue were painfully dry, the glands of the mouth not yet fulfilling their natural functions. By the 4th d. he was convalescent, but complained of much tingling of lips and itching of skin. He now said that he took the dose about 1 a.m., felt dizzy and stupid shortly after taking it, and lay down in his bed about 1.30, thinking he was likely to drop off to sleep directly. He could not remember anything more till 3 d. afterwards, when he saw me by his bedside (at my evening visit); and said that he then began to wonder what was going on, and what had happened in the long interval which he felt sure had elapsed since he went to bed. Whatever had been going on was unknown to him, even though he had been answering questions, and doing whatever he had been desired to do. He said he should always look back upon those 3 d. as "a void in his life; that he had had a three days' trance." (C. PAGET BLAKE, *St. George's Hosp. Rep.*, iii, 159.)

28. D. B—, æt. 5, ate 2 or 3 seeds about 7 p.m. In $\frac{1}{2}$ h. face and chest were of a coppery-red colour, somewhat mottled; white of eyes was pink. Seen at 9, l. eye was observed to be most reddened, and eruption was visible on l. knee but not on r.; an old cicatrix on forehead was very red. He complained of head hurting him, and of itching of skin; was inclined to smile and jest; pupils dilated; pulse hard and frequent. Later, great restlessness with moaning, tossing to and fro in bed, throwing about arms and legs (especially arms), with opening and shutting of hands and many movements of fingers; he repeatedly said there were "big sores" on him. When he slept, there was fre-

quent starting, rising up in bed, and vacantly looking round, with incoherent talking. On waking in m. complained of being tired; got up and went to bed again 2 or 3 times; swelling of l. cheek and l. face generally. No appetite for breakfast; very irritable, fretful, and quarrelsome; weak; in e. dry spasmodic cough, recurring next m., when he had dark colour round eyes. He continued irritable and fretful for 6 weeks. (WILLIAMSON, *Am. Hom. Rev.*, iv, 560.)

29. A man, æt. 44, had applied the bruised green leaves one n. to some irritable ulcers on legs. Dr. Dunham was called in haste early next m., as patient was "not right in his mind." He found him dressed and lying on a sofa. He recognised the doctor, and apologised for not rising, saying that his legs were not under his control. His face was covered with patches of irregular shape, not elevated, of a brilliant fiery red. Conjunctiva was injected; pupils immensely dilated; whole expression of eye was brilliant, restless, suspicious, and roving. Brow was corrugated; tongue moist; papillæ enlarged and projecting through a soft white fur; legs motionless, but arms constantly reaching forwards and upwards with an uncertain tremulous motion, as if endeavouring to seize something in the air. Suddenly he exclaimed, "There are those bugs! help me to catch them;" and, on being asked his meaning, said, "There! a long train of bed bugs, and after them a procession of beetles, and here comes crawling over me a host of cockroaches." Then—"I believe I know they are not really bugs; but, except once in a while, they seem real to me." This scene was many times repeated. The cataplasm was now found and removed, and the symptoms gradually subsided. (CARROLL DUNHAM, *Ibid.*, p. 561.)

30. SCHRÖN treated several cases of prosopalgia with Str. In one man $\frac{1}{2}$ gr. doses of extr. caused dysphagia with dryness of throat (which frequent draughts of water failed to relieve), partial stupefaction, and frequent passing of sparks of light across field of vision.* In another, a girl of 16, 6—9 dr. doses of tinct. caused same symptoms of throat and eyes. In a third, a sensitive woman of 42, gr. $\frac{1}{4}$ of extr. at 4 and gr. $\frac{1}{2}$ at 6 p.m. developed the sparks of light, unusual thirst, and considerable prostration. She went to bed, passed a tolerable n., and in m. took another $\frac{1}{2}$ gr. About $\frac{3}{4}$ h. after this she felt across transverse colon a drawing changing into a tearing-asunder feeling; as this subsided a little there was a sort of hunger, but patient was unable to take any food. Head now felt full and as if bursting; there was loud roaring in ears, and hearing was nearly lost, though she could understand very well what she heard; sparks of light occasionally crossed field of vision, from above downwards; there was great throbbing in temples, especially r., and redness of face, without heat there or in head; nose was dry and redder than usual, and she could not smell; taste as of pus in mouth; dryness and burning in throat (without dysphagia), and intense thirst, unrelieved by the large draughts of water she took; resp. slow and feeble. A little later, very fine but sharp stitches at small spot about 5th—6th ribs, increased by inspiration; tearing in bowels returned very severely, and was followed by

* Another patient spoke of these as balls of fire rolling over the counterpane of his bed.

several broth-like evacuations, which gave much ease; there was increasing debility and dejection, patient feeling as if she would certainly die. In 5 h. time she fell into a comfortable sleep, and awoke a few h. later, feeble, but free from all symptoms. The dejection and debility lasted some d. longer. (*Hygea*, xiii, 193.)

31. Dr. BREE observed pathogenetic effects in 24 patients who smoked Str. for asthma. Of these, 3 experienced paralytic tremblings, and their pulse was so lowered that it became difficult to feel the beating of the artery. One had smoked a few times only when her head became affected with pain and confusion and her stomach with sickness. She was next seized with an epileptic fit, the first she had ever experienced. This attack was followed by three more of the same kind at intervals of a few h., and she became nearly insensible, pulse scarcely perceptible, stools and urine passing involuntarily. Another found his (habitual) cough cause so much pain in the head as to threaten danger; another had intolerable headache with dimness of sight; another an attack of pneumonic inflammation. (SIGMOND, *loc. cit.*)

32. I have in no instance found any bad effects from it, excepting a disordered state of vision, in which every object appears coloured with rainbow tints. (*Ibid.*)

33. Among the anomalous symptoms of poisoning by Str. is one observed in the case of a man to whom all black objects appeared to be green. (STILLÉ, *op. cit.*)

34. Dr. TRUMAN ABELL, while preparing an extract of leaves, kept his r. hand and wrist soaked in the juice. "On becoming warm in the bed I felt a host of new sensations creeping over both body and mind. My whole frame was affected with a tremulous vibration, most sensibly felt through the abdomen, attended with a prickly sensation over the whole body. My mind became extremely timorous and restless, which caused all attempts to compose myself to sleep fruitless. After a teaspoonful of elixir of paregoric I felt every symptom getting worse; the surface was bathed in a clammy perspiration; whenever I attempted to close my eyes I was assailed by imaginary spectres, in the most hideous forms and menacing attitudes; and, what was still more to my torment, my bed seemed suspended like a feather between two floors." There was a general smoky appearance of the atmosphere. R. pupil much dilated, l. natural. (*Amer. Med. Rec.*, 1828, p. 203; from ALLEN.)

III. *Experiments on animals.*—1. ʒvj of an acid solution, prepared from 20 gr. of the oil, were given to a rabbit. In 2 m. the animal was obviously affected; in 5½ m. it fell on its side and could not rise, though it made violent and repeated efforts to do so. In 13 m. it was seized with convulsive stretching and severe tremors of the limbs, accompanied with retraction of head; in 15 m. with violent convulsions, succeeded by laborious breathing and total insensibility. It died in 19½ m. Heart continued to contract for 17 m. after death. The oil from which the sol. was prepared was given to another rabbit, and caused vertigo. (MORRIES, *Ed. Med. and Surg. Journ.*, xxxix, 377.)

2. SALISBURY gave to a large full-grown male cat, which had not

eaten since 4 p.m. the previous d., 60 dr. of tinct. at 2.14 p.m. In 2 m. began frothing slightly at mouth, and in 2 m. more sneezing and coughing. 2.23, vomited gently frothy liquid of greenish-yellow colour; pupils dilating. 2.27, thrusts tongue out between teeth, and opens and shuts them on it; tongue red and apparently swollen. Frothing has ceased; anxious to crawl off into some secluded place; mewing. 2.36, discharge of urine; mewing and uneasy. 2.42, lying on chest and abdomen; quiet; perfectly conscious of what is passing; he staggered when walking. Remained in this state till 3, when he got up and walked about, mewing. 3.7, lay down with head between fore-paws, as if asleep, remaining thus till 3.17; woke up uneasy; walked about mewing till 3.30, thence quiet and drowsy. 3.40, gave 60 dr. more. He swallowed most of it, and passed urine 2 m. after. After 5 m. walking stupidly round, mewing; considerable vertigo; pupils dilated. 3.50, vertigo increases, can hardly walk; uneasy; sight dim. Continued in this state till 4.5, when he became quiet, lay down, and slept; breathing easy. At 4.15 vomited easily a quantity of greenish gelatinous fluid, which aroused him. 4.20, uneasy; walking about, mewing; running against objects; blind. At 4.30 became quiet, and fell asleep. 4.35, gave 40 dr. more. In 2 m. urination; very uneasy; mewing constantly; quite blind; cannot walk without falling over from side to side; breathing laboured. This uneasiness lasted till 4.50, when he became quiet, apparently sleeping; pulse slow, heavy, and feeble. 5, woke up very uneasy, endeavoured to walk about. 5.5, gave 40 dr. more. In 2 m. became quite unconscious, breathing laboured. After 5 m. aroused; anxious, mewing, unable to stand. In 10 m. comatose, lying on one side, pupils very much dilated. In 15 m. moving round in a circle, mewing; resp. 60. 5.33, gave 40 dr. more. In 2 m., lying on side, comatose; breathing laboured, 48. 5.40, still comatose; legs in constant motion, fore and hind limbs of each side moving together alternately with their fellows. 5.55, pulse 50, breathing heavy. 5.58, pulse 40, feeble; comatose. 6.15, same; resp. 40. 6.30, same; gave 30 dr. more. After a short struggle he fell down comatose; heart's beating slow, heavy, and feeble, breathing heavy and difficult. Continued thus till 7.6, when motion of limbs ceased; resp. ceased at 7.50. *P.M.*, 55 m. after.—Limbs relaxed and limber; general venous fulness; bladder full; intestines, distended with gas, presented a knotted appearance, slight congestion in jejunum and ileum; kidneys very much congested; lungs the same, filled with dark blood and frothy mucus; heart quite empty; venæ cavæ filled with dark blood, which contains considerable clot; from fauces to œsophagus mucous membrane is very white and pearly; brain slightly congested, vessels all full and slight effusion in ventricles, considerable congestion of membranes. (*Am. Journ. of Med. Sc.*, N. S., xlv, 427.)

3. $\bar{3}j$ of *datura tatula* (in what form is not stated) with $\bar{3}x$ of water was given to a horse, pulse 36, temp. 99°6', resp. 8. Within an h., restlessness, urinated and passed fæces once; dry cough at intervals. Temp. at end of h. 100°2'. After 4½ h., temp. 100°4', pulse 38. Gave $\bar{3}j$ in $\bar{3}vj$ of water, and in 35 m. pulse was 40. Next d. gave

same horse $\mathfrak{z}iiss$ with $\mathfrak{z}vj$ of water, temp. 100.2° , pulse 36, resp. 8. In 1 h. pulse 54, temp. 100.4° ; mucous membrane of eyes, nose and mouth injected. In 6 h. all effects passed off. Next d. gave $\mathfrak{z}iij$ with $\mathfrak{z}iv$ of water, pulse 36, temp. 100.3° . In $\frac{1}{2}$ h. greenish discharge from nostrils, cough at intervals, tongue and buccal membrane dry, pupils dilated. In 1 h. temp. 100° , pulse 34; nasal membrane dry; twitching of facial muscles and gaping; pupils less dilated and tongue moist. Three d. after, same horse had $\mathfrak{z}iv$ with $\mathfrak{z}iv$ of water. Effects produced were dilatation of pupil; dry mucous membranes; coughing; twitching of facial muscles; sighing, with shallow respiration; temp. rose from 99.8° to 100.6° ; pulse was small, soft, and compressible, and rose 4 beats. (BURNES and MAJOR, *Specific Action of Drugs*, p. 151.)

Daturinum, alkaloid obtained from Stramonium, by some said to be identical with atropine, by some with hyoscyamine, by Brunton to be a mixture of the two.

I. *Provings and Poisonings*.*—1. According to Charpentier (*Ann. de Thér.*, xxiv, 21) D. dilates the pupils more rapidly than atropine, but the effect is less prolonged, and is never followed by contraction. A quantity in solution exceeding 4 milligrm. cannot be instilled into the eye without causing redness and pain. By the stomach a larger dose than gr. $\frac{1}{10}$ is unsafe, but its toxical effects are less intense and lasting than those of atropine. A congested state of the skin may exist, but not the scarlatinoid eruption. Headache is more severe, with neuralgic paroxysms; the circulation is quickened; there is an uneasy sensation about the præcordia, with feeling of faintness; restless and noisy delirium occurs, with hallucinations, erection also and emissions, but no disorder of the bowels. (STILLÉ, *op. cit.*)

STROPHANTHUS.

Strophanthus hispidus. Nat. Ord., *Apocynaceæ*.

I. *Provings*.—1. We have made four provings of Str. on healthy persons (*i. e.* such as, to the best of our knowledge, were free from cardiac or vascular lesions), with the aid of the sphygmograph, with the view of endeavouring to form a personal opinion as to its influence on arterial tension.

a. Camille B—, æt. 28. Nov. 26th, 1887, a tracing was taken of his r. pulse, which was found normal. He then took 15 dr. of a tinct. of Str., 1 to 20, in two doses at 2 and 4 p.m. At 9 p.m. trace again taken; rate slower by $\frac{1}{8}$ th; ascending curve unaltered, apex more rounded, descending curve not only more prolonged but slightly convex. The physiological dicrotism had entirely disappeared (*i. e.* slight increase of pressure). Same doses were given on 27th and 28th. 29th.—No irregularity, but notable inequality of the arterial pulsations, which were scarcely bounding; ascending line not only very short but

* See also *Hyoscyaminum*, III, 2.

extremely oblique, and continuous with descending by a curve of very lengthened radius. *I. e.*, cardiac impulse much enfeebled, while arterial tension is moderately strong; the explanation of which must be general contraction of the arterioles. 30th.—After these 24 h. of repose, the cardiac action has recovered itself, the curve has regained its normal height, while nearly resembling the arc of a circle, with no trace of dicrotism. Frequency of pulse normal. Same dose. Dec. 2nd.—The curve still more closely resembles the arc of a circle. Intensity of cardiac impulse somewhat augmented. 3rd.—Curve completely altered; ascending line nearly vertical, rising to double its original height; summit very rounded; descending line still somewhat convex; slight dicrotism. All this means a rapid fall in arterial tension, with strong impulse of heart. Pulse was somewhat quicker than naturally. The patient experiencing some degree of malaise, the proving was carried no farther. The quantity of urine fell, after the first two or three d., about one third.

b. Charles P—, æt. 23, had tracing taken at 10 a.m., Nov. 22nd. It was normal, with well-marked dicrotism. He then took tinct. like *a.* Tracing taken at 9.30 p.m. showed summit of curve more elevated and ascending line quite vertical (augmented cardiac impulse and slightly diminished pressure). Pulse was somewhat slower. 23rd.—8 a.m., tracing normal, save for a visible increase in dicrotism. The patient refused to go on, pleading indisposition.

c. F. L—, æt. 15, very vigorous. Tracing taken at 10 a.m., Nov. 22nd, was remarkable for a dicrotism not pathological but comparatively enormous, and for a somewhat acute summit. After the usual doses, at 9 p.m. the curve was found a very little higher, ascending line short, summit rounded, descending line very long and bulging; without trace of dicrotism in most of the pulsations; frequency of pulse less by $\frac{1}{6}$ th. 23rd.—Return to normal state, save that cardiac impulse is slightly diminished.

d. Jeanne R—, æt. 11, in good health. Tracing taken at 10 a.m. Nov. 24th showed summit of curve a little rounded. The usual doses were taken this d. and the next, but the e. tracings showed no alteration. 26th.—Doses being repeated, at 8.30 p.m. curve was found rounded to a convex plateau, and descending line raised and bulging (slight increase of pressure). Doses were repeated on 27th and 28th. On 29th (no medicine having been taken this d.), summit much raised, ascending line nearly vertical, considerable increase in frequency of pulse. 30th.—Doses repeated. Pressure becoming strong again, and curve resembling the arc of a circle. Dec. 2nd.—Curve continues rounded, but pressure tends to diminish, ascending line being vertical instead of oblique, and frequency of pulse being increased. 3rd.—Same trace, with lowering of force of cardiac impulse. (PIEDVACHE, *Bull. de la Soc. Méd. Hom. de France*, xxix, 673.)

III. *Experiments on animals.*—1. The pharmacological action of S. appears to be an extremely simple one. It may, I believe, be described in the few words that it is a muscle poison. However introduced into the body it increases the contractile power of all striped muscles, and renders their contractions more complete and prolonged. In lethal

doses, it destroys besides the capacity of the muscle to assume the normal state of partial flaccidity, and causes the rigidity of contraction to become permanent, and to pass into the rigor of death. As a result of the action on muscle, the heart is early and powerfully affected. The systole is increased, and the contractions slowed by small doses; the heart is paralysed in a condition of rigid contraction by large doses. This action is produced if the influence of the cerebro-spinal nervous system be altogether removed. (FRASER, *Brit. Med. Journ.*, 1885, ii, 905.)

2. Dr. PIEDVACHE gives the following as the results obtained by the French experimenters, Polaillon and Carville, Gley and Lapique, Laborde, and Lepine (also Pelikan of St. Petersburg):—Whether the drug acts on the ganglionic intra-cardiac apparatus, or directly on the muscular fibre, this at least is certain, that toxic doses cause cardiac paralysis or rather inhibition, for Laborde has shown that when arrest of the heart has been obtained a slight stimulation will set it going again for a time. These phenomena are seen equally in frogs whose cord and medulla have been completely destroyed, and in those whose nervous centres are intact. But if the action of S. on the cerebro-spinal nervous system is quite isolated from that which it exerts on the heart, it is nevertheless indubitable, as shown by convulsions preceded by a remarkable general debility, diminution and then disappearance of reflex function, progressive and general paralysis from centre to periphery. In a feeble dose, the drug does not appreciably modify the arterial pressure in animals. In a somewhat stronger dose it raises it, but not constantly. In still higher dosage, or by continued operation, the pressure falls little by little, and at last sinks abruptly to zero. Frequency of beats is slightly diminished at first, then increased coincidentally with the rise in pressure, then slackened again as that falls, and now great irregularity is observed. (*Loc. cit.*)

SULPHUR.

Common brimstone. (The "flowers of sulphur" carefully washed with distilled water, and dried in the open air.)

I. *Provings*.—1. HAHNEMANN, *Mat. Med. Pura*, vol. iv of original, vol. ii of translation. Contains 755 symptoms from self, and 60 from his son Friedrich and a few authors.

2. *IBID.*, *Chronic Diseases*, part v of original, vol. of translation. Contains 1969 symptoms, most of the additions being from Hahnemann himself.

3. (No information.) Dazed head, want of steadfastness of joints, disinclination to speak and trembling in limbs. Giddy state of head prevents acute and clear thinking. He is not always master of his thoughts and words, expresses himself differently or with different words to what he wished. On rising m., cheerful, clear, resolute, but at 9 a.m. the dazedness returns and is much increased by serious thought. Undulation and confusion of head, c. Diarrhœa with rumbling in bowels. Even in bed has strong call to stool, then some diarrhœa. Frequent, difficult, painful and scanty urination. Constant pressure to stool and urine, and immediately after

urinating a few drops of blood and a violent stitch in urethra, with anxiety and discomfort. Immediately after rising scrapy throat, then several bloody expectorations, and all p.m. great hoarseness, to which later headache is added, which is very acute, e. A kind of dislocative pain in arms, as after a debauch the d. before, especially when lifting up things. (GROSS, *Archiv*, xix, 3, 186.)

4. (From breathing-in dust of S. when preparing triturations with Mure's machine.) Stiffness of nape, and cracking of cervical vertebræ on bending back head, after 6 h., lasting 3 d. Bruised pain in l. pectoralis muscle, and drawing or tearing pains in l. shoulder and muscles of upper arm, especially when moving, breathing, or even when touched (after 24 h. for 4 d.). Much tinnitus aurium, and like humming or buzzing in head, several d. Sensitiveness of eyes and like burning in them. Lachrymation of eyes in air and much eye-gum, m., several d. Uncommon heaviness and weariness in legs, several d. Coldness of feet, especially in bed, e., several d. Swollen feeling of fingers, after 2 d., for several d. Sudden appearance of a bluish-red spot on the inner aspect of l. index, as though from extravasated blood, without pain; after 4 d., went off after 3 d. Violent shootings in corns, in bed, e., several e. Frequent startings up in sleep, several n. (HENCKE, *A. h. Z.*, lv, 14.)

5. a. After 2 dr. tinct. most violent itching all over body, especially on forearms and legs, in bed, e. After scratching till the finger was sore and livid he had to use a hard brush.

b. After ʒj flor. sul., vesicular erysipelas over whole r. leg, preceded by fever: The leg is swollen, hot, bright red, painful, in several parts there are larger and smaller blisters containing yellow serum, such as is caused by cantharides. After the blisters burst some of the spots become covered with yellowish-brown thin crusts, others become flat ulcers which continue to suppurate for a considerable time without pain, and gradually heal up, long after the inflammation has gone. (KNORRE, *A. h. Z.*, vi, 37.)

6. (No information.) Great weakness in chest, which troubles him particularly when he goes to bed at n., so that he cannot lie long in one place, and is glad when m. comes. Great restlessness and ebullition of blood. (HELBIG, *Heraklides*, i, 64.)

7. Violent burning in whole body, with anxiety. (HOM., *Ibid.*)

8. Pimples under glans penis, which burst and suppurate. (P., *Ibid.*)

9. VOGT, medical student, took, Jan. 25th, in 24 h. 8 teaspoonfuls of a mixture of ʒiiss flor. sul. and ʒvj white sugar. (On the 23rd he was bled to 78·7 grms.)—27th, 4 teaspoonfuls.—28th, 8 teaspoonfuls.—Was bled again on 29th to 89·7 grms. He experienced no symptoms whatever. Whilst taking the medicine the urea and uric acid in the urine were increased slightly. The blood drawn before taking the Sul. showed in 1000 parts:

Solid matters of the defibrinated blood	.	209·800
" " serum	. . .	95·750
" " albumen of serum	. . .	84·314
Extractive matters and salts of ditto	.	11·436
Fat of ditto	. . . . .	0·327
Fibrin	. . . . .	1·578
Blood-corpuscles	. . . . .	112·472

Coagulum	482.142
Serum	517.858
Sp. gr. of defibrinated blood	1.0520
" of serum	1.0285

Coagulation occurred in the usual time. After 4 h. the serum was poured off. The coagulum was reddened in a few m., excepting some melanotic spots, some of which were of considerable size.

The blood drawn after taking the Sul. for several d. showed in 1000 parts :

Solid matters of the defibrinated blood	201.000
" " serum	91.800
" " albumen of serum	81.296
Extractive matters and salts of ditto	10.504
Fat of serum	0.326
Fibrin	1.447
Blood-corpuscles	107.753
Coagulum	431.372
Serum	568.628
Sp. gr. of the defibrinated blood	1.0517
" " serum	0.0260

The separated serum was slightly red and turbid, but became clearer. After 4 h. it was poured off the coagulum, which became bright red on exposure to air, with many melanotic spots, but not so many as in the first drawn blood. (BÖCKER, *Beitr. z. Heilk.*, ii, 388.)

10. Dr. BÖCKER took, June 26th, 6, 8, 10.20 and 11.20 a.m., 2.40, 4.14, 5.14 and 11 p.m., 0.5 grms. fl. sul. No symptoms.—26th, 6 a.m., 0.5 grm., 9, 10, 11 a.m., 3, 4, 4.40, 11, 11.18, 12 p.m., 0.7 grm. Much hawking. Slight cough with mucous expectoration, m., sometimes felt as if he had phlegm on chest, soon afterwards coughed, and the breathing became freer. All d. coughed up mucus, but less p.m. than m. 11 p.m., a soft stool.—27th, 3.48, 5, 6, 6.55, 11 p.m., 0.7 grm. Coughed up a little mucus, m. At 9.27 normal stool, at 11 p.m. a soft stool.—28th. Called out at n. 11 p.m., 0.8 grm. No symptoms.—29th, 8, 10, 11.35 a.m., 0.7 grm. 3.45, 11 p.m., 0.75 grm. 9.5 a.m., thin pappy stool preceded by flatus with odour of sulphuretted hydrogen. 9.35 a.m., sneezing and mucus in nose. All d. expectorated a little phlegm.—30th, 6.55, 10.15, 0.7 grm. 4, 5, 11, 0.8 grm. All d. expectoration of thin mucus. 5 p.m., rumbling in abdomen. 7 p.m., a thin scanty stool.—July 1st, 6.45, 0.8 grm. 10.20, 11, 12 a.m., 2.45, 3.30, 4.15, 5, 11 p.m., 1 grm. On picking nose, slight epistaxis. After rising and walking frequent rumbling and gurgling in abdomen. Then urging to stool, which was normal. Occasional cough, nose moist, which went off after breakfast. After dinner transient pinching in belly. 11 p.m., a stool rather looser than normal.—2nd, 5 a.m., urging to stool and some pain in abdomen which woke him up. After passage of foetid flatus the urging went off, but recurred at 7 and 8 a.m. At 8 a.m. a loose stool. After breakfast nausea for a short time. 3.29 p.m., foetid flatus, soon after that transient pain deep in pelvis which recurred at 3.40 p.m., but which went off after

discharge of fetid flatus and a copious pappy stool. Felt all d. light in body, and was quite well.* (*Ibid.*, 398.)

11. V. ARIGLER, æt. 22, robust, always healthy; had itch when 16. From Oct. 29th, 1846, to Jan. 6th, 1847, took every m. as much as would cover point of knife. On Oct. 31st had feeling of weight in stomach, which continued all next d., and recurred following e. On 31st 3 fluid stools. On Nov. 1st., e., great weariness in legs. From 3rd to 6th motions insufficient and very hard, and till 12th altogether absent, urine also being scanty. On 11th a catarrh came on (? medicinal), lasting till 13th, accompanied by diarrhœa with griping and at last tenesmus, for which—on 15th—he took Dover's powder. On 16th and 17th felt quite well. On 18th and 19th frequent urination, even at n. (a thing unknown to him). On 19th and 20th profuse general sweats, on 21st and 5 following d. same on hands and feet (especially latter), in d. only. From 27th to 29th these went off gradually, and stools became more copious. On 30th headache, with burning and redness of eyes. From Dec. 2nd to 10th, no symptoms. On 11th, and to end of proving, had every n., when warm in bed, a disagreeable itching from hips to toes, especially bad in hams, removable only by rubbing, which caused very pleasant feeling. On parts so rubbed occurred small pimples, discharging fluid from their apices, whereupon itching ceased. In daytime scars only were visible. On 24th an itch-like eruption appeared in bend of elbows and on wrists. It did not itch, and disappeared next d. On 30th and 6 d. after, m. and e., violent cough with copious mucous expectoration. (WURMB's provings, *Zeitsch. d. Ver. hom. A. Wiens*, 1857.)

12. a. ARNETH. From 800th and 400th dils., taken from Oct. 11th—24th, experienced no effects, save that sleep seemed rather less refreshing. Five dr. of 31st were then taken on 27th and 30th, Nov. 5th and 15th. During this time had periodically recurring but not very severe pains in temples, followed by acute screwing pains there. Nov. 1st.—Violent pains in l. eye, as if rubbed against spiculæ of glass and drawn in at pupil, with involuntary winking, followed by burning and lachrymation; attack lasting 2 m. On 3rd and 6th bleeding after easy motion, and raw pain at l. commissure of mouth, lasting till 9th. On 15th frequent shoots in splenic region, and frequently recurring confusion of head. On 22nd, 23rd, 24th, 25th, and 28th, took 5 dr. of 13th. On 22nd had severe cutting in r. eye, and l. commissure of mouth was again painful. On 24th painful contraction in last fingers of r. hand. These were transient, but while taking 13th had also persistently light sleep; constant call to micturate, with feeling of warmth in urethra while doing so; painful confusion of head; and great excitement after drinking tea, though accustomed to it.

b. Ten gr. of 3rd cent., in solution, on Jan. 10th, 14th, 17th, 23rd,

* BÖCKER also relates a number of experiments with S. on patients, but these are unsuited for this work. As a general result, he found in all that the solid constituents of the urine and blood were as a rule diminished while taking the medicine, and that in those cases which he examined for the purpose, the frequency of the pulse was diminished and the excretion of carbonic acid by the lungs was increased. (*Ibid.*, 418.)

and 26th, caused, on 10th, calm sleeplessness for $\frac{1}{2}$ h. at a time; on 11th and 12th, towards n., eruption of 10—12 small bright red pimples on l. forearm, which itched much when touched, easily burst, and let out some thickish fluid; on 12th, previous to good stool, violent cutting extending far up rectum; on n. of 14th sleep unrefreshing, disturbed by vivid dreams of ordinary occupations; on 15th soreness of l. commissure of mouth, violent tearing contractive pains in r. hand; on 17th—19th frequent urination, and on n. of 17th vivid dreams of long-past events. After a month took 4 doses of same dry on tongue on 4 d. from March 6th to 17th. On 7th commissure again sore, on 8th raw pain in anus, and after the 4 doses a peculiar roaring in ears and subjective odour as of a flower.

c. Ten gr. of crude substance taken on April 25th and 28th, and 20 gr. on 30th, caused on 26th 4 loose motions; on this and following d. increased urine, and great appetite which could not be indulged—a little food causing troublesome distension; on 30th, violent digging pains in a r. healthy molar, diminished by strong pressure, unaffected by cold or heat. At beginning of May prover had an attack of intermittent fever (rigor with thirst, long-continued heat without thirst, but with great rush of heat to head), lasting six weeks, leaving him very weak, and with (at beginning of September) caries in 5 sound teeth. Whether this (unique) occurrence can be traced to the S. must remain doubtful. (*Ibid.*)

13. a. GARAY. Jan. 22nd, noon, took 10 gr. of 6x trit. Soon after, loose fetid stool, followed by annoying, straining, ulcerative pain in anus on touching it, and long-lasting feeling as if diarrhoea would recur; slight l. supra-orbital pain, and (15 m.) slight and transient vertigo. On going to bed, rigor and aching in r. vertex, lasting till sleep came, and recurring for an h. on waking. On 23rd, took 20 gr. All d. tickling at back of pharynx, causing tussiculation; at n., on micturating, violent shock through urethra to above pubes; rigor in bed. 24th.—All d. scraping in throat, and cough with expectoration. At noon, aching in l. forehead, and drawing pain in upper teeth, first of l. then of r. side, with sense of swelling and soreness of gums of former; also short rigors, frequently recurring (especially on movement or empty swallowing), with blue nails, pale face, giddy and heavy head, and sense as if humeri were broken; the cold is not removable by heat of fire, and there is sense of draught across abdomen above navel. After coffee, burning in r. cheek and ear, rest of body remaining chilly. In afternoon great sleepiness; at times bruised pain in outer l. tibia, and slight griping in bowels. On going to bed nervous excitement, with recurrence of symptoms of l. upper gum and teeth. Painful chap in middle of upper lip, and troublesome itching all over body save inside of limbs, occurred, and lasted several d. On 29th, feeling well, took at 2 p.m. 40 gr. of 8x trit. Soon after former pains in l. forehead and jaw, with slight griping in bowels, horripilation in both arms, and paralytic pain in l. leg. At 10 p.m. sudden urging to stool, continuing after passing lump of hard fæces, and merging into increasing and long-lasting gripings in r. abdomen, with much flatus and itching at anus; compressive pain in glans penis, angle of l. maxilla, and l. and

r. auricle near meatus. On 30th and 31st, m., the frontal aching (r. also) and shoots in urethra; at noon, the rigor (first outside of arms, then down back to sacrum, then across abdomen),—it was lessened by warmth, increased by movement, and accompanied by weariness, pale and suffering countenance, and pains as if broken in upper arms, thighs, and legs, shooting in outside of feet. Appetite not impaired. At 3 violent tearing in r. knee and ankle, boring squeezing pain in r. forearm. At 11.30, while sitting, acute shoot in bend of first r. then l. knee, with horripilation at side of chest. Feb. 1st, e., very painful shoots along l. scapula, frequently recurring, and long-lasting. On 2nd took 10 gr. of 8x. Immediately after, rigor. On 3rd, in bed at n., attacks in l. shoulder of shooting throbbing pain so severe as to make him cry out. On Feb. 6th, at noon, took 20 gr. of 8x. During d., headache only; at n. and next m. griping in bowels and frequent urination. During 7th annoying paralytic feeling on outside of l. leg and forearm; at noon, violent drawing along outer side of r. forearm and leg. Hands had for days past felt unusually cold, and lips as if covered with salt. On 9th, much straining at stool, with aching in small of back. On 16th set in itching all over body, desquamation of skin of face, and humid eruption on vertex—small grain-like pustules filled with pus, and drying up into honey-like scabs (“achor granulatus”). These continued till 20th, when he had also roughness of throat and nervous sensation in it, compelling frequent hawking; shooting through pupil deep into l. eye on attempting to read (lasting several d.), and in e. troublesome heat in eye; painful pimple on r. ear, lasting 4 d.; and violent itching in glans penis and mouth of urethra. On 26th several diarrhœic stools with burning in anus preceded by gripes; much mucus in throat. (These symptoms aggravated by beer). In e., great burning in anus and urethra, with frequent urging to micturition, and burning at urethral orifice during it. In bed every place appears too hard for his head.

b. March 3rd, at 10 p.m., took \mathfrak{z} ij of pure substance in water. At night heat all over body, especially in palms, continued erections, with vivid, not lascivious, dreams; itching in bend of elbows, scratching which causes moisture to exude. On 4th, some headache; at n. loud borborygmus, followed by copious, pappy, yellowish-green, very fœtid motion. On 7th took \mathfrak{z} ss without effect. On 10th, took \mathfrak{z} ij, with recurrence of symptoms of 4th; after stool he felt quite well. After three weeks took another ounce, which caused legs and fingers to go readily to sleep on pressure; painful twitchings of l. peroneus longus, lasting for weeks, and hindering walking; for some time nightly itching all over in bed; his food cannot be sufficiently salted. On April 5th, intolerable burning along urethra, as from pepper, immediately relieved by a dr. of cantharis ϕ . On 9th at n. horrible dreams with great palpitation; on waking, sometimes rigor, sometimes heat and fear of robbers. On 16th took \mathfrak{z} ij in water. In e. jerking cutting in r. eye, spreading to temple, lasting several h., and renewable by touching r. side of point of nose. In bed, slight shivering, then general heat, then profuse sweat with odour of drug. On 17th, early, four soft stools. Therewith heat and salivation, afterwards thirst; before,

during, and after, inclination to vomit and burning at anus. There was burning also in l. ala nasi, lasting but a few m., but frequently recurring; occasional shoots in urethra; dry feeling and tensive pain on l. side of palate, extending to r. and lasting 2 d. Thenceforward quite well.

c. Daughter, æt. 7½. Doses of gr. v and xx of 6x both caused violent pains in umbilical region. (*Ibid.*)

14. F. GOTTWALD, æt. 37. Healthy save for occasional mild gouty symptoms. On June 9th took ʒj of 1x. Soon after, dryness in mouth and throat, and aching in l. eye; after dinner deafness of l. ear. On 8th, m., rheumatic pains in nucha; griping, relieved by a liquid motion; after dinner aching and shooting in præcordia; in e. aching of l. eye, twitching of lids, and violent tensive pain in l. tendo Achillis. This subsided during n., but on 9th, another ʒj being taken, it returned with increased intensity, was especially bad at rest, and resembled gouty pains of years gone by. Had also great sleepiness after dinner; frontal itching; and sensation as if hair on vertex were pulled, though he had long been bald there. On 10th was weary and feverish; had itching at urethral orifice, straining at stool, and tension of skin of face. On 11th, in m., much thirst; dryness and warmth in throat; itching of l. eye, aggravated and extending on being rubbed. At noon, tearing pains in l. tibia. P.m., burning in anus and tenesmus. In e., dryness and heat of skin. At n. perspiration, with relief of skin. On 12th took ʒj of 3x. Same symptoms of mouth and throat, of anus, and of stools, and on 2 d. stiffness and tearing in wrists and ankles when at rest, going off immediately on motion. On 2nd n., painful aching in small of back and restless sleep. On 14th, after another scruple, same dryness of throat, and liquid, griping stools; frequent sneezing and coughing; shivering and weariness after dinner; involuntary stool when sneezing or laughing; at n. tenesmus and swollen piles, unknown for nine years. (*Ibid.*)

15. HAUSMANN prepared a series of ½ triturations, and took large doses of them—gr. xx—lxx, descending regularly from the 16th to the 1st in 9 d. The most marked and recurrent symptom throughout was a drawing pain, generally on the dorsal aspect of the limbs near the joints, penetrating somewhat in, once described as going like a stream of air over the part, and causing a feeling of paralysis, once (in the tibia) accompanied by sense as of cool breath on small of back. He also had, after the 14th, attacks of aching on r. base of thorax behind, proceeding from inside, penetrating deeply and lasting some time, recurring periodically for 3 d., uninfluenced by movement or posture; after 13th—10th, great sleepiness *post prandium*, and on waking confusion of head till e., diminished by walking in open air; after 6th and lower trits., diarrhœic yet formed stools, mixed with much mucus. From 2nd and 1st tenesmus was added. After finally taking gr. xvij of 1st on April 10th he had much flatus in transverse colon; great confusion of head, worse when walking in open air; later, contractive pressure in abdomen, loose stool with great anxietas, followed by sweat all over body, especially on forehead, which relieved head; on rising from stooping, vertigo and weight in head; on waking before

midnight, pressure in l. frontal eminence. From 14th to 19th had inflammation of point of nose, ending in an internal scab; a herpes circinatus on finger became on one d. more swollen, red, and shining, and on next r. cheek was covered with small red painless spots, lasting only 24 h. From 21st to 27th drawing pain only continued. On 28th, in lower front of r. chest dull stitches from within outwards like blows, ending within thorax, excited by deep breathing, sneezing, &c. From 29th to May 5th a whitlow on volar surface of point of r. thumb, on ulnar side, finally bursting and discharging. (*Ibid.*)

16. a. WENZEL HUBER took gr. x of 6x daily from March 27th to April 6th without effect. From April 2nd to 7th took daily gr. x of 5x. On 5th had drawing tearing pains in r. scapula, lasting 3 d., and increased by every movement, also reddened tonsils and painful deglutition for 2 d. From 7th to 12th, gr. x of 4x daily. On 8th, soon after taking medicine, bruised pain in small of back, annoying him all d. From 10th to 12th hoarseness and tightness of chest; on 11th also disgust and inclination to vomit all d.; on 12th ill-humour, and recurrence of pain in back (increased by every motion). From 13th to 18th daily gr. x of 4x. On 16th, all d. deep in centre of thorax a sore place of size of crown-piece, pain increased by movement and inspiration. From 17th to 19th, r. nipple swollen, and painful to touch and on deep breathing; on 18th roughness in throat and inclination to cough all d. From 19th to 30th took daily gr. x of 1x. Every m. till 25th slight aching in forehead, but no other symptoms.

b. On Oct. 16th renewed proving with 50 gr. of 6x. In 30 m. palpitation for 2 m., with anxiety as if about to faint. On 17th took 100 gr. After 1 h. aching pain in forehead and confusion of head, as from too much alcohol; fulness and weariness after dinner, relieved by walking in open air: same dose next d. caused repetition of symptoms in stronger degree. On 19th took 100 gr. of 5x, and repeated it on 20th, 22nd, and 23rd. Nothing save slight gastric disturbance and a pimple on upper lip occurred till the 23rd, when (and also on 24th) he had frontal aching in m., and later burning pains in occiput for some h. On 24th took 100 gr. of 4x. In 30 m. heat in occiput, and dull aching over whole head for 3 h. After dinner confusion of head, going off in open air; on returning to warm room heat in occiput; no sleep from 12 to 3, and great confusion on waking. Took another dose: head symptoms returned, but were slighter; restless sleep after midnight. Next d. r. nostril sensitive and reddish. On 27th, after same dose, occipital pain and heat recurred, and were more persistent; and inflammation had set in in the nose, ending in desquamation on the 31st. Two stools, each followed by a few drops of red blood. All d. fulness in hypogastrium; also tension in l. great toe and its metatarsal bone, lasting 2 d. longer. On 28th, after same dose, frequent sudden vertigo, especially when near a declivity; worse after beer. On 29th, occiput again affected as before, in sudden attacks. After dinner, when walking, great weariness and aching in stomach; weight and fulness in hypogastrium, with feeling as if something heavy pressed on bladder. On 30th took 100 gr. of 3x. Blood after morning stool: same head and stomach symptoms, but lighter. Nov.

1st, repeated dose. With the hypogastric pressure frequent passage of small quantities of clear urine. On 2nd, another dose; same head and bladder symptoms, with sense of obstruction in endeavouring to micturate. On 3rd, same dose; same symptoms, with some griping and looseness, and pressive pain on l. eye. On 4th, pressive headache over eyebrows all d., somewhat severe; itching on scrotum and thighs, with sweat, which continued—involving also prepuce—to end of proving. On the 5th took 100 gr. of 2x, and repeated the dose on the 7th, 13th, 14th, 15th, 17th, 20th, and 21st. The toe symptoms recurred, as also those of head and stomach. Slight abrasions on hand caused inflammation and suppuration, and three boils and an itching pustule appeared. On 25th, 26th, 27th, and 29th he took 100 gr. of 1x. Besides the usual symptoms, there occurred pressure and asthmatic feeling in chest, with disturbed sleep and sour nocturnal perspirations. On 28th there were frequent sudden tearings in fingers of both hands and dorsa of both feet, and on 29th and 30th pain in ankles, so that at length he could hardly stand. “The confusion of the head, the aching in the occiput, the feeling of fulness in the stomach and hypogastrium, and the pressure on the bladder, lasted some d. longer, but the symptoms that lasted longest were the perspiration and itching on the scrotum and prepuce.”

c. On Jan. 8th H. began proving of tinct. with 100 dr. in water, which he repeated next d. and on the 10th. The symptoms of head and abdomen returned, and the feeling in the bladder extended to the rectum and anus; sleep was very dreamful. On 11th and 12th took twice 200 dr. Same symptoms; and on e. of 11th toothache in sound teeth for an h. On 15th took 400 dr.; same symptoms, with some eructation like heartburn, and irritated cross temper. Two doses of 200 dr. each on 16th elicited nothing new save constriction of chest, and the same has to be said of two of 400 each on 17th. On discontinuing medicine diarrhoea came on, with gripings below navel, and burning and tenesmus at anus, lasting 4 d.

d. From 23rd to 26th he several times rubbed in the tinct. on the thighs and arms. Desquamation and a papular eruption occurred on the seat of friction, and the head and stomach symptoms occurred to a slight degree. (*Ibid.*)

17. Madame HUBER took the trits. with her husband in his first series of experiments. She experienced nothing from 6th and 5th. While taking 4th and 3rd began to dream anxiously. On April 16th catamenia occurred, at regular time, but, while usually lasting 3 d. only and being scanty, they now flowed profusely for six; the blood was black, clotted, and as sticky as glue. While taking 2nd the anxious dreams recurred, and were very vivid, twice leading to micturition in sleep. On 23rd had contractive pains in uterine region towards pudenda, resembling sensation preceding catamenial flux, lasting from m. till n., and leaving bearing down next d. On 26th there was violent contractive pain, and p.m. the catamenia returned, this time occurring normally, but leaving her weak and irritable. From 24th to May 10th red burning spots came and went on palm of r. hand. (*Ibid.*)

18. Man, æt. 47, robust. From 15th to 23rd Oct. took 20 dr. of

tinct. daily, on 24th 30 dr. Dull pain in head and dreamful sleep were noticed, but save these the symptoms produced were entirely seated in the tongue. Dull pain in its root occurred on 20th, when it looked somewhat red and swollen; this recurred with increasing severity every evening till the 24th, speech being obstructed, and one of the papillæ felt enlarged. He left off the medicine from 25th to 30th, and symptoms disappeared; but on taking daily doses of 30 dr. from 31st to 7th Nov. pain returned and increased, with swelling as before, so that he discontinued the proving. In 3 d. the tongue was again quite normal. (*Ibid.*)

19. a. WILHELM HUBER began with the high dils. June 6th, 1846, at 7 p.m., he took 5 dr. of the 101st. In 2 h., when in bed, violent rush of blood to head, all arteries of which were felt beating, with heaviness and confusion in it, roaring in both ears, and dull drawing throbbing pain deep in r. forehead, of varying violence; whole attack lasted $\frac{1}{2}$ h., and he slept well afterwards. Next m. woke at 5 (unusual) with throbbing ache in r. occiput and pain in l. sacrum; former went off in $\frac{1}{2}$ h., latter after getting up. On stretching out legs in bed very painful cramp in r. calf. At 8 a.m. every step upstairs caused shooting wrenching pain in metatarsal bone of r. great toe; same pain felt p.m. while walking, but then beneath l. outer ankle. 6 p.m., took 10 dr. In 2 h., at every step cramp-like pain in l. calf and pains in corns of l. foot. 8th.—No med. and no symptoms. 9th.—Took 15 dr. at 6 p.m. After 4 h., in bed, sense as of sand under eyelids, and of heat over surface, with tendency to perspire, and slight threatening of headache in l. forehead. On going to sleep, uncomfortable dreams of murders, from which he woke at 4 feeling very tired, and with tensive aching in l. sacrum. 10th.—Took 20 dr. at 3 p.m. After 4 h., sudden, oft-recurring, dull drawing pain in l. forehead, alternating with similar pain on r. side; when walking, frequent wrenching pain in l. inner ankle. At n. in bed, drawing pain penetrating deep into bones—as when ice is held long in hand—now in metacarpal bone of r. index, now in r. knee, lasting a few seconds only. N. undisturbed. 11th.—On waking in m. transient colic-like pains below umbilicus, as from flatus; wrenching pain in l. knee while walking. 8, pressive pain on vertex. 10, shooting as if in l. pleura. 7 p.m., when standing, several throbbing shoots from anus through rectum into r. hip. 8, took 25 dr. Soon after fine stitches in l. great toe. At n. great flow of water from mouth. 12th.—Frequent fine burning stitches in skin of l. upper eyelid, as from sparks; cramp-like painful drawing (while at rest) from inner to outer r. ankle. 13th.—Took 30 dr. in m. About noon, both at rest and when moving, frequently recurring, very troublesome, cramp-like drawing in muscles of ant. int. surface of r. thigh, followed by sudden tensive aching in l. occiput. 14th.—M., while walking, tensive aching in whole of r. calf, as if it were too short and were made of wood, lasting $\frac{1}{2}$ h., and then giving place to brief tensive aching in l. occiput. About noon took 30 dr., after which he had sudden, oft-recurring, dull drawing, deep in l. forehead. During following 8 d. he ceased taking medicine, and felt perfectly well. On 23rd took 15 dr. of 102nd dil. No symptoms.

24th.—In m. 24 dr. During forenoon frequent recurrence of a dull, drawing, penetrative pain, now in r. hip, now in l. forehead or l. occiput. 4 p.m., unusually hard stool. 5, dull digging pain in l. forehead, with confusion of whole head and forgetfulness; both eyes dim, but very sensitive to bright daylight. 25th.—M., 25 dr. Frequent painful drawing, a.m., through metacarpal bone of l. index. Itching shooting in outer canthus of r. eye, and sense as of fine sparks in skin of r. upper lid. 26th.—M., 25 dr. Towards noon, dull, drawing, frontal headache, after a few m. alternating with similar pain in r. wrist. Between 4 and 5 p.m. boring, shooting pain, now in r. groin, now in spermatic cord extending to testicles, now within inguinal ring; followed by sharp cutting pain in r. great toe. 7 to 8 p.m., when walking, cramp-pains in l. calf and wrenching pain in l. ankle. 27th.—M., 30 dr. After dinner several fine stitches in r. concha, and cramp-like drawing below r. mastoid process; soon afterwards great flow of saliva and sudden softly digging pain in r. parotid; followed by sharp stitches, now in l. great toe, now in l. thumb, and the spark sensation in l. upper lid. 28th.—M., on waking, tensive aching in l. sacrum, extending to near l. great trochanter, going off on getting up. About 9 a.m. burning on spot about a hand's breadth in extent in skin of l. elbow, extending gradually over extensor side of joint, and lasting upwards of 10 m. About noon nausea coming up from stomach, with heat of face. P.m., confusion of head with rushing out at l. ear, and dull drawing pain in l. forehead, soon alternating with penetrative cramp-like pain in l. knee or wrist, or with stitches on root of nail of r. great toe; at same time, while walking, frequent cramp-like pain in l. calf. E. in bed, several very sharp shoots (as from a blunt nail) in rapid succession at same spot of r. great toe. 29th.—M., after rising, wrenching pain on walking in l. hip. An h. after taking 40 dr. confusion of head with dull aching in forehead, and great dimness of vision on reading as though cornea had lost its transparency,—at same time feeling of dryness as from fine sand between eyelids. P.m. frequent alternation of frontal headache with pain in joints described the d. previous. 30th.—E. in bed, on stretching out legs, very painful cramp in l. calf, causing him to cry out; it lasted 15 to 20 seconds. This cramp continued to annoy him long after completing proving.

8. H. now proved the first six decimal trits. Aug. 4th, about 6 a.m., took 25 gr. of 6th. 11 a.m., frequent attacks of dull headache, deep in l. forehead, at rest and when moving, sometimes increasing to drawing throbbing. 2 p.m., dizzy confusion of head, heat and redness of face, and sensible throbbing of arteries of head and neck (lasting over $\frac{1}{4}$ h.). From 4 p.m. constant pain in corns as if boot pressed upon them, and frequent drawing penetrative pain, with stiffness, now in l. great toe-joints, now in and about r. ankle (in rest and motion). N. in bed rush of blood to head, with heat and confusion in it; noise of water boiling out at both ears, and frequent painful drawing in r. ear. N. very restless. After midnight, cramp-like, penetrative pain spreading from metatarsal bones to sole and instep of l. foot, which, after lasting a short time, was succeeded by precisely similar pain in r. foot. In m. he felt tired and unrefreshed. 5th.—

At 7 a.m., 25 gr. A.m., some violent shoots, now in l., now in r. great toe. P.m., drawing pains (at rest), now over l. inner ankle, now in shoulder-joints, now in r. or l. wrist, often alternating with sharp shoots in rectum. In e. sudden shooting itching in fossa navicularis. 6th.—About 8 a.m. took 5 gr. of 5th. In an h. painful drawing in proximate joint of great toe, at rest; afterwards, when moving, cramp-like penetrating pain, at one time in inner ankle, then in lower calf, in knee, and in groin. P.m., a precisely similar pain, first in r. metatarsus, then in elbow, wrist, and metacarpus of same side, always lasting a few m. whether at rest or in motion. 7th.—At 7 a.m., 10 gr. In an h. cramp-like drawing pain (in rest or motion) in r. inner ankle, alternating with dull drawing pain in r. forehead. Thereafter burning in skin of whole extensor side of r. upper arm, which lasted above $\frac{1}{2}$ h., and after scratching left raw pain. P.m., burning shooting beneath l. lids, as if sand had got into eye. On moving, cramp-like tensive pain, now in posterior muscles of l. thigh, now in l. calf, now in other muscles of extremities. 10-11 p.m., in bed, cramp-like drawing pain, penetrating r. knee outwards, and sometimes alternating with precisely similar but slighter pain in l. knee,—therewith much offensive flatus repeatedly forming and being discharged. About 3 a.m. very severe cutting pain darting like lightning from r. deltoid to middle of upper arm. 8th.—M., took 5 gr. of 4th. After rising from bed, itching on several parts of skin of l. hand; after scratching red spots arise, on which several closely packed papules appear, lasting several d., and itching periodically. Three h. after dose, wrenching pain in l. hip (walking and standing) and shooting here and there in skin. P.m., frequently the above-described pains in joints of extremities (like those experienced by arthritic patients on a change of weather—weather now very fine), alternating with cramp-pains in their muscles, former most at rest, latter when moving. At n. anxious dreams of danger from fire or water. 9th.—In m. on awaking feeling of sand in eyes, with raw pain on rubbing them. 10 gr. were taken. During d. frequent cramp-like tensive pains in muscles of both mastoid processes. At n. restless sleep and frequent waking. 10th.—In m. 5 gr. of 3rd. A.m., loss of appetite, vertigo, confusion of head, dimness of vision, constant sweating, and frequent itching in l. auditory meatus. 11th.—P.m., 10 gr. In $\frac{1}{2}$ h. (at rest) dull drawing headache in l. forehead with similar pain, now in l. knee, now in l. outer ankle, now in l. wrist. 12th.—M., 15 gr. In $\frac{1}{2}$ h. (in bed) aching tension in l. sacrum and h. then sudden sharp cutting pain through r. knee forwards, alternating after a few m. with similar pain in l. elbow. After getting up pain back went off, but there occurred feeling of roughness within thro. hoarse deep voice, and constant irritation to dry cough. Usual stool was scanty; first part hard, causing sore shooting pain in passing, second part soft like birdlime. All a.m. weakness and dimness eyes, and frequent dry tussiculation. About noon some sharp shooting in urethra. P.m., while driving, aching in whole l. head; afterwards while at rest, brief shooting cutting pain above ant. sup. spinous process of r. ilium, followed by cramp-like pains in flexor muscles of upper arm. At n. in bed drawing in r. upper row of teeth, and, son

What later, distension of abdomen, griping, and frequent emissions of offensive flatus. 13th.—Wrenching pain (while walking) in l. sacral region and hip, and some shoots in l. sole and l. testicle. 14th.—M., in bed, sudden, sharp, cutting pain from behind forwards in l. great toe. P.m., some shoots in l. tendo Achillis. At n., in bed, for some seconds, penetrating cramp-like pain in l. metacarpus. 15th.—In m. 10 gr. of 2nd. In $\frac{1}{2}$ h. aching in pit of stomach, and sensation like scratching in stomach; after a time aching tension in l. sacral region and hip, and in whole extent of pelvis, sometimes so violent that pelvic bones seemed to be separating; this lasted $\frac{1}{2}$ h. (in bed). After getting up, urging to make water, with cutting pain (as in strangury) over symphysis pubis. The whole forenoon sprained pain in l. hip-joint (on walking), and very often gouty pains in joints of the extremities, alternating with cramp-like pains in their muscles (at rest and in motion). About 2 p.m. (at rest) several violent shoots in tendo Achillis near os calcis. In 2 h. dull aching in whole of r. half of brain; dimness of vision and weakness of both eyes, with innumerable confused dark spots floating before the eyes; after this, long-continued giddy confusion of whole head. At n., in bed, a semilunar painful drawing in root of nail of the r. little finger. 16th.—In m. 10 gr. In $\frac{1}{2}$ h. (in bed) aching tension in l. sacral region and hip, lasting several m., and soon recurring. After this, very violent piercing, cramp-like pain deep in r. orbit (probably in the muscles), which, as far as he could judge, seemed to extend through bony wall of orbit into the frontal sinus; it lasted a few m., and then alternated with a similar pain in l. orbit. After rising from bed a hard motion, causing pain in its passage through rectum. About 10 a.m. a pretty violent drawing in l. temple, which only lasted a short time. Before dinner observed, on inside of lower lip, a vesicle size of a hemp-seed, filled with dark blood, but it did not annoy him much, and after dinner was found to have disappeared without leaving a trace behind. P.m., in addition to a frequent alternation of the already described pains in head and joints, there occurred a violent, cramp-like, tensive pain close to r. mastoid process (at rest), which seemed to pierce into deepest parts of bone; it lasted a few seconds, and then made way for a shooting pain in r. temple. E. (when at rest) a sharp cutting, from behind forwards, along inner border of l. great toe. 17th.—In m. 20 gr. On mucous membrane of r. under lip, two aphthæ, which went off in 2 d. Two h. after taking medicine, sudden drawing above r. eyebrow, and afterwards (at every step) dislocation pain in l. knee and ankle. At n., in bed, a pain piercing through r. knee-joint, which lasted 25—30 seconds, and was followed by a sharp cutting pain under nail of r. great toe. 18th.—In m., after awaking, painful rubbing dry feeling in borders of r. eyelids, with cramp-like penetrating pain in r. mastoid process; after this, dryness of tongue, which, after $\frac{1}{4}$ h., gave place to slimy taste in mouth. A.m., painful cramp-like tension, now in muscles of anterior internal aspect of l. thigh, now in l. calf. On inner surface of l. lower lip he observed a group of greyish-white aphthæ, which were rather painful; after a time several aphthæ appeared on r. upper lip (they lasted a week). About 4 p.m. griping in bowels from umbilical region

to the symphysis pubis, coming in fits, and followed by a diarrhœic evacuation of a yellowish-green, pappy, slimy mass. 19th.—Feeling of tiredness in l. leg; cramp-like penetrating pain in l. metatarsal bones, and pain in l. sole as if it were ulcerated. 20th.—In m. 5 gr. of 1st. In $\frac{1}{2}$ h., in bed, violent pain in l. sacro-lumbar region, worse on turning in bed. After getting up, a hard motion, which causes cutting in its passage through rectum; afterwards (on taking a step) shooting dislocation pain in l. hip, which extended from sacro-lumbar region across pelvis to trochanter, lasted above $\frac{1}{4}$ h., and caused him to limp. About 11 a.m. giddy confusion in head with dimness of vision; dull pressive headache, at one time deep in forehead, then in occiput, but always alternating with gouty pains piercing through joints of extremities. About 7 p.m., when at rest, first a painful drawing along tibia (feeling as if in periosteum), followed by very violent stitches back, near l. scapula. At n., in bed, there occurred, deep in r. side forehead, in a circumscribed spot size of a crown-piece, a slight dinging, shooting pain which lasted a few m. The night's rest was disturbed by anxious, half-remembered dreams. 21st.—In m. 10 gr. $\frac{1}{4}$ h., in l. sacro-lumbar region, an excessively violent, aching, tensile pain, as if muscles were too short; it spread over l. side of pelvis to trochanter, and even involved sympathetically the abdominal muscles above crest of l. ilium. This pain lasted as long as he lay on l. side on turning it went off instantaneously, but then attacked same parts of r. side. On getting up, no trace of backache, but, instead, dryness of tongue and palate. P.m. (at rest), frequent painful drawing, now in head of fibula, now in l. side of forehead, now in l. elbow joint, and now in r. great toe. About 7 p.m., in open air, very troublesome confusion of head; and in back, close to r. scapula, an aching, tensile pain, as if muscles were too short. 22nd.—In m. 30 gr. In $\frac{1}{2}$ h. dryness of tongue, and burning feeling in skin which spread from axilla over r. upper arm and r. chest. Afterwards acrid water ran out of eyes. The whole forenoon, frequent dislocation pains in joints, even on a slight movement; and profuse perspiration when walking. About noon, burning pain in a spot of skin size of a crown-piece over r. inner ankle. In e. fine burning, like sparks, on some parts of skin of r. upper lid. About 2 a.m. he awoke with aching pain in occiput, violent throbbing of all arteries of head; painful dry sensation in both eyes; aching tensile pain in sacro-lumbar region; prickling warm feeling all over skin, with disposition to perspire; and troublesome burning feeling which extended from shoulder over l. upper arm and between scapulæ. 23rd.—A.m., at every step, sore feeling in abdominal parietes, as if muscles of abdomen and peritoneum had been bruised. About noon (at rest and in motion), in muscles of l. upper arm, close to bend of elbow, a cramp-like pain, which, in course of 2 h., gave place to an exactly similar pain in sinews of l. popliteal space. About 4 p.m., at first some griping in bowels, then call to stool, followed by pappy motion of yellowish-green colour, in moderate quantity. 24th.—A.m., frequent alternation of headache (at one time in forehead, at another in occiput) and the previous (gouty) pains in joints, but only when at rest; when walking dislocation pains

in l. hip, and at head of l. fibula, causing him to limp. About noon, burning hot feeling in skin of whole back, especially annoying between scapulae, lasting more than $\frac{1}{2}$ h., and after scratching turning into sore pain. In e., for a few seconds, shooting pains in r. side of chest (judging by the feeling, in the pleura), and several shoots through arms, like lightning; followed by burning pain in skin of whole extensor surface of l. elbow-joint. 25.—In m. burning and redness of skin of whole of dorsum of r. hand, as if an eruption were about to appear. m. violent burning in skin of whole back, with perceptible throbbing arteries beneath skin at affected part. In e. several jerking, lightning-like shoots in rectum. The night's rest was often disturbed owing to burning pains in parts of skin lain on.

The same symptoms recurred on the following days. The gouty pains in the joints lasted the longest, together with the burning in the skin, the shoots in the anus, and the cramp-like penetrating pains in the left mastoid process. (*Ibid.*)

20. a. LORENZ KÖSTLER, æt. 25, first proved crude substance. Ten powders, each containing 5 gr., which he took in October, 1845, produced no effect. Nov. 4th.—10 gr., towards e. headache and shooting in throat. 5th.—10 gr., great confusion of head; difficulty of swallowing; stoppage of nose; anorexia; feeling of weight in stomach. In order to get rid of these symptoms, and to move the bowels, which had not acted for several d., he left off proving for 2 d. and took an ounce of salts. This caused several motions, and gave him great relief. On 8th, 9th, and 10th, 10 gr. Beyond feeling of weight in stomach, no symptoms. 11th.—Same. On r. anterior border of tongue a hard raised red spot the size of a lentil; on moving tongue shooting pain in it. 12th.—No medicine. The swelling and pains in tongue were greatly diminishing, and the following d. were quite gone. 13th.—10 gr., disagreeable metallic taste; feeling of weight in stomach; eructations. 14th and 15th.—Same. The metallic taste and weight in stomach as on 13th, but no more eructations. Owing to a swelling of gum and cheek, caused by cutting a wisdom-tooth, which lasted some d. and returned slightly at a later period, he left off proving until 20th Dec. On that and the 3 following d. he took every m., and on 24th, 25th, and 26th every e., 10 gr., but without any result. On 11th, 12th, 14th, 16th, 20th, 21st, 23rd, and 24th Jan., 1846, 20 gr. were taken. 15th.—Occasional eructations and sour taste in mouth, lasting several d. 20th.—Feeling of weight and pressure in l. side of chest, which increased daily, and was especially annoying on 26th. On that d. there occurred violent shooting pains at every attempt to move chest forwards and to l., and on taking a breath. On the following days the chest symptoms declined, and gradually went off completely.

b. "For 4 weeks," says he, "I may have taken 3 times daily 5 globules moistened with the tinct., when I experienced a shooting pain here and there in the abdominal parietes, especially in inguinal region, at one time in l., at another time in r. side; this pain sometimes lasted a short time, sometimes longer, but regularly went off in the warmth of bed. As I did not believe that these wandering pains were caused by the S., I continued to take it. About a week after the first appear-

ance of the shooting pains there occurred, on the slightest motion, a very troublesome feeling of fatigue. The shooting pains now gradually declined, but in their stead occurred contractive pains, especially in muscles of thighs, which often proved a serious obstacle to my walking. In 4 d. these contractive pains were felt deeper, as if in the bones, especially in femora and r. tibia. The head of r. tibia became very painful, and could not bear the slightest touch, and after the slightest movement I had to go and lie down. Now, almost convinced that these symptoms must be the effect of the S., I intended to leave it off, but as I had a few more globules I took them all. The consequence of this was that the pains attained such a degree of intensity as almost to render walking impossible. The very next d., when I took no more globules, the pains became less intense, and in 3 d. were all gone. (Ibid.)

21. FRANZ KURZ, surgical student, æt. 23, of sanguine-chole-ric temperament and robust make, suffered for some weeks in 1845 from an herpetic eruption. Oct. 16th, 1845, and the following 10 d., he took 5 gr. of S. without result. Twenty gr. which he took on the 27th, 28th and 30th were equally without effect. Nov. 1st, 6 a.m., 20 gr. About 4 p.m. some griping in bowels, soon followed a soft, very fœtid evacuation; disagreeable feeling of pressure in umbilical region, and, notwithstanding the expulsion of much flat gas with smell of sulphuretted hydrogen, tympanitic distension of abdomen. 2nd, about 3 a.m., profuse perspiration. At 6 a.m. 20 gr. The same symptoms as yesterday; but they came on a.m., and persisted during whole d.; at same time violent headache and loss of appetite. 3rd, at 3 a.m., profuse perspiration. At 6 a.m. 20 gr. Same symptoms as yesterday. 4th and 5th, 20 gr. No morning perspiration, otherwise same symptoms as the previous days. 12th to 16th, 20th, 21st, 30 gr. The motions were more liquid, and occurred twice a d.; otherwise same symptoms as on 2nd. 22nd to 30 gr. Besides above symptoms, soft, small, quick pulse, 160; the disagreeable pressure in umbilical region went off, but in its stead there came troublesome pressure in l. hypochondriac region, about 3 a.m. which went off when he got out of bed; in e. palpitation. 23rd and 24th, same dose. Pulse on these days was less quick; palpitation occurred not only in e., but also after dinner, but did not last long; otherwise same symptoms as the d. previous. 25th, 30 gr. The pressure in l. hypochonder disappeared, but came in still greater degree in gastric region. About 3 p.m., for an h. remarkable dilatation of pupils; in other respects same symptoms as on previous days. 26th and 27th. —Same dose and same symptoms, with exception of dilated pupils. 28th to Dec. 1st, no medicine. The flatulent symptoms decreased; stool as copious as before; pulse normal. 2nd, 30 gr. The flatulent symptoms recurred to an excessive extent; motions were more fluid; the pressive pain in gastric region went off, but affected umbilical region; pulse more rapid; no palpitation. From 3rd to 11th inclusive, 30 gr. Same symptoms as on 2nd. No more medicine was taken. On 12th and following 4 d. same symptoms as before. On 16th they declined, and by 20th they were nearly all gone. (Ibid.)

22. *a.* JACOB LANDESMANN, from 17th to 30th Sept., 1845, took daily 10 dr. of 4th dil. 18th.—A small vesicle appeared in middle of lower lip, which dried up after a few d. 29th.—In m. he blew some blood-streaked mucus from nose. Along with some flatus several drops of diarrhœic fæces were involuntarily discharged. During d. 2 watery stools with slight pinching in bowels. 30th.—About 10 p.m. some shoots in l. palm.

b. From 1st to 17th Oct., he took 10 gr. daily of a 5-95 trit. Besides increased secretion of urine, and diminished consistence of fæces, no symptoms until 14th, when a small painless vesicle appeared on each frontal protuberance, which remained there for several weeks.

c. From 17th to 24th he took daily 5 gr. of S. rubbed up with sugar; from 25th to 28th 10 gr., and from 29th to 2nd Nov. 20 gr. On 18th, on awaking in m., feeling of roughness in throat, and shooting pains on swallowing. These symptoms disappeared completely by the next d. 20th.—A very violent catarrh came on, which lasted an unusually long time, viz., until the 20th Nov. From 11th Nov. to 15th Dec. he took daily 30 gr. of pure S. 13th.—Very soft stool and emission of much flatus smelling of rotten eggs. 14th.—Same symptoms as yesterday. 15th.—On lip, near r. commissure of mouth, there appeared a group of small painful vesicles standing close together. 16th.—The vesicles burst, and left behind them an equal number of small round spots, which, the following d., assumed a lardaceous ulcerated appearance; on 18th they began to dry up, and were covered with a scab, which fell off in 5 d. 19th.—A.m., some sharp shoots in r. chest. Excessively irritable disposition without cause. Short dry cough in fits, frequently recurring. 20th.—At n. he awoke with violent shooting pains in lower third of l. shoulder-blade, much aggravated by movement, but also so violent when quite quiet that he could not sleep all n. 21st.—In m. these pains extended further upwards over scapula, whence they spread to muscles of nape and l. ear, and were worst when moving or turning the neck. They were less violent than in the n., and not so distinctly shooting, more drawing and tearing; they diminished gradually during d., so that he thought he had quite lost them. But in this he was mistaken; for at n., in warmth of bed, they returned with renewed violence. At last he fell asleep, but on account of the pains he passed a very restless n. He had never before experienced anything similar. 22nd.—In m., 1 h. after getting up, the pain in l. shoulder declined, and gave but little annoyance during d. There arose several small, painful elevations on different parts of forehead and vertex; one especially, on the skin between occiput and r. mastoid process, was particularly sensitive, and, along with the other elevations, lasted several d., when they gradually went off. About 7 p.m. drawing in r. spermatic cord and testicle. After lying down slight drawing in r. ear, and fine drawing shooting in l. occiput—they were but slight indications of pains, only noticeable because such had never been felt before. The pain in l. shoulder continued in a slight degree, but did not much disturb the night's rest. 23rd.—No new symptoms. 24th.—After dinner again a slight indication of the pain in r. chest which occurred on 19th; afterwards slight

feeling of pain in the centre of the external aspect of r. thigh. At n. after going to bed, very troublesome dry cough, which lasted uninterruptedly nearly $\frac{1}{4}$ h., whereby one or two lumps of albuminous-looking blue mucus were expectorated. 25th.—He observed a semilunar furrow, about a line in breadth, which extended right across both thumb-nails, near their roots. The nail, both before and behind this furrow, formed an elevation. From 6 to 8 a.m. shooting pains in tonsil, which, on swallowing, extended into l. ear, and at same time (lasting till 9 p.m.) violent stitches, recurring every 10 or 15 m. through whole length of last joint of r. index, at extremity of which an almost cartilaginous wart had existed for several years. 26th.—In m. in bed, he experienced the pain in l. scapula, but less violent than before, and nearer joint; it lasted all d., and ceased towards e. The pain in last joint of r. forefinger also returned, but was not so severe to-day. During his proving he had frequently felt a cold sensation in l. upper arm, but never so distinctly as to-day. At noon dry cough, which lasted $\frac{1}{4}$ h. The flatus occasionally expelled had a penetrating rotten-egg smell. The stool was very soft, and was preceded by griping in bowels. In e. drawing pain through first joint of l. forefinger. 27th.—Frequent sneezing, discharge of fluid mucus from l. nostril; a very severe catarrh, although that which dated from the 20th Oct. had only quite ceased a few d. previously. At noon an attack of cough as yesterday. P.m. slight tearing pains in l. eyebrow. 28th.—In m., itching, causing him to scratch, on outside of l. elbow, where there are a large and several small pimples. In e. frequent tearing in first joint of l. thumb; after going to bed very annoying itching on inside of l. knee, where also are several small pimples, which, however, like those on elbow, went off by following d. 29th.—He observed, on nail of the l. little finger, furrows similar to those on thumb-nails. 30th.—No new symptoms. In n. of 1st—2nd Dec., such violent itching on thighs and legs that he scratched till blood came. 2nd.—In e. frequent sudden tearing in l. cheek, in r. nape muscles, and in r. tibia. At n. again very violent itching in legs. 3rd.—In m. slight tearing in second joint of l. little finger. Roughness of both cheeks, heat and burning in them, and sensation as if they had been exposed for several d. to severe cold; this lasted several d., and was followed by a bran-like desquamation, which also lasted several d. P.m. occasional return of griping in bowels, and in e. a soft stool. 4th.—Colicky gripings in abdomen, which lasted all d. and all n., caused restless sleep, and only ceased following m. after a thin pappy motion. Betwixt ring and middle fingers of l. hand a small itching vesicle appeared. 5th.—The vesicle betwixt the fingers is larger, but only itches when touched. After dinner pretty severe tearing in l. pectoralis major, lasting 5 m., aggravated by pressure. In nape on l. side, superiorly, a small painful pimple appears. 6th.—In e. severe itching in l. whisker; after scratching, soreness of part. Long of falling asleep; starting in a fright on dropping off to sleep; waking at 3 a.m. with aching in œsophagus, great flow of saliva into mouth, and clammy taste (as from indigestion), although he had only taken a light supper, with appetite. 7th.—In m. the gastric symptoms were gone. Mucus brought away

on blowing nose has streaks of blood in it. The vesicle betwixt fingers has attained size of a pin's head, is filled with a clear fluid, and has exactly the appearance of a fully developed itch vesicle. 8th.—No change. 9th.—In e. tearing in l. upper arm. During n. the vesicle between fingers burst. 10th.—In e. tearing in r. cheek. 11th.—Repeated flying tearing in both cheeks. 12th—15th.—With exception of being later in falling asleep (often not until 1 or 2 a.m.), and violent itching in thighs and legs at n., no symptoms. 16th.—A hard, red, painful pimple formed near angle of l. lower jaw, and several itching pimples on outside of l. elbow, which, together with that on jaw, lasted several d. before disappearing. 18th.—A.m., tearing pain on inside of l. little finger, increased by pressure. The itching on legs in bed at n., and the late falling asleep, continue. 21st.—At n., in bed, tearing under nail of l. thumb. 22nd and 23rd.—Throughout d. feels quite well, but each e. for some h. continued colicky pains and increased flow of urine. 24th.—P.m., tearing in l. tibia, and in e. drawing in l. eyebrow. On two spots on vertex there are formed very tender, scabby elevations, size of a pea, which last several d. 25th.—At n. very vivid anxious dreams, as if he was pursued by wild beasts. 26th.—A hard pimple, size of a lentil, formed at angle of l. lower jaw, and persisted until 1st Jan., 1846. The furrows on both thumb nails, and on the nails of l. little finger, which appeared in Nov., gradually filled up and were pushed forward by the growth of the nail, so that after three or four cuttings of the nails no trace of them remained. During the months of Jan., Feb., and March, 1846, the symptoms produced by the S. taken became gradually weaker and rarer. They mostly consisted of occasional flying pains in some of the finger-joints and other parts of the body, but especially of pimples and scabby eruptions which appeared here and there. Thus, on 10th Feb. a furuncular pimple appeared on l. temple, and several small ones on r. mastoid process, which lasted until 18th. On the 16th there appeared a painful scabby spot on the skin covering parietal bone, which disappeared in the course of a few d. in order to make way for a similar spot. The consistence of the stools was remarkably diminished during the whole time of proving, and the flow of urine increased. The sexual power was weakened all the time of the proving, and for long afterwards. The difficulty of falling asleep lasted some weeks after leaving off the S.

d. From 1st to 11th June, inclusive, he took every m. at about 11 10 dr. of tinct. ; from 12th to 21st, 20 dr. ; from 22nd to 27th, 30 dr. ; from 28th to 9th July, 40 dr. ; from 10th to 19th, 50 dr. ; from 20th to 29th, 70 dr. ; and from 30th to middle of August, 100 dr. Besides frequent sneezing, and sensation as if a cold were coming on, and frequent blowing from the nose of mucus mixed with blood (almost every m.), no symptoms until June 15th.—P.m. a peculiar pain occupying a space size of a crown-piece, at first slight, but gradually growing more and more severe. It was situated about 2 in. below lower angle of l. scapula, and its character was long, pulsative, undulating stitches, which always caused a jerk through whole body, and compelled him to hold his breath (as when straining at stool). These stitches recurred

at intervals of from $\frac{1}{4}$ to $\frac{1}{2}$ h., during which time the spot alluded to was sensitive to touch, movement, and deep inspiration, but did not actually give pain. These conditions, however, had no influence on the shooting pain, which always lasted a few m. The pain continued all n., and as it was even felt in sleep, it is manifest that that could not be very tranquil. 16th.—The pains continued in all their intensity of yesterday. He felt best when lying on l. side. This posture he endeavoured to retain as much as possible during n., and by carefully avoiding turning in bed, as the pains were thereby immediately aggravated, he passed a pretty good n. Besides the shooting pain, he was troubled by another symptom, viz. in e. a dry cough came on, excited by tickling in throat, and lasted a whole h. 17th.—In e. pain in back was more violent than on previous d. He was often forced to leave off speaking because the pain took away his breath. This he could stand no longer, so he took bryonia, whereupon the pain declined in a few h., and by e. was all gone. 18th.—On middle of lower lip there appeared two small white transparent vesicles, which increased in size the following d., when they had the appearance of herpes labialis, and on the 20th began to dry up; but in their place there appeared a number of similar but smaller vesicles on l. side of lower jaw, which also disappeared in a few d. 23rd.—He observed on first joint of r. ring finger a scabious itchy vesicle, which without increasing in size lasted several d. before it dried up. A similar but somewhat larger scabious itching vesicle appeared on 27th, between l. thumb and forefinger. 28th.—In e. he perceived on inside of upper lip, near r. commissure of mouth, a small painless elevation, which in a few d. changed into a small pedunculated wart with three free apices. It still remained months after the termination of the proving. From that d. forward, notwithstanding the increasing doses of sulphur taken, no new symptoms appeared. (*Ibid.*)

23. a. MAYERHOFER, on 28th Nov., 1845, about 9 a.m., took 1 gr. of I_x trit. Soon afterwards strong taste of S. in mouth, burning on point of tongue, confusion of head and aching in forehead, constrictive pain in pit of stomach and feeling of sickness, wandering pressing pain in l. hypochonder, chilly feeling extending from lumbar vertebræ to abdomen and extremities. 29th.—In m. violent shooting pains came on in r. hip-joint, which compelled him to keep his bed, as he could not raise himself up or move without the greatest effort. This very troublesome shooting pain extended through r. half of pelvis down r. femur, avoided knee, and reappeared as severely in foot. 30th.—The pain abated, he could again freely move r. hip- and ankle-joints, and stand erect; tenderness of joints, however, persisted, now more, now less, for 8 d. longer. During this time the bowels were very sluggish, and some d. not at all moved. 9th Dec., about 10 a.m., he took another gr. In 20 m. heaviness and confusion of sinciput, and aching, squeezing, anxious feeling in pit of stomach, which gradually changed into a constrictive and alternately a burning pain. Two h. afterwards there came on a sensation of fulness of chest, at first an insipid and clammy, but suddenly a sweetish taste in mouth; sensitiveness of uvula; tickling in throat; spitting of a watery slimy fluid

mixed with bright red blood several times, at short intervals. (He had had something similar 6 or 7 years previously.) Salivary secretion increased; for a long time he had every now and then traces of blood in the saliva. Conjointly with these symptoms there was a feeling of fulness and distension of belly, and bearing down towards colon. Appetite diminished. After dinner symptoms in the pit of stomach declined, but the abdominal parietes became sensitive, and the bearing down towards the colon increased. There ensued a loose motion; the pulse was quick, hard, and full. 10th.—About 9 a.m. and 9 p.m., 1 gr. The feeling of oppression in pit of stomach less troublesome to-d.; in bones of arms and legs he had a feeling of weight; general weariness, and discomfort of whole body. Confusion in sinciput, insipid taste, appetite small. Constant bearing down in rectum, and a loose stool. In e., immediately after taking the medicine, sweet taste in the palate. Contrary to the usual habit he was long of falling asleep, and when at last sleep came, it was disturbed by dreams of fire and death. 11th.—In m., on waking, sensation of dryness in mouth, dry wrinkled lips; taste clammy, tongue thickly furred with a dirty yellow coating; aching feeling of weight in region of stomach worse than yesterday; great bearing down and feeling of fulness in the rectum; he had not his usual motion of the bowels in the m. Confusion of the sinciput; annoying sensation of fulness in abdomen, followed by occasional tension and shooting pains. About 10 p.m. he took 2 gr. At n. vivid anxious dreams, frequent waking, and difficulty of falling asleep again. 12th.—In m. dryness of lips, mucous membrane of which lies in folds; aridity of commissures of mouth, which are covered with small whitish scales; borders of the alæ nasi dry, Schneiderian mucous membrane irritated as if a coryza were coming on; canthi of eyes red and inflamed, slightly adhesive, and exuding a little. Along with these, confusion of sinciput, oppressed feeling on chest, tenderness of abdominal parietes, and bearing down towards rectum. After getting up and passing a hard stool, all symptoms diminished, so that during d. he felt pretty well. At 10 p.m. 10 gr. At n. vivid dreams. 13th.—About 9 a.m. 2 gr. Frequent sudden call to make water; increased flow of dark-coloured urine; constant bearing down towards anus, and feeling of fulness in umbilical region. Towards e. troublesome itching in scrotum. 14th.—About 11 a.m. 3 gr. Sweetish taste, rush of water into mouth, frequent eructation and yawning, fluent coryza, confusion of sinciput, aching boring pains in temples and ears (especially r.); drawing tense pains in r. side of lower jaw, with painful tension and commencing swelling of r. submaxillary gland, feeling of fulness of the belly, bearing down towards anus, clammy taste, little appetite, rigor extending from lumbar vertebræ over limbs, and at same time feeling of distension and bursting of abdomen. Throughout d. itching in scrotum. About 4 p.m. the rigor recurred, and this time was accompanied by painful shoots in urethra, and aching boring pains in bones of forearm. In e. dull aching and feeling of weight in both eyeballs, with loss of vision as if a thick veil were before eyes. Late in e., roughness, redness, and itching of skin on dorsum of r. hand; some red, very itching pimples on skin of r. thumb and its dorsal aspect towards meta-

carpus; roughness of skin between r. thumb and forefinger, worse in heat of bed. The night's rest was disturbed by boring tearing pain in teeth, which lasted all following d., and in n. of 15th attained such a height that he could not sleep a wink, in consequence of which he got a tooth, which was somewhat carious, drawn the following d. He discontinued taking the medicine for some d. During this time the exanthematic phenomena on r. hand continued, and were regularly aggravated by heat of bed; the pimples gradually assumed the form of small pustules. The fæcal evacuations were far from normal, and sometimes ceased altogether; the fæcal matter was sometimes firm, sometimes relaxed.

b. 20th.—About 10 a.m., 3 gr. Confusion and aching in sinciput as if a band were tightly tied round forehead; itching in scrotum, and ineffectual straining at stool, with dull, shooting aching pains about navel. Towards e. several small, reddish pustules in skin of r. thumb, near metacarpus, which itched excessively. 21st.—After repeating about 9 a.m. dose of yesterday occurred violent fluent coryza; hard stool (about noon); frequent urination, urine the colour of sherry wine. P.m., itching, burning, and redness of edges of lids and of skin on outside of nose. Towards e. great tenderness around anus, and sudden, jerking, very painful stitches, first out of r. and then out of l. half of anus; they were so violent that they made him start up from his seat; at same time chilly feeling in legs. In e., in bed, itching and burning on dorsum of r. hand, which became covered with elevated, red, and itching pustules, which went off during n. (The swelling of the r. submaxillary gland, which commenced on 14th, has increased somewhat in size to-day, and feels moderately hard and tense.) 22nd.—Itching betwixt fingers of both hands; inefficient call to stool; urinary secretion increased, urine of bright yellow colour. Towards e. a red rough round place, an inch in circumference, appeared near union of ring and little finger, on which reddish pustules appeared, which itched very much in heat of bed. About 11 p.m., 4 gr. Soon afterwards confusion in forehead and temples, and aching in pit of stomach. Sleep disturbed by vivid dreams. 23rd.—About 8 a.m. 4 gr., and about 10 p.m. 6 gr. In m., after much straining and effort, a motion, at first hard and afterwards loose. Appetite was diminished, and after taking but a small quantity of food he had feeling as if stomach was overloaded. Urine of a bright colour was passed in considerable quantity. Feeling of weight in humerus. In e. after taking medicine, sweetish taste in mouth, great flow of saliva mixed with blood, confusion of sinciput when lying, contractive pain in forehead and temples, aching and oppression in pit of stomach; then very heavy sleep, disturbed by dreams, from which he awoke after 3 h. with confusion and weight of head, clammy taste in mouth, fulness of belly, tension and drawing round in a circle about navel, feeling of coldness and irritation in rectum, urgent but ineffectual call to stool; after passing much flatus of the smell of rotten eggs, and a great flow of urine, these symptoms diminished. 24th.—In m., heaviness, confusion and dulness of the sinciput, clammy taste, thickly furred tongue, urgent but ineffectual call to stool, with drawing and tension down muscles of loins, discharge of much flatus

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CONTENTS.

	PAGE
SABINA	1
SALICYLICA	12
SAMBUCUS	26
SANGUINARIA	27
SANGUINARINUM	34
SARRACENIA	37
SARSAPARILLA	39
SCILLA	41
SCROPHULARIA	43
SCUTELLARIA	45
SECALE	46
SELENIUM	78
SENECIO	81
SENEGA	83
SAPONINUM	92
SEPIA	96
SILICA	107
SPIGELIA	118
SPIRÆA	119
SPONGIA	123
STANNUM	123
STAPHISAGRIA	131
DELPHININUM	131
STICTA	132
STILLINGIA	133
STRAMONIUM	136
DATURINUM	169
STROPHANTHUS	169
SULPHUR	171

A
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OF
DRUG PATHOGENESY.

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RICHARD HUGHES, M.D. | J. P. DAKE, M.D.

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This CYCLOPÆDIA is compiled under the following instructions, adopted jointly by the American Institute of Homœopathy and the British Homœopathic Society :

1. Give the scientific name and synonyms of each article, and its natural order.
2. Give a narrative of all provings, stating the symptoms in the order of their occurrence, with such condensation as completeness allows.
3. Give, in describing virulent drugs, such selected cases as may properly illustrate the various forms of poisoning by them, condensed as before.
4. Give the results of experiments on the lower animals, where of value ; generally in abstract.
5. Trace all versions and copies to their originals, and verify, correct, or reproduce therefrom.
6. Include, as a rule, no drug that has not shown pathogenetic power in two or more persons.
7. Include in the narratives, as a rule, no symptoms reported as occurring from a drug administered to the sick.
8. Include no symptoms reported as occurring in the persons of provers under the influence of other drugs, or when in conditions or circumstances not allowing a clear reflection of the pathogenetic influence of the article under consideration.
9. Include symptoms reported as coming from attenuations above the 12th decimal only when in accord with symptoms from attenuations below.

The Editors would repeat the appeal made in the Preface to Vol. III for contributions to the Appendix. It will be commenced in the course of Part XV ; and it is to the interest of all that it should be as complete as possible. References, cuttings and copies of pertinent matter will be gratefully received by Dr. DAKE, Nashville, Tenn., U.S.A., or Dr. HUGHES, Brighton, England.

with the smell of rotten eggs. These symptoms connected with the bowels recurred twice, namely at noon and in e. About noon annoying itching in scrotum and on back of hands, with tickling, itching, and sore feeling at outer border of anus. Swelling of submaxillary gland decreased. At n. vivid dreams and uncommon sexual excitement 25th.—The exanthematic phenomena on dorsa of both hands declined; itching and redness of scrotum persisted in same intensity. After dinner a hard stool, followed by sore feeling at anus. Night's rest disturbed by many vivid dreams. 26th.—In m. ineffectual urging at stool; severe fluent coryza. Swelling of submaxillary gland grew less. At 10 p.m. 6 gr. Many vivid dreams, causing a restless n. 27th.—About 9 a.m., 8 gr. In an h. anxious aching in pit of stomach, confusion of sinciput, sweet taste, great flow of saliva into mouth, bloody streaks in saliva. In 3 h. rigor over whole abdomen, feeling of fulness there, bearing down towards anus, jerking stitches through its r. half, itching in it, and feeling as if it were sore, swollen and moist. P.m., anxiety in chest, difficulty of breathing, cough accompanied by shooting pains in chest, increased secretion of saliva mixed with streaks of blood. In e., after much straining, a firm motion, accompanied by rigor proceeding from lumbar vertebræ, and cold feeling in limbs, especially lower ones; violent itching and tickling in point of nose, which is red. About 10 p.m., 8 gr. At n. many dreams, hence restless sleep and frequent awaking, each time with feeling of weight and dulness in sinciput. 28th.—About 9 a.m., 8 gr. A.m., after much effort, a hard stool; tongue furred; appetite diminished; throughout d. squeezing pressure in pit of stomach and in chest. In e. troublesome itching in skin of nose, which is slightly red, particularly at tip. At n. many vivid lascivious dreams; frequent emission of urine the colour of sherry. 29th.—Without medicine. In m. feeling of weariness and heaviness in legs; confusion of head. At noon piercing, jerking stitches out at anus, which was then so sensitive that he could not remain an instant seated; with every stitch dull shooting and jerking pains in the r. inguinal region; sore feeling at anus, and escape of moisture from it, itching in skin surrounding it; distension of belly, in spite of a great discharge of flatus smelling of rotten eggs; annoying but ineffectual urging to stool. At n., after much effort, an unsatisfactory motion, with frequent and increased emission of urine. 30th.—About 8 a.m., 10 gr. A.m., feeling of constriction of chest, and severe aching in pit of stomach; confusion of sinciput; diminished appetite; sweet taste; copious secretion of saliva mixed with streaks of blood; contractive pains about navel; troublesome and ineffectual urging to stool. The pustules on back of hand decreased in size, but the itching continued violently, especially in warmth of bed. 31st.—Swelling of submaxillary gland quite gone; sinciput oppressed; itching in the scrotum very troublesome; the exanthematic symptoms on back of hands diminished; evacuation after great effort. 1st Jan.—Itching and sore feeling at border of anus. P.m., itching and smarting in bend of elbow, where, in e., several pimples on a red spot appeared. 2nd.—Same symptoms. 3rd.—In e. 12 gr. In $\frac{1}{4}$ h. feeling of pressure and weight in pit of stomach, and difficulty of breathing; dull aching in

forehead; tension in belly, especially in umbilical region. At n. itching here and there, but especially on scrotum. Many vivid dreams; restless sleep. 4th.—In m. awoke unusually early with confused head; feeling of weight in pit of stomach, and very great itching on scrotum and inside of thighs. Afterwards there occurred tensive pains about navel; urging to stool, and, after much effort, an insufficient hard motion. Urine, which was in larger quantity than usual, was the colour of light sherry, sp. gr. 1019. Appetite diminished; he ate rather from habit than from necessity. After eating, disagreeable feeling of weight in gastric region; recurrence of urging to stool, and after much straining a soft formed evacuation. Urine, discharged in greater quantity in e., had the colour of white wine, and a sp. gr. of 1015. Whilst urinating, and for $\frac{1}{4}$ h. afterwards, rigor, which extended from lumbar vertebræ over abdomen. At n. great itching on dorsum of r. hand, especially on little finger, where he found, the following m., a pustule with its head scratched off, which had a great resemblance to an itch pustule. 5th.—In m. there appeared on l. ala nasi, towards cheek, a small distinctly pulsating swelling. Towards noon there appeared, below l. commissure of mouth, several itching pimples, and on anterior surface of l. thigh several itching pustules like scabies. 6th.—In m. 12 gr. Soon afterwards feeling of pressure in pit of stomach; frequent yawning and eructation of air. Towards noon peculiar feeling of trembling and throbbing in chest and pit of stomach; bearing down towards anus, itching shoots there; fluent coryza; feeling of weight in r. arm. Skin was reddened on several places, and itched. Urine passed after eating, in small quantity, had colour of dark sherry, and a sp. gr. of 1026. P.m., drawing tensive pain in r. hip, extending down thigh. In e. several very itchy pimples and red spots appeared on thighs; the pimples beneath l. commissure of mouth were gone; the small pulsating tumour on ala nasi burst and discharged pus; the pustules on little finger and on l. thigh dried up. At n. many disturbing dreams; waking about midnight and remaining a long time awake. 7th.—In m. bearing down towards anus and call to stool, but ineffectual, as nothing but flatus came away. It was only towards noon that after much straining a formed soft motion was passed. In e. tensive drawing pain in l. thigh; bearing down towards anus. At n. intense itching at anus, and following m. escape of an acrid itching fluid from it. He now left off taking medicine until 13th. During this time, sometimes one, sometimes another of the above-described symptoms occurred, more or less severely, but the cutaneous symptoms were most observed. The symptoms connected with the anus declined after 2 d., but the motions continued to be very irregular. The fluent coryza, which annoyed the prover more or less during the whole of his proving, disappeared.

c. 13th.—In e. 18 gr. Soon afterwards, oppression in sinciput; contraction and pressing in forehead, and aching in pit of stomach. At n. many disturbing dreams, and frequent waking with pains round navel; aching in humeri. 14th.—In m. dryness and tension of skin of lips; clammy taste; empty feeling in head; bearing down towards anus and urging to stool; after the greatest straining there passed a

scanty, soft formed stool. Towards noon abdomen was swollen and distended; bearing down towards anus again occurred, and after much effort another loose stool. Appetite diminished; itching on dorsa of hands worse, but pimples smaller. About 6 p.m. the abdomen again distended, and a disagreeable feeling of fulness about anus was experienced. The fluent coryza again appeared, and along with it confusion of head, aching in forehead, and oppression of chest. About 8 p.m. great flow of sweetish saliva into mouth; tickling in l. nostril, immediately followed by discharge of bright red thickish blood, to the extent of about $\frac{1}{2}$ drm., which contained a proportionally large quantity of sulphates.* 16th.—M. and e., 20 gr. In an h. dulness and oppression of sinciput; in frontal bone a painful aching, which extended across nasal and both malar bones; feeling of fulness and tension in abdomen. At noon appetite was very poor, and after eating there was troublesome feeling of fulness in stomach, and aching in scrobiculus cordis. Soon afterwards violent bearing down towards anus, discharge of much flatus, and at length, after much effort, a hard motion. In e. itching behind r. ear, where several scattered pimples had formed. Somewhat later, not only did all the symptoms return which had troubled him before and after dinner, but in addition there occurred anxious feeling in the chest, he can hardly expand it during inspiration; itching in r. concha; boring pains in meatus auditorius externus; copious secretion of ear-wax. The night's rest was disturbed by vivid lascivious dreams, causing two seminal emissions; after midnight he awoke in a fright, caused by a dream, and felt aching drawing pains in both humeri, tensive and cutting pains round about navel, and very urgent but ineffectual call to stool. 17th.—The same symptoms as yesterday. In m. urine, which was passed in considerable quantity, had a dark sherry-wine colour, and a sp. gr. of 1018. 18th.—A.m., when standing, jerking stitches in anus; little appetite; during d. 2 soft formed stools. 19th.—Painful drawing in muscles of r. thigh, so that he could scarcely raise the leg or move it about. In course of d. 2 soft formed stools.

d. On 19th, e., took 2 gr. of S. in substance. Sleep disturbed by many vivid dreams; frequent awaking with disagreeable itching on several parts of skin, causing him to scratch, and drawing tearing pains in metatarsus and toes of r. foot. 20th.—In m., after awaking, vacant confused sinciput, and bruised feeling of whole body, especially arms. During d. 3 soft formed evacuations after great effort. Urine was of a light sherry colour, and its sp. gr. 1015. In e. 4 gr. Restless dreamy sleep; frequent awaking with cutting pains about navel and distended abdomen. 21st.—In m. 4, in e. 6 gr. M., on awaking, vacant con-

* "I must observe," says M—, "that since commencing my proving of S. I have observed a considerable weakness of vision, and very often a feeling of heaviness and aching in the eyeballs. When reading or writing I often feel as if a mist were before the eyes. I must then first cover the eyes with the hand, slightly press and rub them, in order to be able to read. Moreover, I must hold the book I am reading a considerable distance from the eyes, for when I hold it close I cannot distinguish the letters. I had previously noticed a slight diminution in my visual powers, but since proving the S. the feeling of weight and aching in the eyes and the weakness of sight have increased rapidly, and to a great extent."

fusion of head; dryness of tongue and palate; arid, wrinkled lips; tension of skin surrounding mouth; clammy taste; aching and full feeling in scrobiculus and gastric region; bruised feeling and heaviness of limbs. At noon but little appetite, he ate more from habit than necessity. During d. aching in pit of stomach; heaviness and tension in humeri; feeling of soreness of anus, and exudation from it of a viscid, slimy fluid (which probably occasioned the feeling of soreness). In e., soon after taking medicine, dulness and oppression of sinciput; aching in forehead. It was long before he fell asleep; at length he did so, but in an h. he woke up again, and was unable to fall asleep again before 4 a.m. During this time dull aching and boring in frontal bone, and constant desire to stretch out limbs. 22nd.—In m., after awaking from his short sleep, which had been disturbed by confused dreams, bruised feeling in limbs; vacancy and confusion of sinciput; painful aching in frontal bone, and boring pains in r. supra-orbital ridge. Lips were dry and shrivelled; tongue thickly furred; taste clammy, insipid; palate dry. After getting up, cutting about navel; discharge of much flatus; and, after much effort, a soft formed, insufficient stool. In e. 6 gr. Soon afterwards recurrence of the discharge of flatus, and very troublesome but ineffectual call to stool. Night's rest disturbed by many dreams. 23rd.—Without medicine. The same symptoms as yesterday. 24th.—In m. 8 gr. A.m., horripilation extending from spine over abdomen, back, and upper extremities; and, at the same time, uncomfortable feeling of weight in whole chest and in bones of both arms. At noon little appetite, and no desire to drink water while eating, which he was always in the habit of doing. During d. 2 soft formed stools. About 7 p.m. recurrence of horripilation as a.m. As he felt now too much affected by the S., he left it off for 3 d. "My complexion," he writes, "showed a remarkable change, it had a dirty earthy appearance; and since taking the S. in substance the sexual power is remarkably diminished."

e. 27th.—In m. 10, in e. 12 gr. During forenoon heaviness and aching in pit of stomach. At noon no appetite. Towards e. severe aching in frontal bones; weight and full feeling in chest, and shortness of breath. In e., after taking medicine, vacancy of sinciput; aching in frontal bones and pit of stomach. When lying in bed, rigor, proceeding from r. side of lumbar vertebræ and spreading over r. side of the body. At n. restless, dreamful sleep. 28th.—In m., after waking, vacant confusion of sinciput; very troublesome feeling of outpressing, bursting and boring in frontal and cheek bones; dryness and tension of outer skin round about lips, and bran-like desquamation of it; dryness of lips and palate; dryness and burning of tongue, which was covered with a dirty whitish-yellow fur; aching and weight in scrobiculus cordis; tension and swelling of belly; cutting pain around navel, worse on stooping; discharge of much flatus with smell of rotten eggs; violent but ineffectual call to stool; borders of anus were somewhat swollen, and he felt a tickling there as if a worm were creeping about; escape of a small quantity of slimy fluid from anus. In limbs, especially upper ones, a bruised and heavy feeling, which lasted all d. Towards noon, after a painful effort, there occurred a

scanty motion; fæces were firm and of a blackish-brown colour. In e. 14 gr. Soon afterwards the same symptoms as yesterday. About midnight he awoke, and could not fall asleep again for a long time. During this time he experienced a great amount of the pains in frontal and malar bones, and in limbs. 29th.—Without medicine. In m. call to stool, and only after a great effort an insufficient evacuation of a dark hard mass. The night's rest was disturbed by vivid dreams, frequent waking and lying long awake, with great restlessness and excitement. 30th.—M. and e. 16 gr. In m. a movement of bowels after much straining; a.m., confusion and aching in sinciput; aching in pit of stomach and in stomach; difficult breathing; increased heat of hands, and increased itching on their backs, which, especially r. thumb, are covered with red irregularly shaped pimples. On inside of nose, especially on alæ nasi, great itching and feeling as if nose were swelled. Near outer canthus of l. eye an intensely red, excessively itching and burning spot on skin; l. palpebral conjunctiva much reddened. Feeling of fulness and tension in abdomen; bearing down towards anus, and excessive tickling there. Towards e. the aching in pit of stomach returned in a greater degree than a.m.; breathing very difficult. Again call to stool, and with great effort evacuation of hard dark-coloured fæces. R. submaxillary gland was again swollen and sensitive to touch, and thus it remained for 2 d. In e. after taking the medicine same symptoms as on two previous d. At n. voluptuous dreams and seminal emission. From 31st Jan. to 11th Feb. inclusive he purposely abstained from taking any more medicine.* In 2 d. pains in the frontal bone and restlessness at n. with vivid dreams were gone. The feeling of emptiness and confusion of head, the pains in pit of stomach, and the disorders of digestion, lasted till 7th Feb. The symptoms in the rectum and the irregularity of the motions remained. On l. upper arm there appeared reddish pimples, similar to those that had previously affected thighs and r. hand. 12th Feb.—In m. he again took 4 gr. of S., and there appeared confusion of head; aching in frontal bone; aching and feeling of weight in pit of stomach. At noon he had an uncommonly good appetite; at n. very vivid dreams, out of which he often awoke, and could not fall asleep again for a long time. 13th.—Without medicine. In m. confusion of head; aching in frontal region; aching in sternum and oppression of breath; after much effort a scanty evacuation. At noon uncommonly

* "Since the eleven days," writes M—, "during which I have taken the S. in substance, my system seems to be thoroughly penetrated with it, and I think it right to draw especial notice to the following:

"a. *The difficulty and irregularity of the motions*, which may be caused by a peculiar morbid condition of the large gut (especially of the sphincter ani), shown by the cutting pains around the navel.

"b. *The remarkable diminution of the sexual power*, especially by day.

"c. *The abnormal appearances in the skin*. Before the proving I had generally cold hands, now the hands are often warm, turgid, swollen, and disposed to perspire. The power of S. to irritate and disturb the functions of the skin was shown on several parts of the cutaneous surface by abnormal feelings (itching, burning, &c.) and formations (pimples, vesicles, &c.).

"d. *The boring, aching, bursting pains in the frontal and malar bones, and the aching, heaviness, and bruised feeling in the limbs.*"

good appetite; disturbed night's rest as yesterday. 14th.—In m. 4 gr. Same symptoms as on the previous d., and in addition several red itching pimples and spots on back of r. hand, and several vesicles on upper lip, which burst and let out an acrid yellowish fluid; at same time tension in skin round mouth, which was covered with bran-like scales.

f. To the history of the symptoms he observed, the prover adds the examination of his urine, which gave the following results.

As regards the quantity.—“In order,” writes M—, “to decide the question as to the influence of S. in increasing or diminishing the secretion of urine, during the whole time of the proving from 20th to 31st Jan., 1846, I ate about the same quantity of food every d. and measured the fluids ingested. The following results were observed:

Periods of 24 hours.	Quantity of fluid taken.	Number of emissions of urine.	Total weight of urine.
From 20 to 21 Jan.	56 oz.	6	50 oz.
” 21 ” 22 ”	52 ”	6	32 ”
” 23 ” 24 ”	74 ”	4	38 ”
” 24 ” 25 ”	60 ”	6	62 ”
” 27 ” 28 ”	52 ”	6	37 ”
” 28 ” 29 ”	63 ”	6	55 ”
” 30 ” 31 ”	54 ”	9	41 ”

“From these observations it appears that whilst I was taking the S. a quantity of urine corresponding pretty well to the food and drink taken was evacuated. It is generally assumed that a healthy man passes $48\frac{1}{2}$ oz. of urine in the 24 h.; but this is an over-hasty assumption, as many circumstances, but especially the quantity of fluid conveyed into the organism, have a great influence on the urinary secretion. During my proving of S. my stools had very little fluid or watery constituents. I had never any disposition to perspire, I only do so after any violent bodily exertion, such as very rapid walking; and marked though the action of S. on my skin was, it never produced copious perspiration—hence no fluid could escape out of my body in that way. Only once, on 23rd Jan., I perspired profusely in consequence of walking rapidly, and to this circumstance I must ascribe it that from 23rd to 24th, although I took 74 oz. of fluid in my food and drink, the urinary secretion was so small, and only 38 oz. were passed. From my observations I conclude that from the 20th to the 31st Jan. the S. I was proving produced neither an increase nor a diminution of the urinary secretion.”

As regards the physical and chemical properties.—“On the 22nd December, 1845,” proceeds M—, “I examined the urine passed in the e. in regard to its chemical constituents. It had a very pale white wine colour, and almost the appearance of so-called spastic urine; when first passed, and after standing for some time, it was equally pure and clear, and had a sp. gr. of 1018, that is, less than the normal. It had a marked acid reaction. When heated a slight cloudiness appeared

which, however, went off on adding nitric acid, and hence was not owing to the presence of albumen. The addition of nitric acid caused an immediate deposit of urate of ammonia in fine grains, which, on allowing the urine to stand, appeared in the form of a brownish-red sandy sediment. The urine treated with muriatic acid, and allowed to stand, after being well shaken deposited an increased quantity of uric acid. This was precipitated in a reddish sediment, or deposited itself on the inside of the glass cylinder, but it was frequently combined with ammonia. Evaporated to the consistence of syrup, then cooled and treated with nitric acid, it showed a smaller quantity of nitrate of urea than in the normal state. After the addition of ammonia there occurred a copious precipitation of earthy phosphates in increased quantity. Acidulated with a few drops of nitric acid, the addition of muriate of baryta showed the presence of a large quantity of sulphates. An equal quantity of urine, acidulated with nitric acid, precipitated the normal quantity of chlorides on the addition of nitrate of silver, and the presence of phosphate of soda in large quantity was demonstrated by the appearance of a thick greenish opacity, on adding a few drops of ammonia to the filtered fluid until it was neutralised. The uroxanthine was diminished. Urine of the same character as that subjected to examination, namely, with an increase of the sulphates, the urate of ammonia, the earthy phosphates, and the phosphate of soda, frequently occurs in rheumatic affections of long standing, and in chronic skin diseases. Them. and e. urine of 23rd Dec. had a sp. gr. of 1015 and 1016, little ammonia, much free uric acid, and nearly a normal proportion of sulphates. The urine examined on 24th had a sp. gr. of 1021, that of 28th 1010, and that of 31st 1021. As regards their constituents, however, they exactly agreed with the urine of 22nd. The urine passed in m. of 7th Jan. was of a dark sherry colour, clear, deposited no sediment, had a strong acid reaction, and a sp. gr. of 1017. Boiling produced no change in it; the addition of nitric acid showed nothing abnormal. The earthy phosphates, sulphates, and uric acid were increased, the chlorides normal, the urea lessened. The m. urine of the 8th was pale bright yellow, clear, without sediment, acid; it had a sp. gr. of 1020. No change on heating it, or on the addition of a small quantity of nitric acid. A larger quantity of nitric acid caused a violet tint, showing the presence of uroxanthine. The earthy phosphates, the sulphates, the phosphate of soda, and the uric acid, were increased, the chlorides normal, the urea decreased.

Quantitative analysis :

Water	...	...	957.6
Solid constituents	...	...	42.4

Total ... 1000

Solid constituents :

Urea	...	...	19.80 gr.
Uric acid	...	...	2.25 "
Fire-resisting salts	...	...	8.40 "
Extractive matter	...	...	11.95 "

Total ... 42.4

Among the fire-resisting salts the sulphates were specially abundant. The m. urine of the 9th was of pale sherry colour, clear, without sediment, sp. gr. 1021. No change from heat or nitric acid. The uric acid and all the salts increased, only the chlorides normal, the uroxanthine abundant, the urea diminished.

Quantitative analysis :

Water	956.3
Solid constituents ...	43.7

Total ... 1000

Solid constituents :

Urea	18.40 gr.
Uric acid	4.00 "
Fire-resisting salts ...	16.25 "
Extractive matter ...	5.05 "

Total ... 43.7

"The m. urine of the 14th had a sp. gr. of 1019; sulphates and uric acid were very abundant. The m. urine of the 15th had a sp. gr. of 1023, and a great deal of uroxanthine; otherwise quite similar to that of the previous d. From 20th to 31st Jan. I made almost daily quantitative and qualitative analysis of the urine. The m. urine was usually of a pale sherry colour, clear, and without sediment; the urine passed after dinner or in e. was of dark sherry colour. The sp. gr. on the 20th was 1015, and the following 5 d. 1022. It had generally a strong acid reaction; heat caused no change, except a slight cloudiness on one or two occasions, which must be ascribed to the frequent presence of proteine compounds. No change was caused by adding a few drops of nitric acid, but from an excess of the acid the urine assumed a brownish-violet colour in consequence of the presence in abundance of uroxanthine. The urea was as a rule diminished, the chlorides generally normal, the earthy phosphates somewhat increased, the phosphates of soda and the sulphates much increased. The uric acid was deposited in much greater quantity than in the normal state, but was of very loose texture, and hence a large quantity weighed very little. Thus the urine of the 22nd contained in 1000 parts 943.6 of water and 56.4 of solid constituents, and among the latter the uric acid formed only the 0.365th part. The urine of the 21st contained in 1000 parts 949.6 of water and 50.4 of solid constituents, of which the sulphates formed the 0.65th part. The urine of the 28th was also of a bright yellow colour, clear, without sediment, strongly acid, its sp. gr. 1016, but otherwise resembling that of the previous days. The quantitative analysis showed in 1000 parts 961.6 of water, and only 38.4 of solid constituents. The uric acid was abundant. I took 25 grms. of urine, precipitated the sulphates, and obtained 0.14 parts of sulphate of potash, which consequently in the proportion of 1000 parts showed the presence of the considerable quantity of 5.6 parts. I allowed a quantity of urine to stand undisturbed for 24 h. in a glass cylinder; there occurred a great cloudiness, and there was deposited a cloudy, thick, bright red sediment. But as both cloudiness and sediment disappeared

under heat, it was evident that it consisted of urate of ammonia. On heating recently emitted urine in an ammonia apparatus, the vapour arising tinged the litmus-paper blue, and the same reaction took place on adding caustic potash, which expelled the ammonia. Thus for 3 d. there was free ammonia in my urine, which does not and should not occur in normal urine, and is to be ascribed to the action of the S. The urine of the 29th, 30th, and 31st was of a dark sherry colour, clear, without sediment, had a specific gravity of 1018—1019, and was not changed by heat. The proper reagents demonstrated the presence of carbonate of ammonia; heated with nitric acid, the colouring matter showed itself by a brownish-violet tint; sulphuric acid struck a purple colour. The urea was, as usual, small in quantity, the chlorides normal, the earthy phosphates abundant, the sulphates and the phosphate of soda very copious. The uric acid, which was deposited in great quantity, was combined with ammonia. In the urine of the 30th and 31st were traces of iron; there can be no doubt that it came from the blood by a peculiar process of excretion, probably induced by the excess of S." (*Ibid.*)

24. Dr. J. O. MÜLLER made trials of the 100th and 30th dils., but elicited from them no effects worth notice.—On 21st Dec., 1845, before going to bed, he took 2 dr. of 6th dil. in water. The n. was undisturbed. "22nd.—In m., soon after waking, head hot, slightly confused; these symptoms went off after washing. The whole forenoon a state of mind partaking more of earnest exaltation than of depression or want of cheerfulness; weight in small of back, felt particularly on stooping; painful drawing about hypochondria; insipid taste; dirty, thinly coated tongue. At noon, after walking much, I felt hungry, but without appetite. Without feeling satiated, the latter part of the meal was not relished. Throughout d. great discharge of flatus and rumbling in bowels. In m., afternoon, and e., always soon after eating, passed a motion, half fluid, half lumpy, mixed up with gas, and attended with great noise from flatus. Frequent and copious evacuation of pale urine, with but little odour (only towards the end it had a mouldy smell). Sore pain in whole abdomen, as if it were raw, particularly noticeable on taking a full breath, coughing, walking quickly, or taking any violent exercise. Itching at anus and round about it. 23rd.—Restless dreamful sleep; frequent waking and falling to sleep again in a stupefied state. Towards m. general warm perspiration with anxiety, causing him to throw off the bedclothes. Pain in small of back with hypochondriacal discomfort. No appetite, and yet the food has the proper taste. Very tormenting shootings behind lowest l. rib towards back, increased by breathing deeply; at same time rattling respiratory noise in the large bronchial tubes. Eruption of furunculous pimples with a red areola, and very itching sensation, especially on face. Frequent itching, burning, and smarting in canthi of eyes, making him rub them. In e., by candlelight, a veil before the eyes; surrounding objects appeared to be enveloped in smoke; rubbing and wiping them had no effect. Tormented with flatulence. The accustomed motion did not take place; flow of urine also was less frequent and scanty. 24th.—Very restless n.; dreams of unfortunate and

dishonouring events. Waking up in anxiety, heat, and perspiration. Redness of eyelids and conjunctiva. Gasping for breath, on account of constriction of larynx; throat appeared to be too narrow; face hot and turgid; eyes perceptibly projected out of their orbits; veins of forehead and temples were distended with blood; speech difficult; shrill whistling on inspiring, particularly noticeable on going upstairs. This very anxious state was accompanied by indescribable discomfort, want of steadiness, and dizzy feeling. Firm stool, with severe pressing. 25th.—N. as before, very restless. P.m., a peculiar discomfort in præcordial region and hypochondria, extending up to throat, caused by tension, pinching, and tearing, now in stomach, and now in splenic and hepatic regions; eructation of flatulence caused only slight alleviation. At this time I was obliged to devote myself to an intellectual work, which occupied my attention and disturbed my night's rest so much, that I discontinued the trial on the 26th, from which date I recorded no more symptoms." (*Ibid.*)

25. a. A girl of 27, of healthy appearance, robust, well-formed figure, black hair, and good complexion, of variable but generally cheerful disposition, with no perceptible ailment, regular menses; after having taken dilutions (100th, 30th, and 6th) without effect, took on 28th Dec., at 3 p.m., 5 gr. of the 1_x trit. mixed with water. The next d. the usual m. motion did not occur; it was not till p.m. that she had an unusually hard stool, accompanied by pressing and burning in anus. The burning lasted some time after the motion, so that she could not bear to sit. 29th.—At 3 p.m. 5 gr. of same. In e. violent itching and smarting all over body, particularly on and betwixt fingers; parts of body not sensitive itched when she touched them. She feels as if she were all alive beneath the skin; there was a feeling as if vermin were running about. No stool to-day (her bowels are always quite regular every d.). 30th.—N. very restless; anxious frightful dreams of the dead and dying; she speaks, weeps, and shouts in her sleep, so as to wake herself, and after awaking remains long in a confused state of mind. In m., after getting up, very much out of humour; during d., sad, lachrymose—she weeps if one attempts to console her. Makes mistakes as to time: she thinks it is much earlier than it really is; at the vesper bell (7 p.m.) she contends with warmth that it is only 5 o'clock, and becomes quite angry on an attempt to convince her of her error. No appetite; no stool. Shooting pain in temples, close to eyes, on moving them or on looking at anything. 31st.—At n., when lying on back, pressure and anxiety in chest, with difficulty of breathing, to such a degree that the sweat exuded at every pore. She feels very weary, prostrated, and ill; complexion is pallid; natural tension of the facial muscles gone, so that her features appear discomposed, as if worn out by long suffering. Anorexia; what she eats has no taste, she has no relish, and the morsel seems to stick in her gullet. In e., cramp, stiffness and icy coldness of l. ring-finger, extending up to elbow, corresponding to the seat of common extensor muscle. Severe pain in small of back, extending from hypochondria over the sacrum into the coccyx, and she felt as if everything would come out at anus. At n., when lying on back, troubled with colicky

bellyache, with cutting in sides of abdomen, and drawing together about navel; this was followed by a scanty evacuation, with much tenesmus and severe burning in anus. 1st Jan., 1846.—She feels quite prostrated and ill. Severe pain in small of back, on account of which she loses all power of supporting herself. Burning in anus so that she cannot sit. Bearing down from small of the back, as if menses were about to come on. Much eructation of air, accompanied in e. with hiccough. At n., when lying on back, she is threatened with another attack of colic like yesterday's, but this goes off on turning quickly on to side; only some pinching about navel remains in changed position; this, however, goes off gradually, after passing a good deal of flatus. 2nd.—She still feels in all her limbs as if suffering from a long illness. No appetite, but return of cheerfulness and interest in surrounding things, and pleasure in her household occupations.

b. The prover could not be persuaded to go on with the trial at that time. It was not till 6th April that she would resume the proving. Up to that time she believed that she still felt some S. symptoms, such as pain in small of back, disturbed sleep, irregular bowels, occasional abdominal sufferings, &c. She now took before going to bed 10 gr. of 2nd trit., dissolved in about an ounce of distilled water. That n. she slept quite quietly, and the subsequent days she did not record the few slight symptoms she experienced, as she did not think they were owing to the S. 9th.—To-day she complained of a peculiar headache, not easy to describe, accompanied by vertigo, and compelling her to keep quiet, and at its worst to sit still; she felt relief by shutting her eyes. During d. she became excessively ill-humoured. No motion of bowels. 10th.—She had a motion, but it was so hard that she could only get rid of it by pressing strongly, whereby anus felt sore, and evacuation was covered with blood. 11th.—Frequent call to stool; nothing passed but a few drops of dark blood, accompanied by burning in anus. 12th.—A.m. she had dimness of vision; it seemed as if a veil was before eyes; sometimes she saw objects double; she could hardly see to do needlework, when sewing the sight went away completely. P.m. when walking a clot of blood slipped out of anus. She passed a very restless n. The following m. all her limbs felt as if beaten. All day long her humour was very bad. 13th.—She was again affected by the above-described headache and vertigo. To-day she was obliged to remain constantly seated, in order to keep off the attacks; they were rather less in the open air. P.m. this vertigo became extremely severe; there was with it nausea, inclination to vomit, twisting and turning in stomach, yawning, excessive prostration almost amounting to trembling of limbs, and occasional noises in head and ears. (The vertigo had this peculiarity, that it increased in violence on stooping or moving about, but was alleviated by sitting still.) The following d. menses came on, at the proper time, but with bearing-down pains from small of back into pelvis, which had never occurred before. They lasted the usual time; no alteration was perceptible in quantity or quality. There remained, for a long time afterwards, derangements of the evacuations, as regards both the time of their occurrence and their appearance; they were always hard and lumpy, and often accom-

panied by burning in the anus. In other respects no more symptoms remained from this trial. (*Ibid.*)

26. Dr. N—, 27 years of age, of sanguine temperament, made a series of provings with the tinct. 21st July, 1846, at 6 a.m., he took 3 dr. Immediately afterwards slight scraping in fauces, making him hawk; this lasted about an h. 22nd.—5 dr. The scraping returned immediately; it alternated with a drawing pain in r. shoulder, which went off by rubbing. 23rd.—Same dose and same symptoms as yesterday. 24th.—10 dr. Distension of abdomen, rumbling in bowels. In e. 2 liquid stools, with relief to distension. 25th.—10 dr. No discomfort in abdomen; no motion. At n. restless sleep; frequent waking from disagreeable anxious dreams. 26th.—In m., after getting up, bruised feeling over whole body; a.m., drawing downwards on inside of l. thigh. No stool. 27th and 28th.—No medicine, no symptoms. 29th.—10 dr. Immediately after taking them disagreeable tension in abdomen; no appetite for dinner. In e. 2 liquid evacuations, causing relief to tension. 30th and 31st.—5 dr. The abdominal symptoms did not return; only a flying drawing and tearing in l. shoulder reminded the prover occasionally that he had taken S. "I now," writes N—, "continued the proving by taking 5 dr. of tinct. daily, but until 6th August I only felt increased lassitude, sleepiness, and tendency to perspire on the least exertion. I sometimes felt so exhausted in e. that I fell asleep sitting on a chair, though people were talking loudly all round me." 7th Aug.—In m. 10 dr. In e., without any previous rigor, violent febrile heat, quickened pulse, confusion of head, and such great lassitude that he had to go to bed. He slept but little during n.; tossed restlessly about in bed, and had many anxious dreams. 8th.—Bruised feeling all over body; yellow complexion. 10th.—In e. 5 dr. Immediately afterwards violent drawing in l. upper arm, extending from shoulder to elbow, and lasting an h. In e. troublesome tension in abdomen, followed by a diarrhœic evacuation. 12th.—In m., on waking, l. eyelids stuck together; lachrymation from both eyes; and along with these symptoms so much photophobia that he could not look towards window. On looking into mirror, after getting up, he found l. eyelid swelled and conjunctivæ of both eyes red. In course of d. he had feeling of dryness and heat in both eyes; on opening and shutting eyes he felt as if lids rubbed against eyeball. 13th.—In m. l. eye was again closed up, lids reddened, photophobia worse than yesterday; conjunctiva and sclerotic of both eyes much injected; least light caused a copious flow of tears. The inflammation of the eyes lasted, in the same intensity, until 20th, during which time 5 dr. of tinct. were taken daily. The appearance grew daily worse, and during all the time he had great lassitude, tendency to perspiration, and drowsiness. 21st.—The ophthalmic affection declined; he could look at the light better; the redness and heat of eyes were less. Some pimples appeared on shoulders and forehead. 22nd.—In m. heat and redness of eyes were greater than yesterday, but they declined in course of d.; in their stead the disagreeable tension in abdomen recurred, it was only alleviated by 2 diarrhœic motions. From 23rd to 26th, each d., in m., feeling of heat in eyes and some photophobia, symptoms which regu-

larly declined towards latter part of d. In e., although he felt no pain in eyes, he could not read long by lamp-light without fatigue and watering of them. The general health was much as usual. The disposition was variable, but on the whole rather inclined to be dull and lachrymose. 27th.—In m. 5 dr. About 7 p.m. violent febrile rigor, without shuddering or thirst, which lasted $\frac{1}{2}$ h., although he went to bed and covered himself with the bedclothes. This was followed by great heat, which lasted $1\frac{1}{2}$ h., with full rapid pulse. Along with the febrile heat there occurred disagreeable aching pain in forehead and great restlessness, which went off when sweat broke out. After this he fell asleep and passed a quiet n., without dreaming or waking, which had not been the case for a long time. 28th—31st.—Without medicine. The derangement of general health continued. On 31st, in m., there appeared on l. cheek, near ala nasi, a small red spot, which attained the size of a lentil. 1st Sept.—5 dr. On awaking in m. he remembered that in a half-sleeping state he had scratched away at his l. cheek, owing to itching there. About 20 elevations, the size of millet-seeds, were to be seen there; they itched slightly when touched, and became more visible after dinner, when cheek was also somewhat redder and hotter. 2nd.—5 dr. Eruption on l. cheek has increased in extent, especially near ala nasi. Traces of a similar eruption were also visible on r. cheek. After dinner, and in e. after taking a little wine, eruption became remarkably increased. 3rd.—5 dr. “Last n.,” writes N., “I again scratched myself violently (during d. I abstained from scratching for fear of making eruption raw). On looking at eruption in m. with a lens, I found, on spots first formed, epidermis coming off in small scales. I removed one of them on the point of a penknife, and found it was of circular form, scarcely above a line in diameter, thickened towards edges, and in centre thin and transparent. Skin beneath the detached scale was elevated, red, and sensitive.” After dinner, the same aggravation of the eruption as on previous d. 4th.—5 dr. Desquamation appeared on several of the spots; on r. cheek eruption is extending. “The following days,” writes N.—“eruption remained the same, but I noticed with disgust that new scales constantly appeared on those spots that had already desquamated. One of my colleagues, who had paid great attention to skin diseases, declared the eruption to be a seborrhœa congestiva, and prescribed cold douches for it. As I had, at that time, particular objections to an eruption on my face, I discontinued the use of the S., but in spite of that the efflorescence lasted, in greater or less intensity, throughout Oct. and Nov., and was always remarkably aggravated after taking even very small quantities of alcoholic liquors. The eruption subsequently went away without anything being done for it.” (*Ibid.*)

27. a. SIGMOND REISS, army surgeon, 20th Nov., 1845, in m. took 10 gr. of powdered S. Beyond feeling of fulness in stomach and eructations of air, nothing worthy of observation. 21st.—Same dose as yesterday. In e. shooting pains in l. hip, which extend to upper third of thigh, are worse when at rest, and are relieved by motion and by pressure. General lassitude, confusion of head, and intolerance of noise. From 22nd Nov. to 9th Dec. he took daily about an h. before

his breakfast of milk 20 gr. 23rd.—After dinner pressure in stomach; frequent eructation of air during d.; in e. great lassitude and some confusion of head. 24th.—General feeling of illness; great sensitiveness to every breath of air; about 2 p.m. he was so tired he must lie down; he fell asleep, but his sleep was disturbed by confused dreams. On awaking an h. afterwards, violent pain in forehead, alleviated in e. after sneezing several times. 25th.—About 3 p.m. recurrence of the severe pain in forehead, with considerable congestion of face and coldness of extremities. Later in d. frequent sneezing, which always gave relief to head. In e. itching in anus; general lassitude. 26th.—At 8 p.m. pressive frontal headache with flying shoots in l. orbit. 27th.—During d. colicky pains in abdomen, which became particularly bad at n. in bed until relieved by discharge of flatus. At n. before falling asleep shooting in r. hip, l. shoulder, and both thighs; disagreeable feeling of lassitude, as if he had ridden or swum a great deal. 28th.—About 7 p.m. aching in forehead. Before going to sleep colicky pains in abdomen and shooting in l. chest. 29th.—In m., on awaking, itching in r. hand, especially betwixt fingers. P.m., rumbling and griping in bowels, with relief by discharge of very fetid flatus, accompanied by feeling as if a loose motion were being passed. In e. two loose stools. 30th.—Immediately after taking medicine, gripings in belly, which frequently return during d., with feeling as if diarrhœa were about to ensue, and then with fruitless call to stool. “It is remarkable,” writes R—, “that from the commencement of this proving I have awaked every m. at 5 a.m., and have been unable to fall asleep again, a thing that never happened to me before.” 1st and 2nd Dec.—Same symptoms as on the 30th Nov. 3rd.—Frequent fruitless call to stool. P.m., frequent violent sneezing. Towards e. sudden shoots in orifice of urethra. At n. a remarkable quantity of urine passed. 4th.—P.m., flying shoots in l. supra-orbital ridge for 5 m. 5th.—In e. severe shooting in r. calf and r. upper arm. For some d. past he has observed a remarkable distraction, and particularly a very great loss of memory with respect to well-known local circumstances. 7th.—Immediately after taking medicine, symptoms in abdomen the same as those that occurred a few d. before, with relief from emission of flatus. Four h. later a loose stool with itching in anus. 8th.—In m., on awaking, sensation as if a worm crept out of anus. Uncommonly late of falling asleep, and early waking in m. (4 a.m.) since 3rd. From 9th to 13th Dec. inclusive, proving was discontinued, but from 14th (with the exception of the 25th and 28th) to 30th, 20 gr. were taken daily. 10th and 11th.—At n. before falling asleep, sudden shooting pains in the r. half of head, with glowing hot cheeks and ears. At n. heavy confused dreams. 12th.—No symptoms. 13th.—On awaking from afternoon nap sensation as if hair were in throat, but without difficulty of swallowing. 14th.—At n., before falling asleep, for a $\frac{1}{4}$ h. shooting pain in l. forehead, extending to occiput, and relieved by external pressure. 15th.—In m., after awaking, shooting betwixt 2nd and 5th l. ribs. Immediately after swallowing the S., eructation of wind, and the usual abdominal symptoms. At n. before falling asleep, itching all over body, headache as yesterday, but much milder, and

slight shooting in chest as in m. 16th.—After constipation had continued for 2 d. a copious loose motion, with burning in anus. 17th.—In e. violent pain, as if head were screwed together from without, with flying heat in face. At n. shooting in r. forehead, extending to orbit. 18th.—Immediately after taking medicine same abdominal symptoms as above described. At n., in bed, flying shooting in r. ribs, extending to the shoulder. “Since 15th,” he observes, “I have awaked every m. at 4 o’clock, and have been unable to fall asleep again.” 19th.—Two h. after taking medicine aching in stomach, which lasted $\frac{1}{2}$ h., and was conjoined with disagreeable feeling of repletion. For the first time for a week head is free from pain. 20th.—In m., $\frac{1}{4}$ h. after taking medicine, burning in fauces; after $1\frac{1}{2}$ h., on stooping and raising up the body, bruised pain in small of back, which recurs several times during d. At n., in bed, icy coldness of feet. 21st.—At n. before falling asleep, icy coldness of feet, with glowing heat in head and hands; violent stupefying headache and shooting in l. chest, lasting more than $\frac{1}{4}$ h. He tossed about uneasily in bed, and could not help thinking he was going to be seriously ill. 22nd.—A vesicle on l. border of tongue. A.m., flying stitches in l. chest, increased by walking quickly and going upstairs. 23rd.—Traces of the stitches in chest of yesterday, but only when walking. In e., the bowels, which had been constipated for 2 d., were opened unsatisfactorily. Before falling asleep, flying shoots in l. ribs. 24th.—About 4 a.m. aching pains in region of r. sacro-iliac symphysis, and in r. shoulder. A.m., shoots in r. knee-joint when standing. In e. shooting in r. ribs. 25th.—A.m., on inspiring cold air, tearing pain in a loose healthy incisor tooth. 26th.—During d. dull headache. At n., before failing asleep, shooting in l. thigh, in direction of crural nerve, for more than $\frac{1}{2}$ h. 27th.—In m., on awaking, pain in l. thigh recurred more violently than on preceding n.; it was conjoined with great weakness almost approaching to paralysis, but was relieved by getting up, and went off in course of d. P.m., stupefying headache. At n. traces of pain in thigh. 28th.—Shooting pains in r. knee-joint, especially when standing. At n. again traces of pain in thigh. 29th.—After taking medicine, the well-known symptoms in abdomen. During d. shooting pains in l. hip-joint and in ball of l. hand. 30th.—During d. feeling of weakness and dislocation of r. wrist. At n. feeling of great weakness of l. leg, and shooting pains in l. hip-joint. 31st.—In e. bruised pain in small of back.

b. Of the 31x dil. he took on 8th Jan., 1846, before going to bed, 20 dr., without any result. 19th.—In e. 2 scruples of same dil. (After this he took no more.) Immediately after, metallic taste in mouth like copper. Before going to sleep shooting pains in upper border of l. orbit. 20th.—In m. great itching in anus. In e., before going to sleep, sudden shoots in l. thigh, in course of crural nerve, relieved by walking. At n. sudden shooting in middle joint of r. little finger; $\frac{1}{2}$ h. afterwards numbed feeling and great lassitude in l. ankle-joint. 21st.—About noon, bowels having been constipated for 2 d., fruitless call to stool. At n., before going to sleep, aching squeezing pains in l. ankle, which, after lasting a short time, give place to shooting pains in l. sole. 22nd.—In m., on awaking, confusion of head,

which went off after discharge of flatulence and going into open air. About noon, feeling of fulness in stomach and violent hiccup, lasting $\frac{1}{4}$ h. P.m., after violent straining and cutting in anus, a scanty evacuation, and afterwards sensation as if mucous membrane of rectum were pressed out. About 6 p.m. flying shoots in vesical region, and feeling of soreness on pressing on it. Before going to sleep crampy pain in lower third of l. thigh, and disagreeable feeling of lassitude. 23rd.—About 4 p.m. excessively violent pains in small of back, compelling him to go to bed. At n. very restless sleep. 24th.—In m. great weariness. During d. he felt quite well. 25th.—No symptoms. 26th.—About 4 p.m. violent aching pains in frontal region, which were ascribed to the constipation that had already lasted 3 d., whereupon he took a cold water enema. This produced an evacuation, but had no effect on the headache. About 2 a.m. there occurred by fits drawing pains in lower third of thigh, and feeling of tension in l. parietal bone, as if skin there were too tight and covered with ulcers. 27th.—In m. after awaking, tearing pains in l. shoulder-joint. 28th.—At n., before falling asleep, shooting in l. hip-joint. (*Ibid.*)

28. a. Dr. RIEDLINGER, 27 years old, of sanguine temperament, has always enjoyed good health. He took 1 dr. of tinct. mixed with an oz. of water every m. from 8th Aug. to 3rd Sept. inclusive. The following effects were observed: 8th.—Hoarseness; rumbling and pains in abdomen; night's rest disturbed by vivid dreams. 9th.—Great lassitude after walking. Headache; shooting in anus. 10th.—In m. hoarseness; urgent call to stool, two loose motions. 11th.—Very great lassitude; pains in abdomen; towards e. tiresome long-continued burning and itching over right ankle; at n. many disturbing dreams. 12th.—Great sensitiveness to every breath of air; frequent urgent call to stool; appearance of a small boil on l. shoulder. 13th.—Uncommon lassitude; heaviness of and burning in feet; colicky pains. 14th.—Formation of an erythematous patch, size of palm, on outside of leg, which, especially at n. in bed, itches constantly, compelling him to scratch, but afterwards is very sore. 15th.—Dyspnœa when walking quickly; weakness of chest on reading aloud; pains in abdomen; two loose motions. 16th.—In e. hoarseness; pains in small of back; itching in anus; erythema continues; at n. vivid, disturbing dreams. 17th.—Great prostration; low spirits; urgent call to stool, two evacuations. 18th.—Pains in abdomen with every draught of air; tendency to perspiration, especially in face; erythema continues. 19th.—Looks ill; emaciation; falling out of hair; marked loss of sexual power; sleep disturbed by dreams. 20th.—Great lassitude; voracious hunger; feeling of weakness in chest; frequent call to stool; frequent emission of flatus smelling of rotten eggs; two motions; erythema continues. 21st.—Uncommon cheerfulness; very importunate sexual excitement. 22nd.—Cutting in the bowels after a motion that is at first hard and afterwards soft. Erythema goes off, but leaves behind it troublesome smarting in leg, which compelled him to throw the clothes off legs at n., as heat aggravated it. 23rd.—Great lassitude; rumbling in bowels, two liquid motions. 24th.—Burning in r. eye for a short time, which recurs at short intervals. 25th.—In e. burning in

feet. After midnight he must get up to pass water; on doing so he has pain in front of urethra. 26th.—Itching between fingers; a loose motion; p.m. in the open air, without any cause, great depression of spirits. 27th.—In e. severe cold in head with headache; boring above root of nose; vision as through a veil; stoppage of nose; violent sneezing; quick pulse; great lassitude and sleepiness, so that he could not help falling asleep. 28th.—The cold in head continues; great lassitude; drawing pains in shoulder; a hard motion. 29th.—In e., immediately after taking medicine, flow of water into mouth; rumbling in bowels, and in an h. afterwards a loose motion. The coryza continues. 30th.—Shooting above l. eye; small dark specks before eyes; eyes dazzled after looking long at an object. Coryza continues. 31st.—Coryza diminished; toothache and inflammatory swelling of gum in vicinity of a stump almost entirely destroyed. 1st Sept.—Continued weariness; heaviness of legs in bed in e.; stiffness and weight in knees, especially on rising from his seat; the weariness goes off on walking about for some time in open air. 2nd.—Great anxiety in chest; frequent attacks of hoarseness; shooting in l. chest, then loose motion. 3rd.—Great burning in hands. The itching on legs (especially l.) comes on every e. Pain in corns. At n. (as was the case on several previous nights) a pollution. The next four weeks he left off taking medicine; the lassitude and drowsiness did not quite go off, but were much less, the spirits better, the coryza and itching on legs ceased, and he had a firm evacuation every d.

b. A drop of the tinct. mixed with 3 oz. of water was taken every m. from 4th to 22nd Oct. 4th.—Scraping in throat; violent sneezing; flying shoots in chest; at n. vivid dreams. 5th.—Great lassitude and drowsiness by d.; burning in hands; two loose stools. 6th.—Great lassitude; submaxillary gland somewhat swollen; tiresome pressing and shooting in l. inguinal region; at n. vivid dreams. 7th.—Hoarseness; itching in r. leg; coldness of soles; a loose motion. 8th.—Great lassitude; pressing in the groin continues, and is combined with a feeling of heat; burning in hands; after a glass of beer immediately ebullition of blood and great sleepiness. 9th.—Drawing pains in r. tibia, and frequent prickling in legs; a loose motion. 10th.—After eating but little, tiresome feeling of fulness in abdomen; rumbling and two loose motions. At n. very vivid dreams; he felt as if falling from a height. 11th.—In e. confusion of head and pressing in forehead. 12th.—Very troublesome lassitude; constriction of chest and occasional shootings in it; at n. horrible dreams. 13th.—Shooting pains in teeth; painful swallowing; two loose motions. 14th.—Weariness; burning in hands; in e. great itching on legs. 15th.—Swelling of l. submaxillary gland; itching in eyelids and burning in eyes; burning in skin of whole body; two loose motions. 16th.—Great sensitiveness of upper part of abdomen, so that clothes press disagreeably, though they are not fastened tighter than usual. 17th.—Easy bleeding of gums; at noon, disgust at meat; after eating but a little, fulness in stomach; shooting in anus; a loose stool. 18th.—Weight in head; pressing pain in forehead; vertigo on stooping; coryza with very frequent sneezing. 19th.—Great weariness; anxiety in chest; dyspnoea

on walking quickly; nose much stopped up; ringing in ears. In e. flying heat; quick pulse and burning in hands. At n. very vivid dreams. 20th.—Heaviness in head; palpitation of heart without any reason; burning in skin all over back; tension in knees and calves on going upstairs; two loose motions. In e. sudden sadness and disinclination for everything. 21st.—Hoarseness; tiresome itching in nose, which is still stuffed; feeling of heat in back; sudden pinching in arms; on walking cramp-like pain in soles, extending to toes. 22nd.—In e. on passing water flying shoots in urethra; burning in eyes and feet; on least exertion perspiration in face and nape of neck; itching on fingers; dread of catching cold. (*Ibid.*)

29. Dr. HERMANN SCHLESINGER, healthy, except that for the last 18 months he has been afflicted with a yellow scaly eruption (psoriasis discolor) extending over arms and body, but not causing him the slightest inconvenience, proved S. in substance, in high potencies, in tincture, and in trituration.

a. From 5th to 14th Feb., 1846, he took daily 5 grains of flowers of S., which produced no particular effect except violent boring pain in a hollow tooth, which on 8th, 9th, and 10th always occurred in e., and tormented him until late at n. But as he had no more toothache during whole time of proving, he was disposed to attribute it rather to the wet weather then prevailing than to the S. From 20th to 24th inclusive daily 10 gr.; with exception of eructations smelling of S. (not of sulphuretted hydrogen) soon after taking it, and costive motions, no symptoms occurred. 25th Feb.—He took \mathfrak{J} ; this was followed by eructations of gas, smelling of S. The appetite, which had been increasing for several d., was uncommonly good to-day. 26th and 27th.—Same dose; no symptoms. On 2nd March he took \mathfrak{ss} , and on 3rd \mathfrak{ij} of S. This produced increased appetite, so much so that contrary to custom he must eat at other times than the accustomed meals. Motions not so hard, easily passed. 4th.— \mathfrak{ss} . An h. after taking this he ate, with his usual appetite, his usual breakfast, consisting of a cup of coffee and a roll, whereupon there occurred first eructation of wind, then of what he had eaten; nausea; and in $\frac{1}{2}$ h. vomiting which brought up both breakfast and S. 6th.—Same dose. Except eructations smelling of sulphuretted hydrogen, which occurred in e., no symptoms. 7th.—About 10 a.m., same dose. In $\frac{1}{2}$ h. rumbling becoming ever louder, and great inflation of belly, so that he had to unbutton his clothes. Appetite was somewhat diminished; soon after eating he had a copious, loose, yellow motion, accompanied by emission of a great deal of flatus smelling of sulphuretted hydrogen. After emptying mingled urine and fæces out of the utensil he found a thin sediment, which proved to be S. 8th.—A.m. dose was repeated. Soon afterwards eructation of wind; inflation of abdomen, with flatulence. Appetite somewhat diminished, and p.m. he had two and at n. one liquid evacuation mixed with mucous shreds, with burning pain in anus. 9th.—Three more liquid stools, followed by constipation for next 3 d. 13th.—A.m., \mathfrak{ss} . During d. felt quite well. In e. pricking pains in umbilical region, which intermitted from time to time, but always recurred more severely, and compelled him to draw up legs.

Two h. afterwards sudden urgent call to stool, which could scarcely be complied with quickly enough. Diarrhœa now set in as on the 8th, which lasted with equal severity on following d. ; it declined gradually on 15th, but continued till 18th without any repetition of S. The pains in abdomen ceased on occurrence of the diarrhœa, and did not return. The prover being convinced that S. in substance produced nothing but mechanical irritation of his bowels, and had not the slightest effect on his skin disease, left off his trials for two months.

b. On 2nd, 3rd, 6th, and 8th May, he took 5 dr. of the 403rd dil. On 12th—16th he took 10 dr. of same dilution without noticing any effect except a slight confusion of head on 13th and 14th, which was probably owing to the spirits of wine. Despairing of obtaining any results from this preparation he ceased taking any more of it.

c. 20th June.—In m. 5 dr. of the tinct. in a tablespoonful of water. In $\frac{1}{2}$ h., oppression of forehead (as if intoxicated), flow of water into mouth, and uncomfortable anxious feeling in stomach as in nausea. In an h. these symptoms went off with empty eructation, and he felt perfectly well. 21st.—5 dr. Same symptoms as yesterday, with this difference, that oppression was more on l. side of forehead. In degree and duration it was same as yesterday. 22nd and 23rd.—5 dr. No symptoms. 24th to 30th.—10 dr. daily. 24th.—At noon increased appetite, but soon after eating disagreeable feeling of fullness in stomach, lasting $\frac{1}{2}$ h. ; afterwards, when walking in the open air, sour eructation. Towards e. crampy pain in lumbar and sacral vertebræ, which impeded every motion of body, lasted until bedtime in same intensity, and went off during n. The pain was not increased on pressure. 25th.—At noon uncommon appetite, which, however, he did not satisfy, but left table before he was satiated ; by so doing he escaped the sufferings of yesterday. No stool ; towards e. same crampy pain in vertebræ as yesterday. Sleep disturbed ; waking up at 4 a.m., and inability to fall asleep again, which had never before happened. 26th.—The cramp pain had again gone off during n., but there remained a stiffness in spine which made it difficult to lean forward and compelled him to stretch out body frequently. Appetite remained as good as before for dinner and supper ; p.m., after great straining, an evacuation. In e. again crampy pain in lumbar and sacral regions, which went off in bed after occurrence of violent itching in rectum. At n. he slept quite tranquilly, but again awoke at 4 a.m., was quite wide awake, and did not again fall asleep. 27th.—In m. on changing his linen he observed that his skin desquamated more, or at least more easily than usual, so that a mere gentle stroking with the flat hand sufficed to separate large quantities of small loose scales from the morbid skin. He observed the same thing in the scalp, whence clouds of small scales could be brushed. No change was observable in the eruption. The stiffness of back which was present to-day was less tiresome than the d. before ; the crampy pain was quite gone. Appetite was rather increased than diminished, and he relished breakfast, dinner, and supper amazingly. Spirits, too, were better than usual, he was more disposed for literary work than he had lately been. No stool. N. quiet, but he woke as

usual at 4 a.m. and remained awake. 28th.—The scales fell from head and morbidly affected skin in smaller quantity than on previous d., but they were still more plentiful than usual. Appetite, spirits and pleasure in work were same as yesterday; but latter were much diminished towards e. by recurrence of sacro-lumbar crampy pain. Bowels were not moved. In course of d. and in e. itching in rectum, which, however, never lasts longer than a m. He fell asleep about 9.30 (nearly 2 h. sooner than usual), slept quietly and uninterruptedly, but woke up as usual at 4 a.m. 29th.—Still no stool; occasional tickling in rectum. The cramp pain came on at noon and lasted till late at n. Appetite and spirits diminished in proportion as they were previously increased. He went to bed at midnight, soon fell asleep, and slept quietly, but again awoke soon after 4 a.m., and remained awake. 30th.—In m. soon after taking medicine went into country and walked 2½ h., when itching in rectum occurred more frequently and lasted longer. After dinner, which was taken with considerable appetite, he had call to stool, and at last after much effort an evacuation, whereupon itching in rectum ceased. In e. moderate crampy pain which lasted until he fell asleep (at midnight). Sleep quiet and uninterrupted until 4 a.m. precisely, when he awoke, but after lying wide awake for ½ h. again fell asleep until near 7 a.m. 1st July.—Still in the country, he took none of the medicine. He walked for 3 h. with the greatest comfort. During d. he had nothing to complain of, except that bowels were not moved, and in e. he had a moderate amount of tension in sacrum. The night's rest was frequently disturbed, and he slept no more after 4 a.m. On 2nd—8th he took every e. 20 dr. in half a tumblerful of water. 2nd.—The scales on head in great numbers. Whilst taking a warm bath he noticed surface of water speedily covered with fine scales; on former occasions when taking a bath scales were much fewer in number, were in larger flakes, and only appeared after using soap. The patches of eruption appeared less red after the bath than usual. Appetite again much increased, spirits uncommonly good. After the bath bowels were moved; tension in sacrum did not recur. N. quiet; he awoke at 4.15 a.m., but afterwards fell asleep for ½ h. longer. 3rd.—P.m., in outer canthus of l. eye slight tickling, which gradually increased to considerable itching, which compelled him to rub eye, and made all work in e. impossible. He attributed this to a glass of wine he had drunk at dinner contrary to custom. No stool. Sleep twice interrupted, and each time itching in eye was present. He awoke in m. at his usual time, viz. about 6. 4th.—Scales on head were less numerous this m. when he brushed his hair; but they became much more abundant during d., and were in form of fine dust. On patches of eruption on body no loosening of cuticle was perceptible, as was formerly the case during first few d. after taking a bath. No itching in l. eye a.m. He took no wine at dinner, which he ate with the best appetite. About 4 p.m. tickling in outer canthus of l. eye, and soon afterwards itching in it so violent as to cause him to rub it. In e. by candlelight itching extended to inner canthus and changed into shooting pain. He had a motion with great effort, unaccompanied by pain in rectum. On account of constant shooting in eye it was mid-

night before he fell asleep, and not until he had allayed the pain by means of cold compresses. N. was tranquil; he awoke about 6. 5th.—Itching in external canthus of l. eye recurred soon after walking in open air, it compelled him to close eye repeatedly, and then occurred a considerable flow of tears. With some intervals this state lasted all d., and was worse during candlelight, but without such severe pains as the d. before; and it did not keep him awake at night. No stool. 6th.—In m. affected eyelid was covered with a dry cake of mucus. Upper lid felt stiff on first opening eyes; otherwise nothing morbid was visible. On going out eyes watered for a short time, but there was very little itching in l. eye. 7th and 8th.—No symptoms except slight adhesion of lids at l. external canthus. 10th.—40 dr. of tinct. in half a tumblerful of water daily till 17th. All d. he felt quite well. At n. uncommonly profuse perspiration over whole body without any bad smell. After awaking at 5.15 a.m. and drying body he noticed that patches of eruption were paler, not so dry or wrinkled as usual; the scales, too, which were partly detached, were in smaller quantities. L. eye still somewhat closed up with mucus; upper lid less stiff. 11th.—In course of d., without any cause, very melancholy disposition, discontent with himself and all about him, which made him unfit for any serious occupation and at same time very irascible. Still appetite was good, and on satisfying it his cheerfulness returned, but only for a short time; for during whole e. he was absorbed in himself and unable to command his thoughts to read, so much so that he sat staring at same page for upwards of 2 h. At n. he had again perspiration like previous n., and in m. he observed that scales on head were diminished very much. 12th.—His spirits, which were as usual in m., underwent a change about noon; but it was less sadness than irritability which now affected him. In e. uncommon hunger; on satisfying his appetite, and contrary to custom drinking a couple of glasses of beer, he became so overcome with sopor that he had to go to bed. 13th.—With exception of some flying shoots in l. side of chest (judging by sensation, in intercostal muscles) which occurred when walking, and once when speaking, and compelled him to hold his breath for an instant, he felt no effects from medicine. At n. profuse sweat again. 14th.—Of the smaller scattered eruptive spots, several, especially those on l. arm, were completely gone, and on larger patches were to be seen here and there little islands of healthy skin. The other eruptive spots were still coloured like liver-marks, wrinkled, slightly elevated; but they scaled less, and felt less rough. On the 15th, 16th, and 17th his bowels were moved every other d. without effort, and the motion was moderately firm; which was very different from what took place on commencing to prove tinct. The eruption continued to make slight but perceptible progress to amendment, by the increase of number and size of healthy islands on morbid skin. 20th, 22nd, 23rd, and 24th.—60 dr. in 4 oz. of water. As no effect was perceived from these doses he left off taking the tincture, thinking that he had lost his susceptibility to its action. From 27th July the bowels were moved regularly every d., so that in this respect the medicine exhibited no secondary action. But this was not the case

with respect to the early waking, for on 29th, 30th, and 31st July, as also on 5th and 6th August, although he did not go to bed earlier than usual (on 5th August not till 1 a.m.), he became quite wide awake exactly as the clock struck 4, and only on two of these n. could he again fall asleep. "But," says S., "the most agreeable thing for me was to see my eruption disappearing from that time. This took place not by a gradual and uniform return of the morbid skin to the normal state, but by the increase and extension of many healthy points (hair-follicles) among the still morbid patches, whereby the latter were separated into many smaller groups, and were at last limited to a few spots the size of hemp-seed or lentils—corresponding to single hair follicles—which by the end of September were quite gone from the arms and chest. There still remained some groups on the belly and back, and in the months of August and September some new eruption spots appeared on the legs, which had hitherto remained free excepting a small spot on the r. calf. Subsequently, however, these new spots disappeared unobserved by me."

d. On 3rd—6th Oct. he took daily 5 gr. of 6x trit., without any perceptible effect; also after 10 gr. which he took on 7th and 8th, he noticed nothing. On 10th and 11th he took 5 gr. of the 3x. The first day no symptoms occurred; the second, however, was more fruitful. In e. by candlelight he had recurrence of itching in external canthus of l. eye. At same time upper lid itched (after 5—10 m.) to such a degree that he must involuntarily rub the eye. This he did so gently that it could not have caused the symptoms that followed. Itching increased in course of e. to burning; lids winked frequently and light hurt eye. The following n. was quiet. In m. he awoke with stiff eyelids, which, however, soon regained their ordinary mobility. Lids and caruncula were both injected of a bright red colour. 12th.—Same dose. During d. eye was pretty well, with exception of redness above described, and occasional itching on lid-borders, as if they were covered with crusts that ought to be removed. But on approach of n. and at sight of candles, edges of l. eyelids commenced to burn, and photophobia came on. On reading or writing eye watered, and pain increased, preventing him going on with his work. 13th.—No medicine. In m. on awaking he could not open eye immediately on account of stiffness of lids; he only succeeded in doing so after several trials, and then there appeared a considerable quantity of mucus, which obscured sight, and in spite of frequent wiping away continued to return. This secretion of mucus lasted the first 2 or 3 h. of forenoon, and did not cease till about noon. In e. again itching, then burning pain followed by photophobia and flow of tears. From 14th to 25th inclusive he took daily 5 gr. of same trit., and during all that time the blepharo-blennorrhœa of l. eye just described persisted. From 26th he ceased taking the S., and by 30th the eye affection was quite gone; but on 2nd Nov. he took a similar dose, and in e. the ophthalmic affection returned with precisely the same symptoms. On 8th r. eye was affected in a similar though a slighter manner. "On the 15th Nov.," he writes, "I had had quite enough of my proving and my eye disease, which bored me by preventing me doing anything in e. ;

so I left off, and by the 25th my eyes were quite well. The remains of the eruption were not perceptibly affected by the trits." (*Ibid.*)

30. SCHWEIKOFER, surgeon, æt. 41, of phlegmatic-sanguine temperament, suffered from itch when a boy, which was got rid of by inunctions of sulphur and mercurial ointment. When 17 he had scarlatina, which left a great tendency to sore throats, so that in cold, damp, and foggy weather, or after getting wet, he is very often affected with inflammation of tonsils and palate, for which he has usually employed leeches, calomel, &c., in accordance with the principles of so-called rational medicine. As a consequence of the frequent attacks of inflammation, there occurred considerable enlargement and induration of tonsils, followed by elongation of uvula, which on account of the discomfort it caused him had to be partially removed. This tendency to sore throats lasted till 1841, at which time he became acquainted with homœopathy, and used belladonna for his cure, and ever after that remained exempt from attacks.

a. His provings were made exclusively with dilutions of Sulphur, which he prepared himself according to the centesimal scale. He took of the 400th dil., on 1st July, 1846, 10 dr. ; on 4th, 50 dr. ; and on 9th, 100 dr. No symptoms. On 10th, about 10 a.m., 10 dr. of 200th. Two h. afterwards shooting in r. side of chest, which lasted till dinner-time. 11th.—No medicine. In m., after awaking, itching in eyelids. 12th.—About 9 a.m., 50 dr. In m., after awaking, itching in eyelids, which are gummed together ; white of eye is reddened. On back of r. hand 2 small pimples, which he must scratch ; itching and smarting betwixt fingers. 13th.—About 9 a.m., 100 dr. Itching on lids much diminished ; redness of conjunctiva less ; pimples on hand, which burst when scratched, excreting a clear transparent fluid ; itching and smarting between fingers not troublesome. 16th.—About 9 a.m., 10 dr. of 100th. No symptoms. 17th.—At 9 a.m., 50 dr. Sensation as if inflammation in eye was about to come on. 18th.—No medicine. In m. on awaking prickling, causing him to scratch, itching, and smarting in lids ; loose motion, with tenesmus. In course of d. 3 diarrhœic stools. 19th.—At usual h. 100 dr. Same disagreeable feeling in eyelids as yesterday. 20th.—No medicine. Itching and smarting in lids much diminished ; towards e. it went off completely. 21st.—No medicine. In m. in bed tearing and shooting pains in l. shoulder, and violent tearing in r. upper arm. After getting up and walking about in open air, pains went off. 22nd, 23rd, and 24th.—No medicine. Each d. a soft motion ; otherwise perfectly well. 25th.—At 9 a.m., 10 dr. of 60th. In 2 h. urgent call to stool, and loose motion. 26th.—50 dr. In a few m. motion of bowels, though previously he had felt no call ; itching in r. eye. 27th.—100 dr. During d. prickling, itching, and smarting in eyelids. At n. vivid dreams of comic character, with loud laughter, which continued for some time after awaking. 28th.—No medicine. In m. after awaking eyelids gummed together, and feeling as if fine sand was in eyes ; flying shoots in walls of chest, first on r., then on l. side, and finally on r. side of abdomen. Soft insufficient stool. Bad spirits. 29th.—No medicine. No symptoms. 30th.—At 9 a.m., 10 dr. of 30th. In 2 h. sensation of prickling in

both eyelids, causing him to scratch and rub them; sensitiveness light. 31st.—At 9 a.m., 50 dr. About 3 p.m. feeling of fine sa betwixt r. eye and lid. 1st Aug.—100 dr. No symptoms. 2nd.—No medicine. Itching and burning of eyes; itching and smarting betwixt fingers of r. hand, on back of which appeared a scabious-looking pimple, which went off in e.; shooting in chest externally. 3rd.—No medicine. In m. itching and smarting in both eyelids; copious secretion of mucus from Meibomian glands; sensitiveness of eyes to daylight; fine sudden shoots on outside of l. heel-bone; sore feeling, burning and smarting on glans and inner surface of prepuce, which parts are somewhat reddened. 4th.—No medicine. On glans and prepuce same symptoms as yesterday, and in addition a small pimple on glans. Respecting his sensations from 5th to 28th Aug., during which time he took no medicine, he says: "The itching and smarting on prepuce and glans continued to increase; it is with the greatest difficulty I can refrain from scratching and rubbing; pimple on glans is gone. During this time skin of prepuce desquamated; inflammation extended along whole penis to pubes; the itching and smarting was very violent and tiresome. The desquamation of the epidermis, which recurred every 6 or 7 d., lasted several months, and only went off entirely at the beginning of November."

b. 15th Nov.—At 9 a.m., 10 dr. of 20th; on 19th, 50 dr., and 2 d. later 100 dr. No symptoms. The 15th and 12th dils. were taken in a similar manner, without effect. 8th Dec.—5 dr. of 6th. No symptoms. 11th.—50 dr. In m. after awaking itching and smarting all over body, but especially on eyelids, foreskin, glans, and legs. In e. violent pains in occiput. Night's rest disturbed by many vivid dreams. 12th.—No medicine. Yesterday's symptoms recurred to-day, but in slighter degree. 13th.—100 dr. No symptoms. He was prevented going on with his trials in consequence of becoming ill from taking cold. (*Ibid.*)

31. ADOLPHUS SEYDL, medical student, proved S. in substance and in tincture.

a. From 15th to 24th Aug., 1846, he took daily (with exception of 22nd), about 7 a.m., as much as would lie on the point of a knife of flowers of S.; and from 29th Aug. to 5th Sept. daily (with exception of the 26th Aug.), at 7 a.m., a teaspoonful of same substance. 15th.—Throughout forenoon eructations smelling of S.; no other symptoms. 16th.—Same. 17th.—Sulphurous eructations; no stool. 18th.—Same as yesterday. 19th.—In m. sulphurous eructations; p.m., heat of whole body; perspiration in axillæ and palms. In e. a hard evacuation. 20th and 21st.—Sulphurous eructations; no other symptoms. 23rd.—A.m., sulphurous eructations; p.m., great heat in whole body, with much sweat in axillæ and palms; no stool; at n. profuse sweat and restless sleep. 24th.—Same as yesterday. 25th.—Very troublesome sulphurous eructations. In e. a firm motion. 28th.—Drawing in small of back, especially when sitting, lasting all d. 29th.—Drawing in back recurred, but much more mildly. 1st Sept.—No stool. No other symptom. 2nd.—No stool; towards e. very violent drawing in small of back; at n. heat and considerable pers-

piration. 3rd.—Anorexia. No stool. The next 2 d. no symptoms.

b. From 15th to 26th Oct. he took daily, at 7.30 a.m., 10 dr. of tinct. in half a pint of water. 18th.—Tiresome feeling, as if bruised, in small of back; slight trembling of hands and great trembling of r. thumb; at n. heat of body much increased. 20th.—At 11½ a.m., occasional violent shooting in r. cheek-bone. 24th.—Itching in fingers; slight redness of fingers, which disappeared on pressure, but returned immediately that was removed. 25th.—In m. he noticed on inner surface of r. ring and little fingers some white painless vesicles, size of poppy-seed, which were partly in groups, partly isolated. 26th.—Two vesicles close together on inner surface of 2nd joint of r. middle finger.

c. On 27th Oct. and two following d. he took each m. as much flowers of S. as would lie on the point of a knife in half a pint of water. 27th.—Sulphurous eructations. No other symptoms. 28th.—No stool; at n. drawing in small of back. 29th.—The drawing in small of back lasted all d. and throughout following n.; on r. ring finger some more vesicles appeared. (*Ibid.*)

32. Dr. STERZ, of Trieste, made four trials of S.

a. On 1st Feb., 1846, at 6½ a.m., he took 100 dr. of 30th dil. ;* the two following d. 200 dr., and on 8th and 9th 300 dr., without any effect. From 25th Feb. to 2nd March inclusive he took daily at noon, 2 h. before dinner, 300 dr. of 20th. No symptoms. On 5th, 6th, 10th, 11th, 14th, and 16th March, at noon, 300 dr. of 15th. After last two doses slight and transient burning in anus after moderate exercise. On 18th, 20th, 21st, 24th, 25th, and 27th, at noon, 300 dr. of 10th. No symptoms. From 29th March to 3rd April inclusive, at noon 300 dr. of 6th. After third dose occurred persistent burning in external canthus of r. eye, and at same time sensation as if a grain of sand was in it. Eye was not reddened.

b. The 3rd trit. taken in doses of 20 gr. on 6th April, 30 gr. on 7th, 40 gr. on 8th, and 60 gr. on 9th, had no effect. After 2nd trit., which he took in dose of 50 gr. on 4th, 5th, 7th, 9th, and 11th May, the following symptoms appeared: 5th.—In m. soft stool, with emission of much flatus having smell of rotten eggs; an h. after taking medicine rumbling in bowels; frequent eructation, with odour of S.; feeling of emptiness in stomach. 6th.—Soft stool in m. 9th.—Two h. after dose some stitches in anus. 10th.—Occasionally in course of d. stitches in anus. 11th.—At n., when going to sleep, lightning-like flashes before eyes.

c. On 6th June 10 dr. of tinct. in two tablespoonfuls of water; soon after taking it, several eructations smelling of S. 7th.—15 dr. In m. knotty stool; after taking medicine frequent eructations; an h. afterwards pricking in abdomen lasting but a short time. 8th.—20 dr. Soft stool, with itching in perinæum. 9th.—No medicine. Itching and shooting in anus and perinæum; drawing in r. thigh, in r. shoulder, and up nape; soft stool. 10th.—25 dr. Sulphurous eructations; drawing pain on r. side of nape; itching in anus. 11th.

* Both dils. and trits. were on centesimal scale.

—No medicine. Stool pretty firm, and covered with mucus. When at stool aching pain in small of back. Drawing up nape. 12th.—Dr. Sulphurous eructations as usual immediately after taking drug. Eruption of several small, inflamed, not itching, pimples on fore and middle, and ring fingers of l. hand. Itching in anus. 13th.—35 d. In m. on awaking paralytic feeling in r. arm, lasting an h. Stool formed and covered with mucus; it slipped quickly through anus. P.m., frequent paralysed feeling in r. elbow-joint. 14th.—No medicine. In m. expectoration of salt-tasted saliva; soft stool. On index and middle fingers of r. hand, some small pimples. The expectoration of salt saliva early in forenoon after hawking and slight coughing went off in 4 d., during which time the inflamed pimples dried up.

d. He took on 11th, 12th, 14th, 16th, 18th, 21st, and 23rd July at 6 p.m., 2 gr. of S. rubbed up with 20 gr. of milk sugar, each time freshly prepared. 11th.—Five m. after taking it, several eructations smelling strongly of S. 12th.—In m. on making water many fine stitches (as with needles) in region of neck of bladder, and several more violent stitches through anus. Stool as usual, only it was evacuated more rapidly than usual. After stool slight burning in anus lasting some m. During d. frequent stitches through anus. About 6.45 p.m. diarrhoea, with some cutting in abdomen and stitches in anus. The cutting in bowels and sore feeling deep in abdomen lasted $\frac{1}{2}$ h. At 7.15, several shoots in second last (healthy) molar tooth on l. side. 13th.—In m. call to stool without effect, followed by several shoots in rectum. A.m., felt quite well. P.m., frequent shooting in anus and neck of bladder. "These symptoms," says S., "as also the eructations smelling of S. after taking it, recurred more or less every d., and it was only on one d.—after taking the last dose—that I felt at noon a shoot through the liver (from before backwards), so violent as to cause me to start." (*Ibid.*)

33. Dr. WACHTEL made three provings with S.

a. On 19th Nov., 1845, a.m., he took 3 oz. of 12th dil. prepared with distilled water. P.m., while walking, itching tearing in l. temporal bone, which came on by fits some 5 or 6 times, and was so violent that it made him stand still; no stool; night's rest disturbed by vivid dreams that remained impressed on his memory. 20th.—No stool; after dinner jerking tearing in l. eyeball; at n. vivid dreams. 21st.—A.m., itching and burning in both eyes, followed by great watering of eyes; p.m. severe bruised pain in small of back; stool with burning in rectum. 22nd.—In m. a very firm motion. The bruised pain in small of back became fixed in a small spot, and was aggravated by touch. About noon burning in r. cheek, as if some drops of hot fluid were thrown against it, lasting for 4 or 5 m.; this recurred twice. 23rd.—Pain in back gone; but instead of it there is a drawing pain in the tubera ischii, in hip-joint, and in upper half of r. thigh-bone, which gradually went off in course of d. 24th.—P.m., itching and burning of skin on l. wrist. In e. there appeared there 7 pimples size of millet seed, surrounded by a red areola, and having a white spot at their apex. 27th.—Quite well.

b. On 24th Jan., 1846, a.m., he took 3 oz. of the 404th dil. pre-

pared with distilled water. In $\frac{1}{4}$ h. flying heat in head; during dinner drawing and tension in r. thigh, afterwards for instants in l.; on extending fingers, especially l. thumb, and in grasping an object, as for instance a tumbler, sensation as if tendons were too short, which causes a paralysed sensation. After dinner ineffectual call to stool. P.m., creeping and burning in skin over zygoma; frequent micturition; urine greatly increased in quantity (about two quarts within 5 h.); at n. vivid unconnected dreams. 25th.—No symptoms during d.; in e. tiresome drawing and tearing (as during first proving) in l. temporal region. 26th.—During whole d. aching in small of the back, especially severe when making water; the quantity of water was again increased to-day. 27th.—A drawing tearing pain came on in r. upper arm, which frequently alternated with feeling of paralysis; worse when at rest, better when moving arm. It lasted with short intervals to 31st.

“In March,” observes W., “I intended to make my third proving, but I had to defer it in consequence of an irregularity that occurred in my abdominal functions, which, as I had never suffered from anything similar, I am inclined to think was the further effect of the S. Urgent call to stool without result; tearing and itching in anus, and extrusion of hæmorrhoidal tumours; evacuation of fæces of stony hardness;—such were the symptoms that frequently affected me at that time. It is interesting that some affections from which I had suffered when a child again made their appearance. Thus up to the age of fifteen I had been troubled with ringworm, for which washings with soap water, inunctions of warm oil, and combing off of the scabs had been employed without result, until at last I was cured by a homœopathic remedy, whose name I know not. Moreover, when a child, I had frequently been tormented by the collection of a viscid fluid betwixt my foreskin and glans, which occasioned intolerable itching and burning there; indeed, the whole urethra was not unfrequently sympathetically affected, when the passing of water was attended by the most violent pains. After the second proving of S. my scalp was for a long time thickly covered with scabs, and I also observed for several weeks that in spite of repeated washings every day, a very fætid smegma was deposited in considerable quantity on the glans, causing a tiresome burning and itching. On account of these symptoms I delayed taking more of the S. till after the lapse of several months.”

c. On m. of 17th Oct. he took 3 oz. of 3rd dil. prepared with water. In course of forenoon often eructation of air and more frequent emission of urine. P.m., tearing and aching pain in frontal, which sometimes extended into temporal region, and lasted an h. On taking gentle exercise transient rush of blood to head, with burning and creeping in skin of face; occasional roaring in ears; no motion. 18th.—Roaring in ears all d.; aching pain in small of back; p.m. burning in eyelids, with flow of tears. 19th.—In m. aching pain in the sacrum, which afterwards extended upwards towards middle of back and betwixt scapulæ; when walking, violent tearing and shooting in r. knee and tibia, then suddenly the pain seemed to jump into l. and afterwards r. humerus, and so on, changing thus all d. long; after

dinner feeling of prostration in lower extremities. In e. burning heat and redness of face, and at same time squeezing feeling in cardiac region. The water passed during n. was cloudy, and of a penetrating disagreeable odour. 20th.—Ringing in ears and burning in face recurring several times during d. 21st.—Exhaustion of whole body; sometimes drawing, sometimes tearing, sometimes dull shooting pains in upper and lower extremities, which leaped from one side to the other. In small of back constant aching pain, which occasionally went up back and extended into chest, with a dull shoot forwards. At noon, while at dinner, sudden recurrence of coryza. 22nd.—P.m., while walking, there occurred sudden pinching pain in r. chest, not diminished by standing still, or increased by taking a full breath; it lasted about $\frac{1}{2}$ h., and went off with a dull shoot towards front of chest. From 23rd to 27th no new symptoms occurred, but the previous ones occasionally reappeared, especially the ringing in ears, the sudden attacks of coryza, the burning and creeping with redness of face, the tearing and drawing pain in almost all parts of body, springing from one limb to another, and the itching in anus. 28th.—Perfectly well. 29th.—In e. when walking very tiresome digging and tearing pain in l. tibia; it only lasted a few seconds, but in course of $\frac{1}{4}$ h. recurred in fits some 12 or 15 times. 30th.—While combing hair in m. observed a small not red elevation on r. parietal region, sensitive to touch. 31st.—No symptoms. (*Ibid.*)

34. Dr. WENZL, of Munich, joined our proving Society during his stay at Vienna. "When I was scarcely two years old," he says, "I had a severe attack of inflammation of the brain. Six years afterwards I suffered from the same disease, and immediately afterwards I was affected with scrofulous keratitis and iritis, which lasted nine months. Six years ago I suffered from a gastric fever, and three years ago I had another attack of keratitis and iritis that lasted four months. When the ophthalmia was cured I observed a dulness of hearing in the l. ear, in which I had a constant roaring, singing, and knocking, especially on rainy days and after smoking to excess. To this was soon added a peculiar mucous affection, which was particularly increased by the same causes, and which showed itself in an expectoration of mucus in the m. The previous year I was seized with a peculiar vertigo and vomiting on walking after dinner; this vertigo frequently recurred afterwards, but always after dinner, especially when I drank beer during it or coffee after it; it was combined with a tiresome boring and creeping under the sagittal suture." 11th Dec., 1845.—In e. he began a course of experiments with 31st dil., of which he took 1 or 2 dr. every m. and n. at 11, up to the 13th Jan. inclusive. 12th.—In m. immediately after taking medicine shooting in tip of tongue, disagreeable taste in mouth. At n. itching on inner surface of fingers of l. hand and on both wrists, increased by scratching; disagreeable dreams, with starting. 13th.—In m. feeling of roughness in fauces and uvula; no stool; itching in hands as yesterday. At n. vivid disturbing dreams; he awoke at 3 a.m., and could not fall asleep again. 14th.—During d. same phenomena as yesterday. Waking at 3 a.m. Increased pulsation of aorta from heart to clavicle, combined with a purring noise; when he lay on

back pulsation was troublesome along the back. Itching on lower third of l. forearm and on l. thigh. 15th.—During d. same symptoms as on 13th. N. was more tranquil; sleep better; itching diminished. 16th.—The feeling of roughness in fauces worse, especially on swallowing. The roaring and singing in l. ear much diminished; no stool; n. pretty good. 17th.—In m. an evacuation of bowels; no itching. 20th.—At n. many dreams; he lay 2 h. awake. 23rd.—Very rough throat. He awoke early in m., and lay awake 2 h. 24th.—Roughness in throat increased. 27th.—In m. griping in bowels; feeling of coldness spreading out from lower third of spine over body and lower extremities; it was $\frac{3}{4}$ h. before he could get warm in bed, and all d. long he had rigors in back. Half an h. after taking medicine he passed a motion at first consistent, afterwards liquid; about noon a diarrhœic evacuation. In e. dislike to usual glass of beer; very hoarse voice. 28th.—About 7 a.m. another attack of rigors and violent griping in bowels; about 7.30 a diarrhœic stool, and $\frac{1}{2}$ h. afterwards when lying in bed another attack of rigors, which, however, went off after getting up; very hoarse voice. 29th.—Feeling of roughness of fauces increased. Erythematous eruption size of shilling on back of l. hand; no stool. 30th.—Same as yesterday. 31st.—Convulsive shooting in tip of tongue. Rush of blood to head. Frequent ineffectual call to stool; p.m., a very hard evacuation. 1st Jan.—In m. and throughout d. drawing pains in r. gluteal muscles and those of upper third of r. thigh when walking, and especially when stooping. 2nd.—Lassitude in all limbs; drawing pains are stronger; some cough. 3rd.—Drawing pains extended also into l. thigh. 4th.—At n. drawing pains in region of l. eyebrow and aching in l. eyeball, as if it swelled out and were pushed forward. The aching in eyeball only went off the following m. after getting up. 5th.—During d. frequent tearing in upper and lower limbs and shooting in soles, both when at rest and when moving; drawing pain in thighs is gone. 6th.—Tearing pains in limbs not so troublesome; shooting in soles gone. 7th.—During forenoon aching and drawing pains in occiput. P.m., flying shoots in l. temple and pressure in l. eyeball. 8th.—In m. after waking fruitless call to stool; aching in occiput is gone, shooting in temple diminished. 11th.—At n. restless sleep, frequent waking, tiresome itching all over body, shooting in tips of fingers. Itching still present next m. in a minor degree. 13th.—Frequent shooting in anus. Night's rest disturbed by lively dreams. Dr. Wenzl was prevented going on with his trials in consequence of his departure from Vienna. (*Ibid.*)

35. Dr. WEINKE, 6th Jan., 1846, at 10 a.m. (the h. at which he took medicine every subsequent d.) took 20 gr. of 3x trit. in half a pint of water. No effect. 7th.—90 gr. At noon unusually good appetite. In e. from 7 to 9 feeling of increased warmth and disagreeable fulness in whole head. 8th.—30 gr. of 2x in half a pint of water. At noon loss of appetite. During d. frequent hawking up of blackish gray masses of mucus, like what happens when one stays long in a room where oil is burned. In e. same feeling of heat and fulness of head as yesterday. 9th.—60 gr. in a pint of water. From 5 p.m. onwards

frequent dry cough, which does not appear to result from any chill, as the thermometer has risen 10 degrees to-day. From 7 p.m. increased warmth and confusion of head. At n. dreamful sleep with great prostration on awaking. In m. pretty severe cough with some white mucous expectoration. 10th.—20 gr. of I_x in a pint of water. At noon good appetite. All d. creeping and flying shooting in a wart, its horny surface easily detached, in fact small portions of it fell off spontaneously. P.m., severe cough with little expectoration; on coming into a warm room and on smoking tobacco cough becomes worse; when in open air and on drinking wine in e. it is diminished, indeed it ceases entirely. At n. frequent waking from cough. 11th.—In m. frequent but looser cough; expectoration yellowish and globular; during d. dry cough; at n. heavy sleep often disturbed by cough. 12th.—About 10 a.m. 30 gr. Immediately after taking it, tasteless eructation and very insipid feeling in stomach. P.m., about 4 or 5, when walking in open air, confusion of head, amounting to stupefaction, fulness and heat in it; at same time remarkable unsteadiness of legs and uncertain tread, worse when going upstairs. Great anxiety, which, however, diminishes with above symptoms after drinking a few glasses of cold water. About 6 p.m. dull pressing in l. chest. At n. restless, dreamful sleep and cough. 13th.—At noon increased appetite. In e., when going to bed, as also in n., on several occasions when he awakes, very violent cough with copious expectoration of mucus. 14th.—Cough loose and rarer. 15th.—Unusually early waking. 16th.—In m. when walking in open air aching shooting pain on whole of r. knee; when sitting slight numbness and warmth in knee. (This pain was exactly similar to that of a periostitis he had suffered from 3 years before in consequence of a severe fall.) P.m., the pain was scarcely felt when walking. 17th.—In m. after awaking very violent pains in lower part of knee-joint. When he went out, after taking about 100 steps, he had two cracks in patella and boring pains in it; he finds it particularly difficult to go upstairs. Bad humour and great disinclination to speak. Cough considerable, accompanied by expectoration. The cough and affection of the joint lasted with slight remissions until 10th Feb. From 18th to 27th Jan. he had severe cramp in calves, which always occurred a.m. when walking and compelled him to stand still, but never lasted long. During whole time of proving he had two to three evacuations daily; they were loose and smelt stronger than usual. (*Ibid.*)

36. WEINKE now proved the medicine on his two sisters.

a. On 8th Jan., at 9, 10, and 11 a.m., and at 2 and 3 p.m., Miss Helen took 5 dr. of tinct. Immediately after 1st dose very severe eructation and inclination to vomit. After second and third doses again eructation but much less severe. After fourth and fifth doses none. At n. good appetite and much thirst. Unusually easy stool. 9th.—At 9, 10, and 11 a.m., at 2, 3, 5, and 9½ p.m., 10 dr. Unusually easy stool. At noon great appetite. At 6 p.m. some pimples appeared on arm, which itched very much. Soon after last dose itching on neck, back, and l. hand. 10th.—At 2, 3, 5, and 9½ p.m. 12 dr. Towards e. shooting in splenic region, which went off after lying

down. 11th.—No medicine. P.m., stitches in side of short duration. 12th.—At 9 and 10 a.m., and 2 and 10 p.m., 20 dr. After the second dose cramp in l. hand. About 10 p.m. stitches in side more severe than d. before, also felt in n. 13th.—At 9 a.m. and 3 p.m. 30 dr. After first dose eructation. 14th.—At 9 a.m. and 2½ p.m. 40 dr. Stitches in side still present. Uncommonly easy evacuation. 15th.—At 9 a.m. and 2 and 9 p.m., 40 dr. No effects. 16th.—At 9 a.m. and 2 and 10 p.m., 45 dr. About 6 p.m. a pimple appeared on nose and afterwards several on cheeks, forehead, and chin; they were red and very painful. 17th.—P.m., 41 dr. Stitches in side worse. 18th.—No medicine. About 7½ a.m. severe aching pain in l. wrist. Severe stitches in side. Hard evacuation, followed by still more severe stitches in region of spleen. 19th.—Pain in wrist and side continues, but in slighter degree.

b. 20th.—A.m. 30 gr. of 3x trit. During d. no symptoms. At n. cough, sweat, and great weariness of limbs so that she could find no comfortable position in bed. 21st.—At 9 a.m. 30 gr. At n. return of dry cough, feeling of great lassitude. 22nd.—At 9 a.m. and 9 p.m. 40 gr. After first dose eructation and inclination to vomit. A large pimple came upon r. cheek. At n. she required to cough frequently, and could not fall asleep again for a long time. 23rd.—At 9 a.m. and 10 p.m. 40 gr. Frequent cough during d. A soft motion. In e. violent shooting in l. upper lid. Very wearing cough occasionally. 24th.—In m. after getting up great lassitude. A.m., smarting in nose and l. eyelid. In e. vertigo, feeling as if all the blood rushed to head. At 9½ p.m. 40 gr. In n. violent griping in bowels which lasted ¼ h. 25th.—No medicine. Great lassitude in limbs. At 9 a.m. severe vertigo. Many pimples appeared on face. (*Ibid.*)

37. On 8th Jan., in e., Miss Theresa took 10 gr. of 3x trit. No effects. 9th.—In m. and before going to bed 10 gr. About noon, severe rigor, coryza, aching pain in forehead and occiput especially when stooping. Several pimples on l. side of neck. In e. shooting in cardiac region, and later tearing in joints of fingers of l. hand, but only when moving them. Head pained as if raw and would not bear slightest touch. 10th.—In m. 10 gr., and at n. before going to bed 20 gr. P.m. a violent cough came on; it instantly went off as soon as she went into open air, but if she returned to warm room it recurred with increased violence. On chin, neck, shoulders, and behind ears, many pimples appeared. On account of the occurrence of the catamenia she left off taking medicine from 11th to 14th. On 15th she took at n. before going to bed 30 gr. During this time tearing pain in l. hand recurred frequently and more violently than before. Fresh pimples appeared on upper lip and nose. Since taking the S. the stools have been quite in good order. She has had daily one, sometimes two, copious evacuations, whereas previously she often had no stool for 3 or 4 d. 16th.—In m. 30 gr. P.m. violent tearing pains in l. axilla only whilst she was knitting or sewing; she had no pain when she laid aside her work. About 5 p.m. sudden tearing in first joint of l. forefinger and in l. shoulder. About 10 p.m. shooting pains under r. breast. Heat in head, which long prevented her falling asleep.

17th.—A.m. 40 gr. Several pimples on upper arms and thighs; great appetite for dinner. 18th.—No medicine. Very violent shooting under l. breast. 19th.—At 8 a.m. such violent pressure on chest that she could hardly draw her breath; a fresh pimple on lower lip; pimples on shoulders and thighs itched intolerably. About 9 a.m. 40 gr. Immediately after taking it rigor lasting $\frac{1}{2}$ h. About 10 a.m. internal chilliness, shooting in scrobiculus cordis, and several times watery diarrhœa. About noon very great heat, so that cheeks glowed. "I have observed this fever," she writes, "for 2 d. Till 11 a.m. I am always very cold, from 12 to 2 p.m. excessively hot; from 3 to 4 p.m. again cold; and before bedtime hot once more." 22nd.—No medicine. At 10 a.m. pressive headache. Appetite uncommonly good, bowels moved easily. 23rd.—No medicine. Oppression of chest from 9 a.m. till 3 p.m. In e. aching pains in l. frontal region, and shooting in both shoulders. Several fresh pimples on chin. 28th.—At 9 a.m. 40 gr. About noon aching and heat in the head and tearing in l. knee. 29th.—A.m. tearing in finger-joints of l. hand and severe aching in head. After dinner 40 gr. Before going to sleep rigor and tearing in finger-joints. 31st.—No medicine. Head heavy and dizzy; bruised pain in anterior surface of thigh; about 3 p.m. shooting under heart. The pimples increase greatly. (*Ibid.*)

38. Dr. WURMB proved S. in every form.

a. I took from 23rd to 30th Sept., 1845, at 5 p.m. each d., 20 gr. of the 1st trit. prepared in the proportion of 5 to 95. The only symptom that occurred during the first 4 d. was increase of the urinary secretion, not during d. but in e. and at n. Every n. I had to make water once or twice, and in n. 26th—27th I passed nearly two quarts. 27th.—In m., immediately after getting up, confusion of head; after walking, especially after going upstairs, throbbing pains in both temples. The symptoms gradually declined during d., and in e. went off entirely. 28th.—Soon after dinner, frequent discharge of flatus, grumbling in bowels, and at 3 p.m. a copious loose stool, although I had had my usual motion in m. The grumbling in bowels did not cease after the afternoon stool (an unusual thing for me), but continued for an h. longer, though less severely. I could not go to sleep before midnight, partly on account of feeling too wide awake, partly owing to a pretty severe itching, which immediately came on in the heat of the bed, appearing now in one place and now in another, and teasing me for an h. I passed water twice during n. 29th.—No stool; feeling of weariness in legs when sitting and standing, not when walking. About 5 p.m. slight confusion of the head for $\frac{1}{2}$ h. From 11th to 20th Oct. I took 20 gr. of the 1_x trit., and on 21st and 22nd 50 gr., at 5 p.m. each d. 16th.—A.m. an unsatisfactory hard stool; p.m., soon after taking medicine, dizziness in head. 17th.—No stool; in m., soon after getting up, dizziness in head, that lasted till 5 p.m.; on going upstairs aching pains in l. frontal region. 18th.—A.m., an unsatisfactory stool, after a good deal of effort. 19th.—No stool; great discharge of flatus, distension of abdomen. 20th.—In m., slight compression of head. 21st.—In m., immediately after getting up, confusion of head, lasting till noon. P.m., sudden drawing in fingers of r. hand, l. great

oe, and r. tendo Achillis, but especially on internal surface of r. thigh. 22nd.—About noon, boring pains in r. inner ankle, which lasted nearly $\frac{1}{2}$ h. Not till afternoon, an unsatisfactory stool, after much effort. P.m. and e., frequent call to make water (almost hourly), which had to be quickly obeyed. At n., in warmth of bed, itching on back and sides of trunk. 23rd.—Oppression of chest, lasting all forenoon. I felt as if my clothes were too tight about my chest and interfered with respiration at the same time. I had often an inclination to breathe deeply. Aching in sternum and obtuse stitches in l. chest. Anxiety as if some great misfortune were apprehended; frequent urination; itching all over body; at l. side of upper lip a painful vesicle. 24th.—No stool; discharge of much flatus; sore pain at raphé of perinæum; anxious disposition. 25th.—Great discharge of flatus; soreness of perinæum continues. The effects of the S. did not go off till the end of the month; they showed themselves in unsatisfactory stools, and sometimes constipation of several days duration.

b. I took a scruple of pure S. at about 5 p.m. every d. from 18th to 30th Nov., and a drachm from 3rd to 14th Dec. 18th to 22nd Nov.—No symptoms. 23rd.—Frequent urination, and generally much at a time. All e. paralytic feeling in both upper arms. 24th.—The paralytic feeling in upper arms came on after getting up in m. and lasted almost an h. At 8 a.m. violent contractive pain in whole r. thigh, which lasted $\frac{1}{2}$ h., was very much increased by walking, and often compelled me to stand still. In m. scalding on making water; secretion of urine was very much increased throughout d. No stool. 25th.—P.m., sore pain in both oral commissures; itching on borders of eyelids. 26th, 27th, 28th.—No symptoms. 29th.—P.m., frequently a raging pain in middle of sternum. In e., drawing on inside of r. thigh; coldness of feet, which lasted all n. (I awoke several times during the n., owing to vivid dreams, and on each occasion I felt the coldness of the feet), and did not entirely go off till after getting up next m. 30th.—During d., frequent sudden aching in middle of sternum. 1st, 2nd, 3rd Dec.—No symptom. 4th.—About 4 p.m., after a good motion, cutting pains deep in hypogastrium, which lasted a $\frac{1}{2}$ h., and then went off, after the discharge of much flatus. 5th and 6th.—No symptom. 7th.—In m. a loose stool; whole d. grumbling in bowels; about 5 p.m. another loose motion. 8th.—In m. a loose motion. 9th.—In m. a very liquid evacuation. 10th and 11th.—No symptom. 12th.—Frequent urination, sometimes as often as every $\frac{1}{2}$ h., but generally with scanty discharge of urine. About 3 p.m., aching at r. side of region of bladder. In e. drawing backwards in l. thigh, especially in its middle. 13th.—The drawing pain in l. thigh recurred in m. immediately after getting up; it was sometimes very severe when walking, especially on commencing to walk; on continuing to walk, and also when sitting, it went off entirely, but immediately returned if I only took a few steps. 14th to 21st.—Quite well, so that I thought I had lost my susceptibility for the large doses. I was mistaken, however; for from 22nd I had again a daily recurrence of S. symptoms, such as aching pains in r. side beneath short ribs; irregularity of bowels,—sometimes there was no motion, or they were moved later than usual;

drawing pains in thighs, which did not last long, but often recurred during d. when walking. This was especially the case on forenoon of 26th, on which d. the drawing pains attained a troublesome degree of intensity, now in r., now in l. thigh, usually posteriorly. At same time I had a paralytic pain in upper arms, almost all d. long, and in upper part of trunk feeling as if I had caught cold. 27th.—In l. forearm, all d., violent paralytic pains. It was very sensitive to touch, and any slight exertion, such as the preparation of a medicinal attenuation, caused severe pain in it. In m. itching all over body, especially above the crista ilii. 28th.—No motion. The paralytic pains are present all d., but in much less degree than yesterday. 29th.—In m. a hard insufficient motion, which on its passage through anus causes burning shooting pains there. In e., when walking, very severe drawing pain in both thighs. 30th.—In m., when walking, such violent drawing pains, especially in r. thigh, that I had often to stop, and could not walk without limping. These pains lasted all the e., even when sitting, and only went off once, for a few moments, to give place to a paralytic pain in l. forearm. 31st.—A.m., when walking, aching under l. short ribs. The pain in r. thigh lasted all forenoon; certainly not so severe as yesterday, but still bad enough to make me limp when commencing to walk, when it is always worst. Judging by the feeling this pain was deeply seated in the thigh. P.m. I had no painful sensation, though walked a great deal. 1st Jan.—No symptom. As no S. symptom appeared during the following 9 d. I thought I might begin a new series of provings.

c. From 11th to 15th Jan. inclusive I took daily at 5 p.m. 3j of 800th dil. 11th.—Immediately after first dose, confusion of head, which, however, did not last long. About 10 p.m. I went to bed, but could not sleep before midnight. When sleep at length came on, it was disturbed by disagreeable dreams, and only became more tranquil towards m. 12th.—Immediately after taking medicine, confusion of head, which lasted 2 h. About 6, when walking, drawing in muscles of r. calf, which went off immediately on standing still or sitting, but instantly returned on walking. About 8, when sitting, aching under l. short ribs. 13th.—No symptom. 14th.—Commissures of mouth, especially l., smarted as if raw. When walking several times drawings in l. thigh. From 10 a.m. to 6 p.m., throbbing pain in l. temporal region, which was aggravated by walking, and at 6 p.m. suddenly went away. In m. sore feeling in both hypochondria, which are sensitive to touch. 15th.—In m., painful drawing in r. thigh, especially when walking, which alternated with a similar pain in r. heel. In e., frequent urination, almost every $\frac{1}{2}$ h. I left off taking the medicine; the drawing pains recurred daily, and only finally disappeared on 24th Jan. Were these symptoms the effects of the high dilution? Were they not, which is more probable, the after effects of the large doses of S. previously taken? In order to decide this point, I undertook a new proving with the 800th in March. I took from the 2nd to the 24th, and from the 26th to the 31st, daily, at 5 p.m., 3j of the dilution. No symptoms occurred; and there was like absence of result from the 400th, 200th, 100th, 50th, 30th, and 21st, each taken daily for about a

week. Now, from July 2nd to 13th, I took 12th dil. in same manner. 2nd and 3rd.—No symptoms. 4th.—In m. after getting up drawing in l. thigh. In course of d. two loose stools. In e. sudden drawing on r. side of lower jaw; anxious disposition. I could not free myself from the anticipation of some great misfortune, though I had no ground for such fear. 5th.—Two loose stools in course of d. P.m., drawing on l. side of lower jaw and in l. thigh. In e. anxious disposition as yesterday. 6th.—In m. a loose stool. P.m., sudden drawing in the l. lower jaw and thigh. 7th.—In m., after waking, taste of blood in mouth; after getting up aching squeezing pain in top of chest, especially at r. side, which lasted more than an h. Sudden drawing in third and fourth fingers of l. hand and in l. thigh. About noon, drawing in l. side of lower jaw towards its articulation, and for $\frac{1}{2}$ h. teasing aching in l. ear. About 6 p.m., drawing in r. ankle; burning about lower angle of l. scapula, lasting $\frac{1}{2}$ h.; sudden aching in hepatic region, and under r. clavicle. 8th.—After dinner, distension of belly; discharge of much inodorous flatus and a loose stool. About 5 p.m., drawing in l. upper jaw and zygoma; itching compelling scratching between fingers of l. hand. Night's rest disturbed by many vivid dreams. 9th.—In m., after getting up, burning in lids, especially of r. eye. About 8 a.m. a very liquid evacuation; during forenoon, aching in r. eye, and sometimes feeling as if eyeballs were swollen; drawing in r. molar teeth. After dinner, drawing in r. metacarpal bones (lasting almost all afternoon), and in l. metatarsal bones; sudden drawing in r. thumb and forefinger, r. forearm, and top of l. ear towards occiput; itching compelling scratching on dorsum of l. hand, and in eyebrows. 10th.—In m., after waking, much eye-gum on cilia; itching and burning of lids, which are red and swollen. About 8 a.m., drawing in l. side of jaws, and afterwards in r. thigh and metacarpal bones and fingers of r. hand. These drawing pains lasted about $\frac{1}{2}$ h. About 9 a.m. a loose motion. P.m. felt perfectly well. In e. pain recurred, alternately in r. and l. thighs. 11th.—A.m. not the slightest trace of S. action. Immediately after dinner a loose motion, although I had had a normal stool a.m. P.m. drawing in middle of l. thigh, afterwards in r. forearm and thumb, then in l. zygoma towards l. parietal bone, lastly in r. molar teeth and r. middle finger. Itching, now here, now there, but especially on back of hand and eyebrows. At n. vivid dreams causing me to awake frequently. 12th.—In m. I felt in bend of r. elbow a tiresome tension, both in flexing and in extending forearm. During forenoon the drawing pain recurred, first in l. great toe, then in r. upper molars and metacarpal bone of r. thumb, afterwards in middle of internal aspect of l. thigh, and lastly in first joint of r. forefinger. P.m. drawing in l. hip and l. thigh. In e., itching compelling scratching between finger-joints. 13th.—The feeling of tension in l. elbow is present all d., but in much less degree than yesterday; sometimes drawing in r. thigh. 14th.—No symptoms. 15th and 16th.—The drawing pains in lower extremities recurred pretty severely. The subsequent days also they returned, but were every d. less severe, until after a week they were quite gone.

During the whole time of this proving I had little appetite; I ate

more from habit than from necessity ; sometimes, in fact, I had positive dislike to food, especially at supper, so that I ate nothing. I was often much concerned about my state of health, and feared lest I might really get ill. At the same time I made the disagreeable discovery that my hair came out much in the m. on combing it. After feeling quite well for a week, viz. from 25th July to 1st August, I then, from 2nd to 12th Aug., took every day at 5 p.m. ʒj of 3rd dil. On 5th there occurred some S. symptoms, such as drawing in l. thumb and r. upper jaw ; loss of appetite ; two loose stools. Such was the scanty result of taking S. 3 for 10 d.

d. Of the pure tinct. I took a drachm-glass full at 5 p.m., from 10th to 12th Oct., from 14th to 20th, on 22nd, 24th, 25th, 26th, 28th, and 29th, and from 1st to 10th Nov. It was not till m. of Oct. 13th that S. symptoms appeared, such as drawing in r. upper arm and itching on external aspect of fingers ; these symptoms recurred on the following days. A more vigorous action showed itself on the 17th. The drawing was no longer limited to upper arm, but during forenoon was also present in l. upper jaw and extremities. It was generally felt first in r. then in l. side, then in r. again, and so on. About 11 a.m., aching in region of neck of bladder lasting $\frac{1}{2}$ h. ; afterwards aching in anus. P.m. I was free from all symptoms ; only in e. I was teased with drawing in crowns of teeth. 18th.—Drawing in limbs, now here, now there, especially in r. wrist. P.m. great distension of abdomen with sore pain above l. os ilii. In e. great lassitude and feeling of weight in legs. 19th.—In m. an insufficient motion followed by burning in anus, which teased me almost all d. A.m. drawing in teeth which recurred several times, and drawing in limbs ; the latter never lasted long, and always appeared again in another place. Itching compelling scratching, now here, now there. During whole afternoon, head was confused. About 5 p.m., immediately after taking medicine, feeling of dryness followed by scraping in throat ; 5.30, painful shoot along the urethra ; 6, attack of tickling cough, which lasted nearly $\frac{1}{2}$ h. and went off after expectorating a good deal of phlegm. At n., in bed, heaviness of legs. 20th.—In m., in bed, teasing feeling of weight and weariness in legs. A.m. an unsatisfactory stool ; drawing in teeth, and here and there in limbs, worst in l. calf. About 5 p.m., immediately after taking medicine, dry feeling in throat, and slight confusion of head. 21st, 22nd, and 23rd.—Besides insufficient motions every d., and sometimes a drawing in the r. thigh, no symptoms. 24th.—In the m. a scanty evacuation. P.m., immediately after swallowing medicine, confusion of head, lasting about an h. ; dry feeling and scraping in throat, and occasional cough with expectoration of phlegm. During almost all e., drawing in r. thigh, especially when sitting, and sudden drawing in fingers of both hands. 25th.—No symptoms. 26th.—In m., occasional drawing in teeth and limbs, especially r. thigh. 27th.—No symptoms. 28th.—P.m., immediately after taking tinct., some painful shoots in urethra, drawing in l. thigh, dry feeling in throat, and itching on outside of thigh ; later in e., tickling in urethra. 29th.—Frequent urination, about every h. ; a great deal of urine was always passed at once. 30th and 31st.—No symptoms. 1st

Nov.—Drawing pains in almost every part of body, alternately in one part and another. It was only in r. wrist and thumb that these drawing pains were present almost all d.; they were very troublesome and accompanied by feeling of weakness, so that slight exertion of the r. hand, *e. g.* opening a door and the like, was difficult and increased the pains. Itching on outer surface of thigh, on back of hands, in anus, and particularly in small of back. About 6 p.m. tickling cough, which lasted about 5 m., and ceased after expectorating much phlegm. 2nd.—Frequent but never long-continued drawing in the r. shoulder-joint, and continued drawing in r. thumb; itching on outer surface of thighs and on back. 3rd.—Drawing in r. calf, r. thigh, and r. thumb. 4th.—In m., after much effort, an insufficient lumpy motion, which on its passage through rectum caused a burning pain there. 5th.—P.m. a hard scanty motion, sudden drawing here and there in limbs. Towards e. I had to make water about every h., and each time passed a great deal. 6th.—In m., sensation as if there was a foreign body in r. eye. 7th.—Feeling of foreign body in eyes, a.m. in r., e. in l. eye; drawing in fingers of l. hand and in r. thigh. 8th.—A.m. a lumpy insufficient stool; drawing in lower incisors, in both thighs, in fingers of l. hand, and in back below r. scapula. 9th.—In m., after getting up, drawing in l. side of lower jaw; p.m. a hard unsatisfactory motion, with burning in rectum. 10th.—In m., tension in r. shoulder-joint, and very painful tearing on inside of l. thigh. During d. pretty frequent drawing on inside of l. thigh and once in r. thumb.

The following days the drawing pains went gradually off and entirely disappeared by the 20th Nov., hence I concluded that I was free from the effects of the S. In this, however, I was mistaken, for hæmorrhoidal complaints now set in, which at first attained a great degree of severity and then gradually subsided; they lasted fully three weeks. They consisted of the appearance of a large pile, which caused a violent burning pain on walking, on being touched, and especially when at stool; sometimes very painful shoots darted out of it through the anus, and in the first days there was always a little blood passed at stool. (*Ibid.*)

39. Professor von ZLATAROVICH began his proving on 24th Sept., 1845, and finished it on 25th Nov., 1846. It lasted therefore 428 d. During the first 17 d. he took triturations; afterwards he proved for 117 d. S. in substance, of which he took 5593 gr. During the following 271 d. he used the tinct., of which he took in all 2600 dr.; during the last days of his proving he took dilutions.

a. From 24th to 30th Sept., and on 4th, 6th, 7th, 9th, and 10th Oct., 1845, he took every m., $\frac{1}{2}$ h. before breakfast, 10 gr., and on 12th, 20 gr. of 1x trit. 24th Sept.—In m., $1\frac{1}{2}$ h. after dose, shoots as with fine needles at lower angle of l. scapula, which lasted $\frac{1}{4}$ h., followed by feeling as if upper lip were swelled. 25th.—In m. burning in edges of lids; upper lid sensitive to touch. In e. sore pain in whole nose, especially in its septum, slightest touch increased the pain. No trace of catarrh. 26th.—In m. slight burning in septum of nose. About 9.30 a.m. collection of water in mouth, inclination to vomit, and a very copious loose stool. 27th.—In m., after getting up, several

fits of sneezing, sore feeling in nose, burning in upper lip and edges of lids. At noon pain in nose was very severe, and an acrid fluid flowed from r. nostril. 28th.—After dinner, cutting burning pains in borders of eyelids, and especially in external canthi; a little acrid fluid came from nose. In e., very tiresome burning in outer canthi, and on shutting eyes sensation as of a foreign body betwixt edges of lid towards external commissure; dryness of nose; burning on outer borders of alæ nasi, which are very sensitive to touch. 29th.—After getting up, burning in borders of eyelids. After taking the medicine nausea and inclination to vomit. After breakfast frequent eructation of air; after dinner itching in anus. 30th.—The nose, especially its l. outer edge, is very sensitive to touch. In e. cutting pain in nose and discharge of thin fluid from it. 1st Oct.—In m. after getting up very tense sore pain in nose, especially at its point; feeling as if nose was swollen; its internal surface is covered with small scabs; sensitiveness of upper lip to touch; slight burning of eyes, particularly in outer canthi. About noon increased discharge of thin fluid, but no other symptoms of cold. 2nd.—In m. he felt perfectly well; about noon scabs formed on nose, causing tiresome tension at its point. In e. after eating an ice, very disagreeable taste and slight nausea. 3rd.—A.m. slight burning and profuse lachrymation of l. eye. In e. several violent sneezes in rapid succession. Edges and septum of nose rather sensitive. 4th.—In m. slight adhesion and burning of eyes; sensitiveness of septum of nose and upper lip. The cutaneous transpiration has an odour of S. 5th.—In e. sudden and very severe itching on r. hand, especially on palmar aspect and betwixt fingers. 6th.—A.m. slight bearing down in anus; transient drawing pain in small of back. At noon burning in eyes; sensitiveness and dryness of nose. P.m. twice sudden tearing in lumbar and sacral vertebræ, and several times very tiresome itching in l. hand from wrist to little finger. The itching is increased by scratching, which is followed by burning, but nothing is to be seen on the skin. On back near loins, several small pimples which let out a fluid when scratched; itching on occiput near nape. 7th.—In m., on awaking, much phlegm in throat and larynx; lids slightly adhering; point of nose covered with small scabs. A.m. dry feeling and troublesome tension in nose; burning of eyes and lids. 8th.—A.m. occasional expectoration of thick phlegm, otherwise nothing worth notice. 9th.—In m. occasional expectoration of phlegm. Sensation of increased heat of face, especially in cheeks and around eyes; troublesome dryness in nasal cavity. The lips become so dry in speaking that they are quite rough, and cause disagreeable feeling of rubbing; spasmodic contraction beneath sternum when sitting. In e. discomfort, restlessness, flying drawing in limbs, especially in forearm (judging by the feeling, in the bones). All these symptoms lasted about an h. 10th.—Occasional slight burning in eyes; in nose sometimes dry feeling, and sometimes discharge of watery fluid from it. 11th.—In m. slight sensitiveness in throat, coughs up occasionally some thick mucus. Towards noon aching in vertex, increased in open air, where it became very teasing; along with this burning in canthi and dry feeling in nose. After dinner aching

vertex, increased to feeling as if a heavy weight lay on it. This lasted all d. in minor degree, and did not go off till e. In e. profuse discharge of fluid from nose. On r. side of scalp over parietal bone a very painful pimple forms. When sitting, burning in anus.

b. On 12th he took in m. 5 gr. A.m., when sitting burning and aching in anus, which lasted an h.; after dinner flying shoots in same part. 13th.—5 gr. He could scarcely wake himself up in m., though he had slept well overnight. After getting up, burning of eyes at outer canthi, tenderness of upper lip, and tiresome dry feeling in e. After taking the S. several eructations of gas tasting of it; slight scraping in throat and irritation to cough; a hard insufficient expectoration followed by burning and sore feeling in anus. At noon slight burning in the canthi and dryness in nose; the upper lip burns as if raw; bearing down in anus as if to stool; very cold hands and

14th.—8 gr. In m., immediately after getting up, a normal stool, followed by straining and discharge of fluid feces, and raw pain in anus. Towards noon, when sitting, frequent straining and aching in anus. In e. when sitting, painful shoots in front of urethra, great burning in skin of forehead. At n. violent attack of cough, with expectoration of thick phlegm, and feeling of rawness in throat. 15th.—10 gr. All d. till late in e. burning in skin of forehead; transient sensitiveness of mucous membrane of nose. In e. when writing chilly feeling, soon, however, followed by slight warmth. The night's rest was disturbed partly by shooting pains, of which he was not very distinctly conscious, partly by anxious thoughts. 16th.—15 gr. In m. expectoration of much thick viscid phlegm and copious discharge from nose. Soon after taking medicine some numbness and dryness and sensitiveness of nose. In red part of lower lip slight sensation like a chap, though there was none. Towards evening slight burning of eyes, especially edges of lids; afterwards, while sitting, great bearing down and sore feeling in anus, which became so in an h. that he could scarcely sit, but it went off after dinner.

17th.—20 gr. After taking medicine, a short dry cough as from irritation in trachea. In the evening d. he felt quite well, but digestion was not quite in order. He had with appetite and had no feeling of oppression in stomach; but several times after dinner there were eructations of gas, with taste of which had been eaten at dinner. On l. side of forehead a small indurated pimple. 18th.—20 gr. In m. while sitting slight aching in middle of back, and some burning in anus. Noisy discharge of much phlegm. The pimple on forehead is gone. Soon after taking the S., numbness all over body and great bearing down in anus. P.m., after sitting a little, a blister on sole of foot; much thin mucous fluid comes out of nose. In e. when sitting, recurrence of bearing down in anus. At n. several times hawking up of thick phlegm. 19th.—25

In m. after a good stool, burning in anus; discharge of much phlegm by flatus. A.m., sudden pressing headache about r. supra-orbital space. In e. some pressure on vertex; frequent expectoration of thick phlegm. 20th.—25 gr. In m. repeated expectoration of phlegm from throat; slight adhesion of lids. (Some varicose veins which had per-

sisted in r. calf for 10 years became visibly less, and a swollen state of whole leg below knee, which had lasted same length of time, is diminished.) 21st.—30 gr. In e. some sensitiveness and dryness in nose, and slight burning in both outer canthi. At n. several times expectoration of thick mucus. 22nd.—30 gr. In m. after waking the nose is dry and tender; slight burning in eyes towards outer canthi; voice is hoarse; slight irritation in larynx, causing dry cough; upper lip tender. During d. frequent dry tussiculation with only occasionally expectoration of phlegm; great tension in r. leg, especially in knee-joint. At n. he talks loudly in his sleep. 23rd.—30 gr. In m. repeated expectoration of phlegm; great discharge of flatus; slight burning in edges of lids. During d. frequent cough. 24th.—30 gr. In m. discharge of much flatus; burning of eyes; dryness of nose; frequent expectoration of phlegm. P.m. and e. frequent dry, short cough. In e. aching and burning in stomach. 25th and 26th.—No medicine. 26th.—In e. tiresome dryness in nose; great increase of wax in ears, especially l. 27th.—30 gr. In m. occasional cough with sore pain in chest, and expectoration of thick phlegm; after a good stool distension of abdomen; a suppurating pimple on hairy scalp near nape. At noon itching in skin of r. leg. 28th.—40 gr. In m. after waking repeated expectoration (by coughing) of phlegm; a copious loose stool followed by some pain in anus; slight burning of edges of the lids. After breakfast very disagreeable acrid bitter taste in mouth. A second soft stool (an hour after first); feeling of sinking in abdomen. About noon, when sitting, pretty severe bearing down and some fine shoots in anus, lasting an h. In e. uncomfortable feeling of general derangement, at same time chilliness and burning in skin above forehead. This burning extends by-and-by over forehead, and there is frequent discharge from nose. 29th.—40 gr. In m. after waking repeated expectoration of phlegm; dryness and sensitiveness of nose; slight burning of edges of lids. About noon, two or three times colic-like pinching followed by discharge of flatus. At noon general discomfort; feeling of illness; confusion of head; disagreeable chilliness over back and in limbs. In e. great thirst with desire for beer; great dryness of nose. 30th.—40 gr. In m. teasing dryness of nose; expectoration of thick phlegm; slight burning in borders of lids; after a good stool, aching and forcing down in anus. Soon after taking medicine, rumbling in bowels. At noon increased discharge from l. nostril. P.m. very sensitive to open air; digestion somewhat deranged. In e. eructation of what had been eaten at noon; frequent sneezing; itching above l. eyebrow. Late in e. much fluid comes out of both nostrils. 31st.—40 gr. In m. after waking much expectoration of phlegm; rumbling in epigastrium. After getting up burning of eyes; dryness and tenderness in nose. After dinner frequent dry short cough and blowing of nose, in doing which septum burns. Upper lip is very red and sensitive on its inner surface. 1st Nov.—No medicine. In m. frequent expectoration of phlegm and blowing of nose; two loose stools. In e. frequent violent cough, owing to an irritation deep in air-passages. Cough generally dry, only sometimes there is thick mucous expectoration. At n. vivid but unremembered

dreams. 2nd.—50 gr. In m. after waking repeated expectoration of mucus. After getting up, eyes burn a little; slight pinching in bowels with discharge of flatus, causing relief. At noon a watery fluid flows several times from nose, causing severe burning at edges of *alæ nasi*. At n. vivid dreams and loud speaking in sleep so as to wake him up.

3rd.—60 gr. In m. frequent cough, sometimes dry, sometimes with expectoration of phlegm; a copious loose motion. A.m., in the open air, dryness of the nose, and feeling as if its mucous membrane was swollen. At noon when sitting, painful forcing down and some acute stitches in anus. 4th.—60 gr. In m. frequent expectoration of mucus; great dryness of nose; sensitiveness of skin for open air. In e. some transient stitches behind l. ear; much itching on whole cutaneous surface, especially r. leg below knee, where some slightly reddened pimples are visible. 5th.—Same dose, of 60 gr., now continued daily up to 12th. In m. occasional coughing up of phlegm. A.m. great sensitiveness to open air. About noon great hunger; after taking a couple of soft-boiled eggs, heartburn for $\frac{1}{2}$ h. In e. frequent short dry cough; great discharge from nose. At n. violent itching on both legs, after scratching a sore feeling remained. 6th.—In m. after waking aching in sacrum; slight burning in eyes and borders of lids; several times severe cough, sometimes with expectoration of thick phlegm. P.m. great sensitiveness to open air. 7th.—In m. after waking cough as on preceding days; a very painful inflamed pimple on border of l. buttock in division between buttocks. At noon, when sitting, aching in anus, and feeling as if there was a pile at anus, which however is not the case; much appetite; frequent dry tussiculation. In e. great watery discharge from nose, which makes edges of nose sore. 8th.—In m. after waking, slight aching in sacrum, and several times coughing up of phlegm. After getting up, he had such a sudden call to stool that he could not get quick enough to the closet, and in consequence some *fæces* escaped prematurely, yet he had no diarrhœa, motion consisting of tough gluey fetid *fæces*. Two h. later a similar stool. P.m. frequent sneezing; some bearing down and flying shoots in anus. About 1 a.m., a very severe headache came on, occupying a portion of vertex about size of palm; it was superficial and seemed to be seated in brain. The pain was of a drawing burning character, was increased by touch, and lasted an h. 9th.—In m. after waking, transient aching in sacrum; frequent dry tussiculation; slight burning in eyes; dryness of nose. "The effect," says Z., "upon the nasal mucous membrane during the whole of the proving was quite peculiar. At one time an acrid fluid flows from the nose, and again the organ appears to be as dry and stiff as parchment; the next moment I have to blow out a quantity of thick phlegm, which is followed by a return of the dryness." 10th.—In m. hoarse voice; slight burning of the eyes; dryness of nose. At noon great aching and bearing down in anus, lasting an h. In e. when sitting, same feeling in anus; it goes off quickly, but after a while returns; frequent severe cough. About 1 a.m., violent cough caused by a constant irritation in trachea, and lasting nearly an h. 11th.—In m. frequent cough, generally dry, and only seldom with expectoration; a hard

unsatisfactory stool. A.m. frequent blowing from nose of thick mucus. At noon tiresome dryness and stiffness of nose; forcing down and aching in anus. This feeling in anus went off completely when walking p.m., but came back again when sitting in e., but only in fits, for it went off the next instant. In e. much cough. 12th.—In m. slight adhesion of eyelids; frequent sneezing; frequent coughing up of phlegm; hoarse voice; tickling in larynx and bronchial tubes; sore feeling in chest; a copious loose motion. E., when sitting, the aching and bearing down in anus recurs in fits like yesterday. On smoking, mucous membrane of the nose feels sore. 13th.—70 gr. In m. occasional coughing up of phlegm; a very solid stool followed by slight burning in the anus. At noon, bearing down in anus. After dinner, great tightness and distension of abdomen. In e. repeated hawking up of thick disgusting mucus, and, when sitting, aching in sacral region. 14th.—80 gr. In m. occasional expectoration and blowing from nose of thick phlegm. At dinner peculiar feeling in r. nostril; he felt as if mucous membrane detached itself from bone and rose as a blister, at same time frequent sneezing. These symptoms were present almost all p.m. 15th.—90 gr. In m. loose stool; occasional cough with expectoration of thick phlegm; dryness of nose. At noon, pretty severe aching in anus. P.m., sensation in r. eye as if a foreign body were in it, which compels him repeatedly to rub and wipe it. 16th.—Without medicine. In m. copious soft stool, and frequent cough with expectoration of thick phlegm. After breakfast, slight grumbling and pinching in bowels, and in an h. a fluid evacuation followed by sore feeling in anus. An h. later a third similar motion. At noon, when sitting, slight aching in anus, and severe burning and dryness in nose. 17th.—90 gr. In m. several times cough with expectoration; at cleft of nates an inflamed pimple, which gave much pain when walking in forenoon. 18th.—90 gr. In m. expectoration of mucus; firm stool. The pimple between nates is still there, but less painful. 19th.—100 gr. In m. severe cough; a firm solid stool followed in an h. by a looser motion. Skin, especially of hands, smells of S. 20th.—100 gr. In m. frequent cough with expectoration of thick phlegm; a copious soft stool; dryness of nose and stiffness of its walls. At noon, burning of eyes, and when sitting aching in anus. 21st.—100 gr. In m. frequent coughing up of mucus; a loose motion, followed by aching in anus; dryness and tension of nose; tenderness of upper lip. After dinner, coldness and slight pinching in belly; bearing down in anus. In e., for an h., distension and sinking feeling in abdomen. 22nd.—100 gr. In m. repeated coughing of phlegm; a loose stool, followed by burning in anus. An h. afterwards, a second similar stool. After dinner belly somewhat distended. During d. frequent cough, sometimes short and dry, sometimes with copious expectoration. Palms of hands smell strongly of S. Towards e. great sleepiness, so that contrary to custom he slept for an h. After waking, aching in anus. 23rd.—110 gr. In m. after waking, great discharge of flatus; frequent cough, sometimes short and dry, sometimes with expectoration of thick phlegm; on upper lip a small aphthous erosion; distension and rumbling in bowels.

In e. some burning in eyes ; dry feeling in nose, although it is actually moist ; burning in aphtha on upper lip. 24th.—110 gr. In m. coughing of phlegm ; a loose stool ; after breakfast, inclination to go to stool, which however soon went off. 25th.—110 gr. In m. immediately after taking medicine, a loose stool ; then for an h. pressure on chest and fulness in stomach. Both symptoms decline on occurrence of rumbling in bowels ; frequent cough, sometimes dry, sometimes with expectoration ; eructation of air smelling of S. ; much mucus comes from nose, and then there is disagreeable dryness of nose ; slight burning in upper lip. The aphtha on upper lip is quite dried up. After breakfast, rumbling in bowels ceases, and warm feeling comes in stomach ; roughness in œsophagus. P.m. great sleepiness, and after a short refreshing sleep he feels perfectly well, all except dryness of nose. 26th.—110 gr. After waking, itching on legs ; several times coughing up of mucus ; discharge of flatus, smelling strongly of S. ; a half-fluid, insufficient stool. 27th.—120 gr. In m. frequent coughing up of mucus ; dryness of nose. Although he ate a very good dinner, yet P.m., contrary to habit, he became so very hungry, that he had to eat again ; notwithstanding this, he was again ready for supper. In e. dryness of nose ; sometimes dry cough ; cheerful disposition. 28th.—120 gr. In m. cough with expectoration ; feeling of unusual tightness in sacrum ; a curious illusion of the sense of smell, as though he smelt soapsuds. After dinner, frequent dry short cough. 29th.—120 gr. In m. occasional coughing up of phlegm ; discharge of flatus, smelling of S. An h. after taking the S., a semi-solid insufficient stool ; slight constriction of chest. Somewhat later, rumbling and pinching in bowels. About 11 a.m., a second, semi-fluid, insufficient motion ; slight confusion of head. After dinner, great sleepiness ; after a short sleep, uneasiness in abdomen ; somewhat later, burning in rectum. In e. frequent short dry tussiculation ; burning dry nose. (The itching in anus, to which he had formerly been subject, went off entirely some time since.) 30th.—120 gr. After waking, discharge of much flatus, smelling of S. ; a copious loose evacuation. After breakfast, much rumbling in bowels. Towards e. some burning in eyes ; very cheerful disposition. 1st Dec.—120 gr. Z. continued to take this dose almost daily up to the 7th, with nothing but the effects already frequently recorded. On m. of 8th skin of whole body smelt strongly of S., in consequence of which he left off the medicine for some d., thinking that it had taken the direction of the cutaneous secretion, and that consequently the symptoms of the other organs had receded. A.m. that d., when sitting, pretty severe bearing down and some fine shoots in anus ; occasional cough. In e. slight tightness of chest, and frequent dry cough. Nose not nearly so dry as on previous days. 9th.—Perfectly well. 10th.—In m. occasional cough with expectoration. At noon, when sitting, considerable forcing down in anus, which, as usual, suddenly went off, and after a time recurred. P.m., when sitting, pains in tuberosities of ischia, as if weight of body was too great ; some itching on external surface of r. leg. 11th.—In m., on waking, headache, having its seat above forehead in hairy scalp, where it occupied a space size of palm ; it was of an aching

pressive character, went off when he rose up, but did not go away till far on in forenoon. Skin still smells strongly of S. 12th.—120 gr. After taking it, some rumbling in epigastrium. In an h., great dry feeling in nose, especially towards point; an insufficient evacuation. A.m. some burning of eyes. At noon, when sitting, great burning and sore feeling in anus, lasting $\frac{1}{2}$ h. P.m., another insufficient stool. Afterwards, when sitting, forcing and pain in anus occurs in fits, sometimes more, sometimes less severe. Z. continued to take same dose most mornings up to Jan. 19th. [The old symptoms pretty constantly recurred, but we note only those of fresh and peculiar character.] 14th.—Soon after taking medicine, jerking tearing on inside of r. leg; slight bruised feeling in the thighs; transient tightness of chest. 15th.—He awoke to-day with pains in sacrum, and great itching on r. leg. After getting up the pain in back goes off. 19th.—A.m. sinking feeling in abdomen. In e. uncomfortable feeling in whole body; drawing and bruised pain in lower limbs; oppression and weight in chest. Late in e. a peculiar pain occurred in l. hand, which began on articular end of ulna, and extended to phalanx of index finger. Its seat appears to be in the bone. It is burning, gnawing, increased by touch, and lasts till he goes to sleep. 20th.—In m. after waking, the pain again came into l. hand; it was, however, not so bad as yesterday, but became very severe after dinner, especially when finger was touched, and went off in e. after exercise. Some small vesicles had formed below l. nostril. 21st.—In m. on awaking, transient drawing, gnawing pain about l. ankle-joint; pretty severe aching tearing pain in vertex, which went off at noon, but returned very severely p.m. in open air; whole vertex burnt as if raw. In e. flying shoots in l. tibia (decidedly in bone), which went off in $\frac{1}{2}$ h. 22nd.—Noon, when sitting, peculiar sensation of increased heat in anus, and feeling as if foreign body were there. 25th.—Painful tension in r. thigh down to knee. 27th.—P.m. and e., frequent severe cough; slight shooting in the urethra. In e. some confusion of head; cold feet. At n. restless sleep, frequent tossing about and waking. 28th.—In m. general ill feeling; bruised feeling and drawing in limbs; aching pain in vertex; frequent cough, thick mucous expectoration; slight burning in eyes. P.m. frequent sneezing; dryness and tickling in nose; occasional cough; great sleepiness. In e. severe catarrhal symptoms; no appetite for supper. At n. restless sleep, in which he groaned much. 29th.—In m. the legs were quite wet with perspiration; severe burning of eyes; hoarseness; skin smells strongly of S. In forenoon he was much in open air and felt quite well, but blew much thick mucus from nose. Later, when indoors, nose became quite dry, and its borders stiff. P.m. and e., except a little cough and profuse nasal secretion, quite well. 30th.—Tearing in the right shoulder, which went off in e., leaving a weak paralytic feeling. 31st.—In m. tearing in r. shoulder, which lasts till noon. Jan. 8th.—About 2 a.m. he was wakened by a very violent fit of coughing. This was brought on by irritation in trachea; it came on in fits, was barking, generally dry, and only sometimes with mucous expectoration. In an h. the cough gradually subsided and he fell asleep

again, but the sleep was restless, disturbed by tossing about, moaning and groaning, breathing occasionally whistling. Much perspiration on r. leg. 9th.—In m. occasionally coughing of phlegm; feels tired and knocked up; tension of pectoral muscles on breathing deeply, and contracted feeling in the anterior wall of the chest. P.m. he feels quite well. The urine passed at n. is quite muddy and has a copious sediment. 10th.—In m. after getting up, burning in skin of forehead. At n. some fits of violent spasmodic cough. These fits came on suddenly, were accompanied by a contraction of the air-passages, and went off as suddenly after a few violent coughs. The cough was usually dry, only occasionally there was a serous expectoration. 11th.—In m. he awoke with violent aching-pressive pain on vertex, which occupied a space about size of palm, and only went off some h. after getting up; at same time general weariness and bruised feeling in all limbs. After getting up sudden pain in the sacrum. At n. severe perspiration on both legs; profuse secretion of urine of a dark yellow colour. 12th.—In m. occasional violent cough. After dinner frequent short, broken, dry tussiculations. P.m. and e. perfectly well. 18th.—On awaking severe burning on vertex, which went off after getting up, and was succeeded by a cool feeling in same place. 19th.—Took last dose. In forenoon, while sitting, sudden bearing down in anus; great sensitiveness to open air. Towards noon, transient aching beneath sternum. In e. hoarse rough voice for some h. 20th.—In m. after waking pain on l. side of lower jaw and swelling of gum round a tooth, as if a gumboil were about to come; occasional cough; some hoarseness; sensitiveness of eyes; general lassitude. Not refreshed by his sleep. After dinner great distension of abdomen. 21st.—He was awakened early in m. by a dry, convulsive, violent cough, which lasted an h., and after going off left a soreness of whole chest. Gum on l. lower jaw is still inflamed. A pustule in r. eyebrow. At noon, some bearing down in anus. In e. gum is very painful; head confused, its l. side especially painful; drawing and tearing in scalp; l. submaxillary gland swelled and sensitive to touch. About 2 a.m. he awoke with violent pains in inflamed gum; they were burning and tearing, and spread all over head; at same time sensation as if l. cheek were swollen, which is, however, not the case. After 2 h. he got weary and fell asleep. 22nd.—In m., after waking, feeling of lassitude; submaxillary gland is swollen but not tender; occasional coughing up of mucus; a loose stool, followed by aching and burning in anus. 23rd.—In m. the gum is still rather tender, but swelling is considerably diminished; the swelling of submaxillary gland too has decreased. A few coughs with expectoration of phlegm. During d. great sensitiveness to open air. 24th.—In m. occasional coughing of mucus; gum is again more painful than yesterday; swelling of submaxillary gland is gone. 25th.—Swelling of gum gone. In e. occasional tussiculation. 26th.—In m. slight adhesion of lids; cutaneous transpiration smells strongly of S. At noon great prostration, lassitude, and bruised feeling of limbs. P.m. and e. quite well. At n. much sweat on r. leg; sharp penetrating tearings on radial side of l. hand, extending to little finger.

Z. finally took 200 gr. on 29th, but no fresh symptoms occurred,

save that on n. of 5th he had pains along r. tibia, on account of which he could not lie on r. side.

c. Z. now proved the tinct. On 11th Feb. he took 10 dr. in 1 oz. of water, whereupon violent sneezing almost immediately ensued, and in course of d. the following symptoms were observed:—A.m., great sensitiveness to open air; a painful spot in red part of upper lip. At noon, slight confusion of head. After dinner, aching in vertex and slight drawing in occiput. Although he had had a normal stool in m., yet after dinner a second, of good consistence, occurred—a most unusual thing with him. P.m., temp. about 28° F., he was wonderfully sensitive to open air, with great chilliness, and frozen feeling, with reddish-brown colour, of hands. The headache went off in open air, but on coming into a room again aching in vertex reappeared, but went off after sitting for a while, when forcing down in anus recurred.

12th.—No medicine. On spot where yesterday there was pain on upper lip, there appeared to-day a small pustule; after this was opened and the matter discharged, it disappeared in a few h.

13th.—Repeated dose, and so nearly every m. up to Nov. 25th. In m. a copious evacuation; several inflamed pimples in face. About noon some forcing down in anus, which afterwards became very painful when sitting, and was accompanied by single shoots; it went off on rising up and taking a few turns in room. During d., and several times in e., severe itching on l. leg. About 1 a.m. he awoke, and lay awake about an h. On both legs during n. such profuse sweat, that in m. they were still quite wet.

14th.—In m. a copious loose stool. A.m., when sitting, pretty severe bearing down in anus. On upper lip, where was a pustule, there was now a red elevated itching spot. In e. great itching on both legs.

15th.—In m. occasional coughing up of mucus; watery fluid runs out of nose; several small vesicles appeared on upper lip, which soon dried up; slight aching pain in a circumscribed spot beneath chest-walls on r. side, near sternum,—pain is especially observed when breathing deeply and when bending forwards; a pretty copious loose evacuation, followed by slight burning in anus; the pain beneath walls of chest disappeared, but recurred about 11 a.m., after burning in anus had subsided. P.m. and e. the pain in chest is only felt when he breathes deeply. At n. a great deal of perspiration on legs.

16th.—When he breathes deeply aching in chest occurs as yesterday. At noon, on taking a full breath, slight shoots under sternum.

17th.—In m. on awaking, cough several times, with mucous expectoration. The pain under sternum continues in lesser degree; on leaning forwards the place under sternum pains as if beaten. A.m., some burning on edges of eyelids; frequent sneezing, which increases pain under sternum; bearing down in anus, especially when sitting. In e. great uneasiness and prostration, so that he has to go earlier than usual to bed. At n. vivid unremembered dreams; great flow of urine.

18th.—In m. stool passed in small lumps; discharge of much flatus; great itching on r. leg. The pain beneath sternum is felt in m. only on breathing deeply; it increases in the course of forenoon, and goes off p.m. After breakfast, frequent eructation; severe bearing down in anus. At noon burning pain in anus, especially troublesome when sitting;

small painful pimples here and there on scalp. P.m., dryness of nose.
 19th.—Dryness of nose; the pimples on scalp gone. 20th.—No
 symptoms. 21st.—In m., after awaking, pain in l. forehead, which
 lasted till noon. Great itching on both legs, making him scratch,
 whereupon burning pain remained for some time. 22nd.—No medi-
 cine; no symptoms. 23rd.—In m., occasional cough, with expectora-
 tion of mucus; on r. side of forehead an inflamed pimple. After
 breakfast, severe burning in anus and rumbling in bowels. 24th.—
 Considerable mucous discharge from nose, and occasional mucous ex-
 pectoration; vertigo lasting some m., followed immediately by slight
 shooting in anus. 25th.—In m. pain in r. leg up to hip-joint; expect-
 oration of mucus; semi-fluid stool. About noon the pain in r. leg,
 specially in hip-joint, became more violent. Towards e. such violent
 drawing, tension, and bruised feeling on whole anterior surface of r.
 thigh that he could scarcely walk, and then only limping much. The
 pain is somewhat increased by pressure. 26th.—In m. expectoration
 of mucus; pains in the thigh as yesterday. A.m., when walking,
 these pains go off considerably, but reappear at noon when sitting;
 immediately afterwards, cold feeling in both thighs, as if a cold air
 blew over them. P.m., when sitting, pains in r. thigh were very
 violent; they afterwards diminished when walking, but recurred in e.
 in a high degree of intensity, and occasionally disturbed his sleep at n.
 27th.—In m. burning in skin of the forehead; occasional coughing of
 mucus. A.m., he had to walk much, and when doing so felt almost
 no pain in r. limb. 28th.—Early in m. a very vivid dream, so that he
 talked aloud, and then awoke. After getting up, some constriction of
 chest; dryness of nose; a loose motion, followed by some burning in
 anus. At n. sweat on r. foot. 1st March.—No medicine. Beyond
 the usual mucous cough, no symptoms. 2nd.—In m. great drowsi-
 ness after a good night's rest; frequent dry tussiculation; slight ten-
 sion externally in the chest, at one time below scapula, at another under
 arms, and at another in back; fluid frequently flows out of r. nostril.
 In m. and afternoon a loose evacuation. During d. frequent gnawing
 and tearing in bones of r. arm. 3rd.—In m. as drowsy as yesterday;
 a few mucous coughs. 4th.—In m. mucous cough; an inflamed
 pimple on occiput. At n., when asleep, frequent groaning; on
 account of tensive pain in r. leg he could not lie on r. side. 5th.—In
 m., after waking, occasional mucous cough; slight burning of skin of
 r. leg; a loose motion; slight drawing on l. side of throat to shoulder;
 diminution of the falling of hair; the cutaneous transpiration smells
 strongly of S. 6th.—In m. occasional short dry cough. At noon, when
 sitting, great bearing down in anus. At n. frequent and copious discharge
 of urine.* 7th.—He awoke in m. with great aching in vertex, which
 also lasted some time after getting up; beneath the l. nostril several
 small vesicles; aching at root of nose. 8th.—Vesicles on upper lip
 begin to dry up. 10th.—P.m. and e. aching pain in r. ear, in external
 meatus, towards membrana tympani. At n. perspiration in both legs.
 11th.—Late in e. aching pain and sore feeling upon and beneath
 sternum, pain is increased by breathing deeply, by moving body, and by

* From this point we note, as before, only fresh and peculiar symptoms.—EDs.

rough handling ; burning in skin of r. leg. 12th.—In m., on awaking, spot on sternum is still sensitive, but less so than yesterday. 13th.—In m. coughing up of thick mucus ; pain in chest gone. After getting up burning of skin of r. leg and foot. 18th.—After dinner some pain in throat, and contraction of œsophagus. 19th.—Externally, on l. side of throat behind ear, two painful inflamed pimples, which disappeared following d. 20th.—In e. pretty severe aching pain in vertex. 23rd.—In m., after getting up, slight shooting in l. chest, which recurred by fits several times during d. 29th.—In m., after getting up, aching and heavy feeling in occiput extending into nape ; burning of eyes ; dryness of nose ; coughing of mucus ; a semi-fluid evacuation. The headache went off during d. April 6th.—In e., itching on various parts—face, chest, and hands ; after scratching a slight redness appears. 8th.—In m. on waking, headache, chiefly externally, on the vertex, which lasts for some time after getting up. 9th.—In m. a peculiar sensitiveness of wrists and finger-joints, especially on moving them. 10th.—In m., sensitiveness and a kind of bruised feeling in carpal joint of r. thumb ; occasional short dry cough. Immediately after taking medicine, rumbling in bowels ; a soft stool. 11th.—In m., slight sensitiveness and swelling of gums on r. side of lower jaw ; some inflamed pimples at back of scalp. 12.—In m. some burning on r. leg ; swelling of the gums and pimples on scalp have disappeared. During d. two pimples again appeared, one on vertex, the other posteriorly about nape. In e. the eyes burn a little. 15th.—In m., after getting up, severe burning on r. leg ; a small inflamed pimple on nape ; slight burning in external canthi. 17th.—In m. the canthi slightly adherent ; discharge of much flatus. 18th.—In m. slight adhesion of eyelids ; some difficulty in making water ; occasional coughing of mucus ; an inflamed pimple on back of r. hand ; copious secretion of thick mucus from nose. At noon, great aching and burning pain in vertex ; frequent sneezing and dry tussiculation. 29th.—In m., adhesion of eyelids and slight burning of their edges. At noon, when walking, tensive pain in sole of r. foot ; dysuria. (For several d. it had required an effort to empty the bladder.) 30th.—After dinner, when standing, great tension and weight in the right leg ; on occiput two painful pimples, and a similar inflamed pimple on middle of vertex. May 2nd.—After dinner tensive pain in r. foot. 7th.—In e. frequently recurring tiresome burning in l. eye, followed by lachrymation ; itching in occiput, making him scratch. 9th.—The urine passed in m. did not flow in a full stream, but by jerks ; some bruised feeling in the muscles of the spine. 11th.—At noon, for $\frac{1}{2}$ h. great itching of l. eye, with lachrymation. At n. profuse perspiration on r. leg. 14th.—In m., after waking, transient but pretty severe pain in sacrum ; urine is passed in a slow interrupted stream. In e. he observed on dorsum of both hands beneath skin, when this was tightened by flexing the joints, small pimples in considerable numbers, which, however, neither itched nor displayed any difference of colour from rest of skin ; hands smelt strongly of S. 16th.—In m., after getting up, pain in ribs, vertebræ, and muscles, so that he could scarcely bend forward. The pain was diminished by

holding himself upright, and was quite gone in an h. After dinner, aching in both temples; a painful pimple on vertex. 19th.—In m., on awaking, great aching in vertex, which continues for some time after getting up; eyelids somewhat adherent; blowing of thick mucus from nose, and coughing of mucus. A.m., frequent tearing in r. wrist. In m. on awaking, and after dinner, aching and sore pain in gums of lower jaw on r. side. At n., perspiration on r. leg. 20th.—Several painful pimples on occiput. “I must,” says Z., “repeat the remark, that the large quantity of scales I used to have on my head for some time back have quite disappeared, and that I cannot now bring away anything of the sort by strong combing and brushing; but the hair on the vertex is falling off considerably, so that a bald place is beginning to appear.” In e. the gum around the stump of a tooth in r. lower jaw is painful as if a parulis were about to form; the eyes burn a little; and the hands also are tender—just the sort of feeling one has on entering a warm room after the hands have been much chilled in winter. These sensations went off before bedtime. 22nd.—After getting up, burning in r. leg, and at n. much sweat there—a symptom which recurred almost every n. about this time. 29th.—In e. small boil on back, which is not painful, but when squeezed discharges a considerable quantity of blood and pus. On r. side of hairy scalp a small painful pimple. 30th.—On l. side of forehead a small inflamed boil. 1st June.—An insufficient, difficult stool, with feeling of distension in the abdomen; slight drawing in the occiput and nape; two pustules on forehead. A kind of creeping feeling occasionally in head, especially on parietal and occipital regions. On dorsum of nose a red inflamed spot, like a commencing boil. At n. moderate sweat on the whole body. 2nd.—In m., after waking, great pain in gastric region; when he turned pain went from one side to the other, and went off when he got up. At noon very troublesome aching pain in the nasal bones; two inflamed pimples above l. eyebrow. At n. profuse sweat. 3rd.—Towards m. burning pain in stomach. During d. severe aching in nasal bones. 4th.—At noon very severe aching in nasal bones and creeping in both temples. At n. perspiration all over body, especially r. leg. 6th.—After getting up severe aching in stomach and slight burning of eyes, especially their external canthi. On every movement of body, as also in drawing a deep breath, dull aching pain and shooting in bend of last l. false rib; pain was limited to a small spot, and went off after washing with cold water. 7th.—During d. very frequently a disagreeable feeling of aching and fulness in nose, as if nasal bones were thickened and swollen. No change in nasal secretion. In e., after a short drive, such a severe aching in sacrum that it gave him great pain to sit down and to get up again. 8th.—In m. severe aching in nasal bones and dry feeling in the nose. The aching in nasal bones went off a.m., but recurred at noon in great intensity, and went away again in an h. 9th.—In m., on awaking, l. auricle is painful as if sore, on a limited spot. At noon severe aching pain in nasal bones and dry feeling in nose, though a drop or two of fluid occasionally escapes unobserved from the nostrils. 10th.—After breakfast great flickering and luminous appearance before the eye—*chrypsia*.

Everything appeared to be in a quivering movement. This symptom lasted an h. 13th.—On vertex several small painful pimples. P.m. there appeared on dorsum of r. hand, at joint of middle finger, a group of pimples size of poppy seeds, which seem to be under the skin, are not red, do not itch, and which go off after 3 d. 17th.—Towards e., in open air, severe dull, hot, tensive shoots through r. external meatus. 20th.—On r. index, where he had had a humid eruption many years ago, there appeared some hard points, so that skin has a rough appearance. A pimple on the forehead, which had appeared on 17th, swelled up during the past n., and is filled with pus. 23rd.—On vertex a small painful pimple; the pimples on r. hand are to-day reddened and itch a little; occasional aching in the nasal bones; the lunula, which used to be present on both thumb-nails, is almost gone. P.m. the pimples extended all over back of r. hand. 24th.—A painful pimple on middle of vertex. In e. painful pimples here and there over hairy scalp; violent tearing scraping pains in middle of r. tibia, and also, but not so severe, on vertex and in bones of r. forearm. 25th.—Pimples on back of hand are going gradually off; those on index continue; an inflamed pimple on chest and several on hairy scalp; a small pimple on r. cheek; occasionally tiresome aching in nose. 26th.—For some d. past very urgent sexual desire. 29th.—At noon sore feeling on spot size of a crown in middle of r. tibia; this pain lasted some h. in afternoon, and went off towards e. to give place to aching pain in sacrum, which was especially felt when walking and standing, less when sitting. 3rd July.—Penetrating shooting and drawing in l. zygoma. 8th.—On index of both hands, on l. thumb, and here and there on hands, are small vesicles, singly or in groups. They are filled with a fluid, but do not itch. 11th.—Several new vesicles appear on the hands. 13th.—Eruption on hands itches a little. 14th.—The vesicles on the hands begin to dry up. 16th.—Frequent drawing in tibiæ; on hairy scalp several small spots covered with thin scabs. 18th.—Scabs on scalp are loosening. From 20th to 25th some diarrhœa, at first with much griping. 3rd Aug.—A painful inflamed spot in red of upper lip. 4th.—The spot on upper lip is swollen and burns extremely. 5th.—The inflamed spot has turned into an aphtha. The eruption on hands is still present. 6th.—The aphtha begins to dry up. 14th.—Some backache, with tension and weight in sacrum; sensitiveness of eyes. 15th.—In m., on awaking, severe drawing and bruised pain in r. thigh; some backache, especially when stooping. The vesicular eruption on hands is nearly gone, skin on affected parts is still rough. 22nd.—At n. and in m. acute stitches through last joint of l. little finger. 24th.—On lower lip several painful humid vesicles; on forehead an inflamed pimple. 25th.—The vesicles on under lip begin to dry up; the pimple on forehead is full of pus; a great eruption of vesicles near l. commissure of mouth. 28th.—The vesicles near the mouth are dried up, but fresh ones have appeared on r. side of upper lip; on forehead an inflamed pimple. 4th Sept.—A.m., profuse perspiration. At noon peculiar uneasiness and excitation of nervous system. 5th.—All d. great perspiration on slightest movement. At noon tiresome aching pain in bones of nose. 6th.—In m. occasional expectoration of mucus. In forenoon profuse

perspiration. The toe-nails, especially of middle toes, have become thick, horny, and misshapen. 7th—11th.—Much perspiration, especially a.m.; the perspiration occurred at every movement, and was generally greatest on occiput. 17th.—At noon very violent sneezing, ten successive times, followed by frequent dry tussiculation. After dinner, tension in pectoral muscles. At n. slight febrile excitement; frequent coughing and blowing of nose; slight burning of eyes; oppression of head and aching in vertex. 18th.—P.m., great oppression of head; aching in vertex; tickling in larynx; frequent hawking. At n. violent pains in r. leg, which did not allow him to lie on that side. 19th.—The catarrhal symptoms somewhat less to-day; tension between scapulæ, lasting $\frac{1}{2}$ h. After dinner pretty severe pain in r. leg. 20th.—In m. r. leg is very painful; r. shoulder and upper arm are also not free from pain; frequent cough, sometimes dry, sometimes with mucous expectoration; afterwards severe tearing in r. shoulder. Oct. 7th.—A.m., acute tearing in r. ring and little fingers; after cessation of the tearing there remains for a considerable time a creeping sensation in both fingers; l. wrist has for some d. been sensitive to touch externally on its ulnar side. 8th.—In e. much cough; hoarse voice. 9th.—Towards m. frequent dry cough. A.m., roughness of voice; speaking requires a certain effort. P.m., frequent coughing up of mucus. In n. awakened by a rather severe but transient pain in l. frontal region. 10th.—Tenderness on wrists has gone off. 11th.—In e. rough voice. 12th.—Roughness of voice, lasting all d. 15th.—In m. coughing of mucus; a suppurating boil on r. whisker; skin of back is covered with elevations; a constrictive pain in cardiac region that had been there for some d. is particularly troublesome to-day. After dinner rather severe itching of edges of lids, especially of r. eye. 18th.—The horny thickening of the toe-nails has considerably diminished; the nails of fourth toe of both feet are still thicker than usual, but much less so than during summer. 20th.—Towards noon, anxious, aching, contractive pain in cardiac region. 22nd.—In e., after reading for some time, severe aching in both temples. At n. great flow of urine. 23rd.—Feeling over body as if ants were running about. 25th.—During first half of n. much groaning and tossing about in sleep. 26th.—He awoke in m. with violent pains in l. frontal region, which lasted till he got up; afterwards there occurred severe mucous cough and great discharge of flatus. In forenoon very severe aching pain in nose about its root, with dryness of Schneiderian membrane; frequent short dry tussiculation. P.m., when sitting, severe burning and tension in r. leg. Nov. 6th.—He awoke in m. with violent aching throbbing pains in crown; pains went off gradually after getting up. 7th.—P.m. the catarrhal symptoms recurred very severely, to wit, cough, hoarseness, dryness and aching in nose, with confusion of head. At n. rattling in chest; violent cough with much expectoration. 11th.—In m., on awaking, violent aching pain in vertex; pain was relieved by getting up, but not quite removed; at the same time great itching on the occiput, compelling him to scratch; frequent cough, sometimes dry, sometimes with mucous expectoration; severe burning on r. leg; much mucus blown from nose. At noon tearing in r. leg towards

ankle; on r. temple a small painful spot covered with papulæ. 12th.—In m. much cough, generally fatiguing, short and dry, with some feeling of pain in chest. Discharge of much flatus; burning on r. leg. After breakfast aching and sore feeling in chest; blowing from nose of thick mucus. 13th.—In m. coughing up of mucus; discharge of much flatus; in forenoon occasional violent cough; lachrymation when walking in open air; sudden aching pain in sacrum; tension in whole r. leg, especially thigh and knee. P.m. and e., rough hoarse voice and much dry cough. 14th.—In m., on awaking, violent pains in r. foot; they are of an aching and drawing character, and are only a little relieved after getting up; a loose stool followed in a few m. by burning in anus, lasting $\frac{1}{2}$ h.; frequent stool; dry cough. After midnight excessively violent pains in l. lower jaw; the pains were drawing, pressing, proceeding from a healthy tooth, spreading over whole lower jaw, extending to temple and ear, and lasting till he got up the following m. 15th.—In m. discharge of much flatus; great aching in a spot on the sacral region the size of a crown; he looks ill; has double rings round the eyes; perspiring uncommonly in axillæ; a loose stool, followed by burning in anus. At n. two fits of coughing, one of which lasted at least $\frac{1}{2}$ h.; the other was shorter, but much more fatiguing. 16th.—In m. profuse perspiration on both legs; slight burning of tarsal edges; occasional violent sneezing; some tenderness of l. lower jaw; discharge of much flatus. At noon rough voice; frequent short dry cough; the cough also occurred several times p.m. and e. In e. occasional pain in l. lower jaw. 17th.—In m. a few coughs with mucous expectoration; great discharge of flatus; an inflamed pimple on nape. Towards m. some pain had occurred in l. lower jaw, sometimes with drawing into l. ear. In forenoon in the open air the pain increased; it was a very painful drawing, which extended not only over jaw but over the whole of l. side of face. One spot on lower border of jaw was especially painful, also when touched; in e., in open air, the pain extended in an aggravated degree all over lower jaw. 18th.—In m. drawing in the lower jaw; discharge of much flatus. All d., with exception of a few coughs, quite well. 19th.—Towards m. the pain in l. lower jaw, especially about a loose tooth, was extremely violent. 20th.—In m. frequent cough, generally with mucous expectoration; pain in lower jaw; great itching in r. leg. During d. occasional sharp tearing in l. lower jaw. 21st.—No medicine. In m. occasional coughing up of mucus; l. jaw but slightly painful; great discharge of flatus. After dinner dry tussiculation; severe coughing, and sensitiveness of the fauces. 22nd, 23rd, and 24th.—No medicine. No symptoms, except the usual coughing up of mucus in m.

d. 25th.—Z. began a fourth proving in m. with 10 dr. of 1st dilution of tinct., and the same d. he observed the following symptoms:—A.m., while walking, a sharp cutting in r. shoulder, which was often repeated. P.m., some tearing in lower part of l. leg. During d. frequent rather violent cough. 26th.—10 dr. In m. very painful tension from r. shoulder towards back, whereby movements of arm were somewhat impeded. 27th.—10 dr. In m. occasional cough. In forenoon, when walking, severe bearing down and cutting in anus; when sitting

these symptoms went off. After dinner, all afternoon and e., disagreeable horripilation over whole body; no appetite for supper. 28th.—No medicine was taken from this d. onwards. In m., after a good stool, burning in anus; languor and prostration; little appetite for breakfast. At noon a second copious quite thin stool; looks ill; tenderness of the head at crown; horripilation and chilliness over whole body; hands and feet especially are cold; he loathed his dinner. P.m., two liquid stools; constant chilliness; weariness. About 6 p.m. he went to bed; for long he could not get warm; hands and feet were especially cold. At n. much perspiration all over body. 29th.—In m. slight uneasiness; a liquid stool; pressure on eyelids; rumbling and gurgling in bowels; occasional aching in root of the nose, betwixt the shoulders, and all over back. 30th.—In m. severe burning in stomach; occasional cough; great discharge of flatus. Towards noon some aching in nasal bones. At noon more appetite than on previous days. After dinner recurrence of aching in nasal bones; a tender spot in l. nostril; frequent sneezing; looks ill; emaciation. 1st Dec.—In m. occasional coughing of mucus. P.m., slight heartburn. 2nd.—In m. itching of scalp; small pimples in nape and behind ears; sudden burning pain in anus. After dinner some heartburn. 3rd.—In m. severe cough; a painful pimple on r. eyebrow. 4th.—In m. severe itching in occiput; discharge of much flatus. 5th.—In m. severe tension in r. leg; aching in nasal bones. The Sulphur symptoms diminished gradually, and disappeared entirely towards the end of December. (*Ibid.*)

40. Taken in doses of 6—8 grm. for an adult, 2—4 grm. for a child, S. acts as a laxative, without giving rise to much colic. But when it is given in fractional doses, so that 4—8 grm. *per diem* are consumed, a general excitement is seen to supervene, characterised by increase in frequency of pulse and heat of skin. At the same time the skin exhales an unmistakable odour of S.; the stools and flatus become foetid; and any silver carried on the person becomes darkened by the sulphuretted hydrogen which escapes from it. (TROUSSEAU et PIDOUX, *op. cit.*)

II. *Poisonings.*—1. A child, æt. 2, seemingly vigorous, had been given a small dose of S. with molasses, twice a d., for some supposed impurity of blood. One e. she took by mistake a whole teacupful of the mixture, containing more than a tablespoonful of S. Early next m. she woke fretful and restless, and complained of being chilly. Head soon became hot, and extremities cold. Slight twitchings of muscles of face and extremities were noticed, which soon developed into a general convulsion. This subsided in a few m., consciousness returning slowly. In a few h. there came on a severe chill, followed by heat and perspiration, which lasted 8—10 h. The chill then came on more severely than before; and as soon as reaction was established the spasm returned, this time in the tonic form, affecting first the r. side, then the front of the body, afterwards the back, and finally the jaws. The latter were so firmly set that nothing could be administered by the mouth. The whole abdomen had now become enormously distended and tympanitic, and the pulse feeble and intermitting. Simultaneously

with the spasms, copious discharges from the bowels took place, of the consistence of thin mush, of dark grey colour, and very fœtid. These were soon followed by subsidence of the spasms; the muscles immediately relaxed, and the child died instantly. No autopsy was made. (STEBBINS, *N. Y. State Hom. Soc. Trans.*, vii, 732.)

2. J. K—, æt. 32, smoked three pipefuls of S. one e. in rapid succession as a cure for toothache. He then went to bed and fell asleep, but awoke in an h. in great fright and distress; his symptoms were—dyspnœa to a sense of suffocation, severe constriction of chest, extreme faintness, vehement palpitation of heart, and horror of instant death. There was general tremor; his head seemed to him distended, with loud noises in the ears; he distinguished especially a boring pain over l. eye. His bowels were obstinately obstructed for 4 d., no action being produced by the various aperients he took. The d. after smoking the S. he had intolerable itching over whole body; this was followed, in a d. or two, by the appearance of reddish blotches over trunk and extremities. He had severe pain across loins. When seen his face was pale and collapsed, with an expression of great anxiety; there was still vehement palpitation, pulse feeble and very irregular; considerable dyspnœa with sense of constriction; intense headache, with sensation as if head and ears were stuffed; loud noises in ears; tremor of limbs, with considerable itching of arms and legs, though no eruption was to be seen; he complained of pains throughout body. Pulsatilla, and a few doses of Aconite, were given; and after 9 d. there were no symptoms remaining, save very slight uneasiness on taking a deep breath. (*Brit. Journ. of Hom.*, iv, 92.)

3. a. I have personally experienced considerable inconvenience from inhaling S. fumes when superintending their employment. In addition to their inducing hæmorrhoids, I have, on several occasions, been threatened with asthmatic attacks, to which I have no natural tendency.

b. A lady, who inhaled sulphurous acid for bronchitic asthma, derived some slight benefit, but a genuine hysteric paroxysm occurred and lasted several h. The same thing happened again and again, a species of choreic jerking accompanying the paroxysms; so that at length it was left off. (Similar effects followed even its external application for pediculi.) The experiment was now tried of burning a few gr. of S. n. and m. At first the patient liked it, and found it relieve her chest; but in a few d. I was hastily summoned, and found my patient labouring under the depressing effects of hysteria. (MORRISSON, *M. H. R.*, xiii, 159.)

4. We take as a type of sulphurous mineral waters those of the Eaux Bonnes in the Pyrenees. The elective action of these waters on the respiratory apparatus is incontestable. It is rare that after three or four weeks of their use patients fail to experience a sensation of acrid burning in larynx and isthmus faucium, a dry, choking, peculiar cough, with constrictive irritation at the entrance to the air-passages, a little dyspnœa mingled with feeling of weight and contraction of thorax, wandering pains in the walls of the chest, especially under the clavicles, and so forth. Catarrhs are frequently set up, and

slight and transient hæmoptyses are not uncommon. (Trousseau et Pidoux, *op. cit.*)

5. *a.* Towards the middle or end of the treatment of phthisis by the Eaux Bonnes the patient complains of more frequent, drier, and more painful cough, with feeling of heat and burning in the throat, and at the same time of pain in the body and drowsiness. Sometimes the humid râles are superseded by dry souffles, as if the secretions of the small caverns were arrested. At the same time respiration in the unimpaired portions of the lung assumes greater energy, and denotes this by a vesicular murmur, which is stronger, more strident, and much like puerile respiration. One would say that the contractile element of the bronchi is increased, that their tonicity is enhanced, and that there exists, as it were, a spasm of the last bronchial ramifications and pulmonary alveoli. The Eaux Bonnes may go so far as to create artificial asthma.

b. There is no doubt that the Eaux Bonnes may bring on spitting of blood in phthisical subjects, since they are capable of producing the same result in individuals whose air-passages are quite unimpaired. (Leudet, *Practitioner*, xi, 111—113.)

6. The following pathogenetic effects of the Harrogate sulphurous waters were collected from self-provings; from information given me by persons of both sexes who had drunk the waters and bathed in them, experiencing certain of their effects; and, lastly, from others who were under treatment for various ailments, which were more or less aggravated by their abuse.

a. Nervous system.—Temporary loss of sensation of one or more of the extremities—semi-lateral in some persons; temporary loss of motion of one or both legs in others—of one arm in a little girl, from bathing twice during the d., 1 h. at a time; irritability of temper; low spirits; discontent; aversion to society, dissipated by motion in open air.

b. Cephalic region.—Pressive semi-lateral pain; heaviness of whole head; vertigo on motion; giddiness with nausea. Inflammation and agglutination of lids in m., with heat in eyes, which water when open, and prick, conjunctiva reddened. (Being myself subject to a chronic relapsing ophthalmia, contracted in Africa five years previously, from which I was apparently free, it made its appearance on the 8th d. of a course of 6 oz. of the water taken twice daily. It was relieved by using same water, much diluted, externally. It also reproduced deafness in two persons who had suffered from this affection temporarily, with buzzing in ears and itching in meatus—relieved in open air.) Erysipelatous inflammation of nose, presenting a superficial shining, similar to that of drunkards, which disappears out of doors; eruption of red spots like measles on face, aggravated by sun and wind. Bleeding from mouth in plethoric persons; dryness or clamminess of mouth and throat; thirst; dry tongue; roughness of palate; metallic or sweet taste; thick saliva.

c. Throat and chest.—Roughness of larynx and bronchi; hoarseness; difficult expectoration; greyish bloody sputum in persons of sanguine temp.; cough in a warm room, with dyspnœa. Decreased

secretion of milk in nursing women. Red spots on chest; stitching pain in r. chest, increased by respiration; anxiety and asthmatic feeling after a substantial meal, and on running upstairs or other bodily exertion; oppression of chest after mental labour. All these symptoms aggravated indoors, and relieved by standing or walking opposite the wind.

d. Abdominal region.—Slow and weak digestion; fulness of stomach; want of appetite; putrid taste in m.; nausea; shooting pains in liver; relaxed bowels with watery stools when water is taken warm, tenesmus and costiveness if it is drunk cold; colicky pains; tightness across abdomen; feeling of distension after a meal, however frugal; diarrhœa,—bilious, with pain in stomach, in pregnant women, flocculent in old people, frothy in nursing children whose mothers take the waters; itching of anus, with enlargement of veins.

e. Genito-urinary organs.—Pain in glans; itching in urethra; painful urination, with flocculent sediment; excessive sexual desire; involuntary emissions; enlargement of testes; swelling of labia and clitoris; menstruation late, scanty, of short duration, painful, the flow pale, watery, or viscid.

f. Circulatory system.—Accelerated heart; pulse irregular and wiry after a meal, and after active exercise; cerebral congestion; apoplexy. (Dr. Kennion states that this last is no uncommon effect of unmeasured drinking of the waters.)

g. Skin.—Red spots all over body, resembling flea-bites; eruption of little pustules on head and arms, with violent itching; pointed vesicles on fingers; patches on chest and abdomen, some on face, some on nose, very red—all aggravated by heat and in close apartments, relieved in open air.

h. Muscles, &c.—Shooting pains in different regions of body, with rigidity of affected part, dispelled by friction and slow motion; wandering pains in extremities, lasting but a short time; erratic numbness in l. thigh; torpor in arms with stupefaction of sensorium, aggravated by high winds and change of temperature, by rain particularly and thundery weather; pressive pains in sciatic nerve, from hip downwards; rigidity of r. thigh; contraction of r. knee and foot for short time; gastralgia; violent pain, of short duration, in nerves of face, at zygomatic process principally; contraction and drawing at nucha.

i. Lymphatic and glandular system.—Enlargement and induration of thyroid gland, with burning sensation, which disappeared from friction. Induration of breasts in a nursing woman; painful sensation in glands of neck, which are swollen and knotty; shooting pains in liver.

j. Fever.—Real fever was not observed in any of the provers. Some had erratic chills, following a sensation of heat in the evening, which passed off by keeping indoors and drinking something warm; whilst others had creeping shuddering without chill, no thirst, no sweat. A woman who had bathed in one of the cold water springs for several d. had a very mild quotidian fever; she got well in 2 d. under Cedron 3. (CASANOVA, *Brit. Journ. of Hom.*, xxi, 354.)

7. Some dark coloration and much irritation of the skin may occur

from the internal use of S. I have seen a red papular eruption from it, and also occasionally boils and carbuncles. The waters of Harrogate, Barèges, Aix-la-Chapelle, &c., have been known to produce such effects. (PHILLIPS, *op. cit.*)

8. After using warm S. baths for several d. there is produced an eruption of small, red, acuminated, pruriginous elevations, and of red spots, which appear first upon the limbs, but soon spread to nearly the whole surface of the body; a febrile movement, with thirst and loss of appetite, is developed; sleep is restless, urine cloudy and muddy. In 1—2 weeks these symptoms disappear in the order of their coming, the epidermis separates in branny scales, but the skin continues to itch for some time longer. (RAYER, in Stillé, *op. cit.*)

9. a. By means of the 30th dil. of S., given in doses of 2 globules every m. for a week, I have developed the most intense stomatitis.

b. A young man, who had never experienced any chest symptoms, took m. and e. ʒ dr. of the 30th as an antidote of merc. corr. On the 4th n. he was seized with an attack of convulsive dyspnœa, exactly similar to angina pectoris. This attack was reproduced on 3 successive n.

c. A violent sore-throat, with swelling and redness of tonsils, pain in throat and dysphagia, and bronchitis, with frequent coughing and dyspnœa, agitation and sleeplessness, occurred in a young man to whom I had given the tinct. during several consecutive d. (ANDRIEU, *M. H. R.*, i, 300.)

10. A woman, æt. 36, of nervous temp., took Sulphur 30 for neuralgic pains. She reported that she had received much relief from the medicine, but that it had acted somewhat too powerfully upon her, having brought on violent purging and tenesmus a few h. after she had taken the third teaspoonful, which continued throughout the greater part of the following d. On two subsequent occasions a similar result followed the medicine, though blank powders interspersed were without effect. (LAURIE, *Brit. Journ. of Hom.*, iii, 92. "I have repeatedly observed the above effects," adds Dr. L., "in extremely susceptible patients after the administration of S. at various potencies.")

III. *Experiments on animals.*—1. Benk found that in dogs S. occasioned anorexia, thirst, and diarrhœa. Temp. at first was raised, but afterwards it fell below natural standard; at first, too, pulse was more frequent, but subsequently became slower than usual; there was also embarrassed breathing, slight general trembling, convulsions, and sudden death. The effects of S. upon cats were nearly the same, but with the addition of vomiting, general emaciation, debility, and coma. After death, stomach and intestines were found very much injected. According to Hertwig, large doses augment the secretion of intestinal mucus and procure abundant and semi-fluid dejections, but do not destroy the appetite (which smaller doses even stimulate). Very large doses are said to cause inflammation of the gastro-intestinal mucous membrane, which, however, is superficial, and unattended with any violent symptoms. (STILLÉ, *op. cit.*)

2. Three dogs which I had placed, at the same time and in the same conditions, under the influence of the tinct., had all from 3rd to 4th d. paroxysms of cough, which were reproduced at once by pressing on larynx or trachea; from 4th to 5th d. dyspnœa in addition to the cough, which itself became more intense; on 6th traces of crepitus at bases of both lungs, violent fits of coughing, taciturnity, dulness, prostration. In course of 3 following d. there was at first an increased

intensity of the crepitus; which afterwards, however, quickly disappeared, and recovery from this artificial disease ensued, notwithstanding the continuance and even increase in dosage of the drug. (ANDRIEU, *loc. cit.*)

Sulphur iodatum, iodide of sulphur, S_2I_3 .

1. *Provings*.—1. Some years ago I happened to take 10 dr. of tinct. of iodine. It was soon followed by symptoms of influenza, which I did not at the time attribute to the action of the drug. Some d. later, however, on repeating the dose, the same symptoms recurred—coryza, headache, febrile excitement, difficulty in expanding chest in inspiration, with prostration of strength. Some years after, I took 2—3 gr. of an iodide of sulphur, roughly prepared by myself, and similar symptoms occurred. This led to the proving whose details I subjoin. (KELSALL, *Monthly Hom. Rev.*, ii, 154.)

2. a. A. J. P.—dark hair, thin delicate constitution, pale complexion, rather sensitive to medicinal influence. “April 6th, 1850, I was employed in preparing the 1_x trit., and during the process I felt a boring pain, as if at the heart, and some dyspnœa. The same e. symptoms of catarrh set in; I felt faint and sick; sides of head ached, with sensation as if head were pressed in a vice. Next m. I had in addition burning tickling pain in r. nostril every time the pocket handkerchief was used; at the same time I perceived a strong odour of iodine. I had also sense of dryness in trachea; thick hard clots of mucus collected about top of windpipe, difficult to detach, causing much tickling and irritation of larynx, with cough. Headache continued. On the 8th I prepared the 2_x, and on the 9th the 3_x trit. My symptoms were now worse. I had palpitation of heart; felt sleepy in daytime and restless at n.; bowels were constipated, eyes dim, lids heavy; there was throbbing of temples, shooting pain on vertex, constant disposition to swallow saliva—throat and gullet being parched (the doing so did not allay the dryness); felt thirsty and feverish; pain under l. shoulder; inclination to take deep inspirations and to expand chest; ardor urinæ; thick green mucus formed in nostrils; pustule on upper lip; erythema on chin. Odour of iodine was still present. The above symptoms were very severe for 4 d., but gradually decreased from the 5th d. till by the 14th—16th they had disappeared. (On the 5th d., after smelling the 1_x trit., a burning sensation was immediately felt in the nostrils, with a very strong odour of iodine. This lasted $\frac{1}{2}$ h., and left dull headache over eyes and at vertex. Three weeks afterwards I smelt at the bottle containing the 4th dil., and a recurrence of the feelings in throat and head ensued.)” (*Ibid.*)

b. Mr. P—subsequently wrote out his symptoms in fuller detail and schematic order, as follows.

Sleep.—Drowsy in daytime; unrefreshed by sleep at n.; confused dreams; waking in fright; sleeping with mouth open.

Fever.—Dry heat; thirst; occasional chills.

Morale.—Apathy and inaptitude for business; dread of exertion; unsteadiness of ideas; anxious and doubtful.

Head.—Headache as if head were compressed in a vice at sides;

soreness of vertex ; shooting and throbbing of temples when stooping ; frontal headache ; soreness of scalp ; hair feels as if erect ; head feels swollen.

Eyes.—Sight dim ; lids feel heavy ; inclination to close eyes, as if to press out tears.

Ears.—Itching, tingling, buzzing.

Nose.—Itching and soreness ; burning pain ; yellowish and green mucus secreted ; acuteness of smell ; flow of acrid serum from nostrils ; excoriation of nostrils.

Face.—Erythematous breaking out on upper lip, with yellowish pustules, painful, sore and tender, quickly disappearing in dry scales ; face dry, hot, and of yellowish colour.

Teeth.—Feel soft to tongue and are coated with dark fur.

Mouth.—Parched ; bitter taste ; tongue dry and hard, furred at root, red at point.

Appetite.—Anorexia ; desire for acids, pickles, lemonade.

Throat.—Uvula and tonsils slightly enlarged and reddened ; drawing creeping sensation at back of throat ; accumulation of dark purulent mucus in windpipe, causing continual inclination to swallow saliva, which does not moisten it ; mucus removed with difficulty and by violent hawking, coughing and straining ; throat dry and painful to touch, feeling as if swelled, sore in m. ; tickling in larynx.

Stomach, &c.—Soreness and sinking in epigastrium ; constipation ; itching in rectum.

Urine.—Smell as of raspberries ; frequent micturition, especially in m. ; ardor urinæ ; itching in urethra.

Thorax.—Tightness across chest ; inclination to take deep inspiration, leaving fluttering sensation ; palpitatio cordis ; sense of heat in region of heart, much worse on awaking in m., when stooping or leaning forward, running, or ascending stairs.

Trunk.—Pain and soreness under l. scapula ; weakness of spinal column, with pain in loins as if bruised.

Legs.—Aching with feeling of weakness ; tingling in calves and feet ; soles of feet burn and ache, and are sore when standing ; weakness of knee-joints ; trembling and aching of ankle-joints. (*Ibid.*)

3. An elderly military officer, of somewhat shattered constitution, but remarkably sensitive to attenuated medicines, one Thursday dissolved a gr. of 3rd trit. in 3 spoonfuls of water, and took one spoonful an h. before breakfast. Singing in ears commenced 5 m. afterwards. An h. before dinner took second spoonful, and same disagreeable sensation came on, accompanied by feeling of tightness above eyes, as if a band were drawn tightly over the forehead. Both symptoms were increased on taking last dose on going to bed. Much troubled with cough during early part of n., with nasty taste in mouth and foetid breath. On the Saturday he dissolved 2 gr. and took it in same manner. The first spoonful produced singing in ears as before. The second did the same, with greater feeling of tightness over forehead, increasing to dull heavy pain. "After third symptoms became much aggravated, with feeling of soreness in throat, accompanied by a whistling noise ; also sensation of heat about pit of stomach, which increased to such a

degree as to become quite painful, extending over chest, and giving me all the feelings of an attack of bronchitis, with nasty cough, expectoration, fœtid breath, perspiration, &c.; eyes also watered a great deal. In about an h. I fell asleep; and in m. eyes were bleared, particularly l. one. Throat still continued sore, but was relieved by expectoration.

"After the 1st d.'s experiment," prover writes, "my arms became covered with an itching rash like nettle-rash. At present I feel debilitated, as if I had had influenza." (*Ibid.*)

III. *Experiments on animals.*— ζ ij of freshly prepared and pulverised Sulph. iod. were given to a terrier bitch of moderate size. No vomiting was observed to follow. Next d. the animal showed no marked sign of depression, save that she refused to take her food. The whole of the 3rd d. was spent in the recumbent posture, the animal evidently labouring under great lowness of spirits; on the 4th d. she could not support herself properly on her legs, and eyes were dry and glassy. On 5th and 6th d. voluntary power was gradually restored. On 7th, for first time since 2nd, she took some nourishment, and thenceforward improved till by 12th d. no faculty appeared to be defective. Alvine dejections during above period were few, hard, and scanty. (COGSWELL, *Iodine and its Compounds*. 1837.)

TABACUM.

Nicotiana Tabacum, L. Tobacco. Nat. Ord., *Solanaceæ*.

I. *Provings.*—1. LEMBKE from Feb. 4th to 28th took repeated doses of tinct. of from 5 to 20 dr. The only effect noticed was smarting and scraping feeling in tongue and fauces soon after each dose, lasting for nearly 1 h. Also soon after taking each dose heat of head and face, burning of cheeks. Occasional feeling of sickness. During the whole proving had occasionally, not often, pains in several joints and long bones at various times of d. and n., and he had one or two (once three) soft stools, sometimes even diarrhœic, every d. He also tested the aq. nicotiana (Rademach.), but though he took as much as 270 dr. in 1 d. he observed no effect. (*N. Z. f. h. Kl.*, xii, 97.)

2. S—, medical student, æt. 24, was not a user of tobacco or coffee. In 10 d. took ζ j tinct. and in 8 d. ζ ij tinct. He had heat in fauces, constrictive pain in larynx, increased appetite; nausea rising up from precordial region, borborygmus in transverse colon, increased flow of urine of reddish colour and ammoniacal and fœtid odour; hoarseness, discrete papulous eruption on face, itching on thighs, pulse slower and full, pressive pain from occiput to temporal bones, tendency to vertigo, occasional feeling of heat throughout whole body, great lassitude and prostration of body, somnolence, sleep disturbed by frequent waking; morose and disinclined for work. (RIEMSCHEIDER, *De Herba Nicotianæ*, 25.)

3. S—, medical student, æt. 23, did not use coffee or tobacco. In 8 d. took ζ ij tinct. He had burning pain in fauces, increased appetite, eructations, urine more copious and frequent (passed once at n. involun-

tarily), nocturnal emissions, slight irritation in upper part of trachea with tickling sensation, followed each time the medicine is taken by hawking; pressive pain in forehead, slight lassitude and uneasy dreams. (*Ibid.*, 26.)

4. K—, medical student, æt. 25, abstains from tobacco. Took in 10 d. $\mathfrak{z}\mathfrak{j}$ tinct. He observed scraping and burning feeling in fauces, stools more frequent and loose, urine more copious, full; pulse quick, full, large; head confused more or less for 3 d., restless sleep, wild dreams, followed by great lassitude, moroseness, and disinclination for work. (*Ibid.*)

5. K—, medical student, æt. 24, addicted to smoking and drinking beer and coffee. In 8 d. took $\mathfrak{z}\mathfrak{iv}$ tinct. He had sensation of scraping and pressing in pharynx and larynx, oppression in epigastrium, feeling of heat in stomach, nausea, retching, more frequent stools, which are of a pasty consistence (usually had a stool every other day) with itching at anus, urine not increased in quantity but passed more frequently, and once dribbled away involuntarily, with slight itching in urethra, pressive and formicating sensation in Schneiderian membrane; oppression of chest with anxiety (such as used to precede attacks of fainting which he had when a child), slight horripilation, general lassitude and laziness, which went off on the occurrence of copious sweat all over body, accompanied by slight tremor of limbs, drawing pains throughout the body, pulse small, hard, quick; dull pressive pain deep in frontal region, pressure on eyes, moroseness and disinclination for work. All the symptoms went off in 1 h. except the confusion of head and pressure on eyes and stomach. (*Ibid.*)

6. S—, medical student, æt. 22, accustomed to smoke and drink coffee. In 8 d. took $\mathfrak{z}\mathfrak{ij}$ tinct. Symptoms: scraping, burning and heat in pharynx, œsophagus and stomach, slight oppression in epigastrium, which symptoms soon went off, nausea, retching, stools softer but not more frequent, urine pale, increased, had to pass it several times at n., almost amounting to incontinence of urine; pustular eruption on neck and upper extremities; pulse small, quick, irregular; feeling as if the anterior lobes of the brain were equally compressed from frontal region backwards, moroseness and indisposition for work. (*Ibid.*, 27.)

7. G—, surgeon, æt. 28, accustomed to snuff and to drink coffee. In 10 d. took $\mathfrak{z}\mathfrak{ij}$ tinct. Symptoms: heat in fauces, appetite increased to voracity, with great thirst; slight catarrhal affection of tonsils; stools increased and pappy or sometimes slimy, preceded by flatus; urine much increased, once at n. burning and tickling pain in urethra, nocturnal emission, respiration freer and lighter, increased cutaneous turgor with violent itching, slight general perspiration, papulous eruption, wounds and scratches on skin burn, inflame, and are long of healing; pulse normal, head very confused, pupils greatly contracted, feeling of malaise, great lassitude of body, restless sleep disturbed by anxious dreams, great moroseness and disinclination for work. (*Ibid.*, 28.)

8. E—, medical student, æt. 26. In 14 d. took in increasing doses $\mathfrak{z}\mathfrak{v}$ tinct. Symptoms:—roughness and scraping in fauces, flow of saliva, increased appetite, followed by nausea, retching, borborygmus, colic, increased and more liquid stools, increased urine, the discharge

of urine often preceded by pressive pain in renal region and itching in urethra, cutaneous turgor increased with itching and slight sweat, pulse slow, small, great confusion of head, pressive pain in forehead as though the brain was pressed against the skull there, pain increased by leaning the head to that side, pupils contracted, constant feeling of malaise, great lassitude and relaxation of whole body, sleep disturbed by disgusting dreams, moroseness and great disinclination for work. (*Ibid.*)

g. SEIDEL took tinct. in various doses.

a. 10 dr. Some stitches in l. ear after a few m. When swallowing food pressive pain in lower part of œsophagus after 3 h. Burning in throat and mouth immediately. Inclination to vomit and eructation, soon. The stool, which usually occurred m., not till e. and harder than usual. Dull pain in middle of spine with bruised feeling of body, especially upper extremities. Pain in loins and sacrum, especially when sitting. Throbbing pain in sacral region. 1st d., e., general relaxation of whole body with sore feeling and warm palms, soon. Feeling of increase of strength in muscles without the slightest wish to move soon. Pulse quickened.

b. 20 dr. Dazedness and bruised feeling of body, soon. Boring in eyes on reading, e. Drawing in ears, increased by loud noise and by going into open air, lasting several d. Roaring in ears, especially m. for several d. Ears feel as if stopped up, especially r. 3rd and 4th d., pressure and flow of saliva, soon. Spasmodic pressure in mouth and stomach, soon. Pressure when eating in mouth of stomach after 2 h. Cramp in single fingers after 2 h. and when washing, 2nd, 3rd, and 4th d. Increased heat, especially on palms, after a few m.

c. 30 dr. Very hypochondriacal humour 1st d. After dinner dull headache, especially in forehead, increased by movement. Weak, trembling movement of hand when reading after $\frac{1}{2}$ h. Twitching in l. upper eyelid after 1 h. Pressure in eyeballs after 2 h. Repeated eructation after $\frac{1}{2}$ h. Slight pressure in scrob. cordis during and after dreams. Pulse 10 beats quicker and fuller, soon. Stool after 30 h. harder and darker than usual. Urine clear, lemon coloured and more copious. Throbbing pains above and in l. gluteus, 1st d. Increased heat externally and disinclination to the slightest occupation, soon.

d. 40 dr. Vertigo and no steadfastness in body. Confusion of head and dull pressure out towards root of nose, and feeling as if ears were stopped up. Violent pains in head, especially drawing in l. half of forehead and through l. eye. A transient feeling through middle of face as if the parts were dead, after 8 h. Tensive pain in submaxillary glands with feeling as if they were swollen and the lower jaw deprived of its motility, soon. Pricking in tongue, soon. Flat taste, m. Eructation. Repeated twitching movement in scrob. cordis with inclination to vomit, lachrymation, and flow of saliva for $\frac{1}{2}$ h. Rumbling in colon and desire for stool. During dinner some stitches under r. short ribs with tightness of chest. Pain and pressure on r. gluteus, 2nd d. Pain and tension in nates and muscles of thigh as after a long walk, 3rd d. Feeling as if the blood circulated quicker and stronger in body, soon.

e. 60 dr. Violent digging drawing pains in eyeballs and temporal

regions, increased by movement, with distended blood-vessels and throbbing in them. Burning in throat and mouth, immediately. After several ineffectual efforts to stool a hard evacuation several h. after usual time. Intolerable sacral pains felt both in sitting and lying. Violent rigor with inclination to stretch body, 1st d., e. Before midnight profuse sweat, as if soaked with water, with odour of tobacco. (*A. h. Z. xii, 150.*)

10. A girl took 5 dr. tinct. Immediately violent toothache with heat of face and giddiness. Slight burning in gastric region and repeated eructation. Frequent urging to urinate. (*Ibid.*)

11. A young married woman took 2 dr. Violent, persistent throbbing pain in several hollow teeth. Periodical sensation of a plug in oesophagus with persistent dull pressure there. Nausea and eructation, which causes relief to oppression in scrob. cordis. No stool for 2 d., usually every d. (*Ibid.*)

12. SCHRETER proved tobacco of Havana cigars 4 doses and number of proverbs not stated.

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a. After 2 m. shooting in l. temple. After 3 m. severe pressive pain in crown. After 4 m. urging to stool with frequent tenesmus in rectum. Rigor with yawning and stretching arms. After 5 m. giddy and staggering. Pressive pain over eyes. Heat of eyeballs. After 7 m. contraction of eyelids with smarting pain in eyeballs. After 10 m. shooting and tearing in r. hand. After ¼ h. vertigo; the room seems to turn round in a circle, and he dared not rise from his seat, fearing to stagger. Pressive contraction in temples. Burning in stomach. Shivering all over body. After ½ h. severe vertigo. Pressive pain over eyes, with flickering before eyes, worse when walking. After 1 h. pressive pain over eyes, with heat of head. After 1½ h. pain in both sides of head as if broken on wheel. Drowsiness. After 2 h. great nausea, almost to fainting, which goes off in open air. After 3 h. cold sweat of hands.

b. First d. After inclination to vomit, great apprehensiveness with oppression of chest and very sad humour, as if she anticipated some misfortune, relieved by weeping. Very morose, cross, and laconic. She is very cheerful and gay, dances about on one leg, and laughs without cause almost all d. Vertigo as from intoxication. Heaviness in head, can hardly hold it up. Great heaviness and pain in nape, so that he must take off his necktie. Pain in r. parietal bone when pressed upon. Pressure on crown as if a band were pressed on it. Immediately after eating severe internal pressure in crown. In temples alternately pressure and shooting. Shooting above r. eye over outer border of eyebrow to inner and into orbit. Shooting in l. temple. Drawing shooting pain from l. temple over forehead to crown. On walking quickly shooting pain from l. parietal bone to occiput. Heat of head. Much congestion of blood and flying heat of head. Contraction in parietal muscles. The eyes smart as after long weeping. Stiff tension and drawing from l. eye down upper jaw. A kind of burning, at same time cold feeling in l. eye. Orbits heated, contraction of eyelids and lachrymation. Dimness of vision as from mucus. Flickering before eyes. More black spots seen than usual. Prickings in upper part of orbit. Shooting in ears. The ears are burning hot and red. Flushing of heat in face. R. cheek hot, l. pale. Heat and redness of l. cheek, e. When reading cannot emphasize; he reads in a drawling way unlike his usual. Dry throat. Hawks up mucus. More appetite than usual. Very little thirst. Frequent empty eructation. Frequent eructation with taste of food. Frequent eructations, nausea, and inclination to vomit. Hiccup. Nausea and pinching in belly. Sick, with pressure in stomach. Easy vomiting of sour liquid. Feeling as if stomach would turn over. Qualmishness in stomach. Frequent stitches in hepatic region below last ribs, e. Pricking as with a needle in liver, increased by breathing. Pressure in hypochondria. Pinching in bowels. Rumbling and pinching in belly, as though diarrhoea would come on. Bowels not opened. Stool at unusual time and thinner than usual. Erections towards m. Fluent coryza lasting 4 d.; shooting under sternum with inability to breathe deeply. On breathing stitches in side and chest, and at same time weakness of

head as if drunk, and flickering before eyes so that he cannot recognise people at a distance. On breathing deeply, as if the intercostal muscles were cut from before to back, worse when touched; tears flowed from eyes with the pain. Pulsation under r. shoulder. Pain in arm on raising it. Tension in l. arm, especially in elbow. On turning forearm drawing pain in elbow-joint. Weakness in hands. On bending knee shooting; when at rest, pressure. Knees crack when walking. Paralysed feeling in r. foot. Cramp from toes to knee. Great weariness and trembling in hands and feet. Great weariness as though the feet were paralysed, can hardly go upstairs, worse a.m. than p.m. Towards e. weakness, and when he moves a part immediately rigor and coldness between shoulders, at same time giddiness and shooting in temples, forehead, and crown. Dislike to all work. Trembling of hands. On both cheeks under eyes small elevations only perceptible to touch. Much yawning after dinner. Drowsy a.m., fell asleep for a short time. Yawning and sleepiness after dinner. Wakes up repeatedly at n. Starts up out of slumber. Dreams that she wants to talk but cannot, on account of tongue being too big, which hangs out of mouth and reaches to nose, she wanted to cry out but cannot, weeps about it, and is quite inconsolable until she wakes up in great anxiety (a kind of nightmare). Anxious dreams of fire. Cold feet. Chilliness and shivering in open air. Goose-skin all d. Immediately after eating shivering that lasted almost all p.m., and often alternated with heat without thirst; during the chill always perspired under arms. Shivering all over body with transient heat. While the body is hot the legs are cold. Heat and dry feeling increasing every minute. Night sweat.

c. Second d. Disinclined for work. Cheerful and gay. Great vertigo. Vertigo as from intoxication. All p.m. pressive headache, especially over r. eye. Stitches from forehead to occiput, went off when in open air, but if she stood still it came on again, went off on lying down. Some stitches in temples, severe headache when moving, something seemed to shake in head, better when at rest m. Heat of head. Formication over l. temple. Pains in eyes and flashing before them on looking at an object. Cornea red, some photophobia, when she looks at the light must close the eyes. Eyes water when looking closely at an object. Objects seen less distinctly than usual. Shooting in ears, especially in open air. As if something lay before ears. Very powerful keen smell, m. Bad insipid taste, as when stomach is disordered, m. Pressure in throat as if something were sticking in there. Scraping in throat all p.m. Dry throat. Throat so dry and scrapy she can hardly swallow. Hawks up grey mucus, m. Very little thirst. Loathes water. Hiccup. Nausea on rising, m. Nausea with shooting in l. temple. Inclination to vomit. Spasm in stomach. Relaxed feeling in stomach with some nausea. Violent stitches above scrob. cordis, better when at rest. Frequent purging. Erections without voluptuous sensation. Discharge of some drops of a fluid like serum from vagina 14 d. after menses. Irritation to cough and scraping in throat. Dry cough. On breathing deeply chest feels too narrow. Pressure and stitches in chest. Burning and tension in skin of side of neck. Burning under scapula. Shooting and drawing in l. shoulder. On account of shooting pain in elbow could not extend r. arm quickly. Burning on side of sole as from red-hot iron, worst e. Constant inclination to stretch arms. Frequent itching like fleas on face. Corners of mouth sore. Much yawning for several d. Drowsiness in room, going off in open air. Hard to wake in m. Slept profoundly n. Cold feet. Complained of coldness and shivering in open air, m. Coldness with flushes of heat. All d. shivering and shaking, towards e. cold sweat in palms.

d. Third d. Anxiety with dismal melancholy thoughts when walking. Cheerful and gay. Compressive pain in whole head, especially occiput. Some deep stitches in head towards crown. Shooting in l. temple. Towards e. she became nearly blind for a few m., it was as if there was a veil before eyes, worse after rubbing eyes. Shooting in ears. Tickling in ears. Humming in l. ear. Very much impaired power of smell. Drawing pain in both angles of lower jaw. On laughing a shoot in maxillary joint. Drawing pain in upper teeth, which goes off on pressing on cheek. When she bites on a hollow tooth there is a shooting pain in it. Insipid slimy taste, m. Sour taste, everything tastes sour, water tastes as if mixed with iron. Very loud eructation all d., especially after eating. Sour, hot eructation, m. Vomiting of sour fluid and mucus, followed by great relief. Some stitches under l. short ribs. Great urging to stool with forcing as if the fæces were held back, and

yet the stool is soft. Frequent purging. Stopped nose. Dry cough. Chest oppressed, tight, cannot breathe deeply, with apprehension and anxiety, she cannot get rid of the idea that a misfortune is about to befall her. Pressure on sternum as if a weight lay there. Sore shooting in r. side of chest, worst when at rest. Great palpitation of heart. L. arm powerless and painful. R. arm feels sprained, especially in elbow-joint in which he feels painful stitches on every exertion. Cramp and formication in 3 first fingers of l. hand. Shooting in r. hip, e. Tension from knee to foot when walking. Formication in l. leg from knee to toes. Weary in thighs and feet. Itching as from flea-bites on arms and neck. Itching here and there on body, provoking scratching and then going off. Many papules on forehead, with itching relieved for a short time by rubbing. Itching papules on chest. Very sleepy, e. Could not sleep at n., nor wake m. Legs from knees to toes icy cold, at same time burning of thighs and great heat. All d. rigor and pressive pain between shoulders.

e. 4th d. She is as if stupid, cannot collect her thoughts properly. Great vertigo. Wakes with headache and a pressure in crown and temples almost all d. Pressure in temples for 10 d. Pressure in occiput. Repeated shooting in crown for 10 d. Shooting in ears. Very weak sense of smell; only wine is smelt from a great distance, so that she is almost intoxicated by a glass from which wine had been drunk that is standing in the room. Formication in nostrils. Drawing in gums. Dry throat. Loathes water. Great thirst, e. Heartburn from stomach up to throat. Shooting in scrob. cordis. Shooting under r. short ribs, in hepatic region. Pinching in bowels followed by scrapy pain in stomach. Pinching and rumbling in belly for 12 d.; no stool for 3 d. after this. Immediately after dinner purging and discharge of flatus. Purging with pain in belly. Purged 3 times with sore pain at anus. During stool, tenesmus and great pain in sacrum, though the stool was soft. Repeated sneezing, after which her head became much freer. Fluent coryza with acute smell. Dry cough, e. On breathing deeply shooting under sternum. Shooting in r. side of chest, when speaking. Shooting in chest on breathing deeply. Great palpitation of heart. Shooting in r. scapula. Contractive sacral pain, especially after stool. Drawing pain on a spot the size of half a crown on l. arm, as though an ulcer would come there. Shooting in houghs. Twitchings in whole body with pulsation in head and palpitation of heart. Immediately after dinner she became sleepy and slept 1 h., could not waken up thoroughly till she got severe palpitation of heart. Coldness and shivering, e. Internal coldness with hot face, hands sometimes cold, sometimes warm, sometimes sweaty, no thirst.

f. 5th d. Vertigo with sinking in stomach. Pressure in occiput. Stitches in l. side of head. Much hair comes out on combing head. Heat of eyes with lachrymation. Shooting in ears from music. Dry throat. Bellyache, m. Cutting around navel. Pressure under sternum. Drawing, lame, spasmodic pain in r. hand up to elbow. In r. iliac region feeling of powerlessness. Lame feeling under knee, as if gone asleep. Red itching eruption all over back. Small itching vesicles, with red areolæ and secreting a yellow fluid, which are sore to touch. Chattering of teeth from coldness. Body hot, hands icy cold.—6th d. On waking, m., pressive pain in parietal bones, going off on rising. Much hair comes out on combing head. On touching external ear pains internally. Shooting in ears; shooting behind l. ear, with a hard red swelling there. R. cheek glowing hot, l. pale. Sour taste. Spasm in stomach. In toe-balls of l. foot acute pain so that he cannot tread properly.—7th d. Headache as if both temples were compressed, e. Shooting in scrob. cordis through to back. Shooting in hypochondrium. Dry cough. Rigor almost all d.

g. 8th d. Burning in head, followed by formication there, anorexia, violent shoots in ear, lastly coldness and rigor. Pressure in r. eye extending to occiput. Cracked painful lips. Violent drawing tearing pain in upper teeth going into forehead. Swollen gland under tongue, painful when touched. On hawking up mucus, m., sickness with flat taste. Sour and slimy vomiting with considerable straining, m. Contractive pain in stomach after eating. Violent scraping in stomach after eating. Pain in belly as if about to be purged, e. Tearing in belly, n. Frequent urging to stool, m. After urinating, burning itching pain in urethra. Orifice of urethra somewhat inflamed and stuck together. Emission without waking, n. Discharge of prostatic fluid. Stuffed nose. Shooting in chest on breathing deeply. Stiff neck so that head could not be turned to r. side. Hands as if paralysed and

cold, then burning in them with swelling of finger-tips and difficulty of moving, at same time coldness and chilliness of body. Shooting in l. thigh, between shoulder and under sternum. Cramp in knee.—9th d. Shooting in ears. Much viscid mucus in throat. Drawing in thighs. Restless sleep, n., with coldness and tossing about in bed.

4. 10th d. Restlessness and anxiety, as though a misfortune were impending, p.m. Headache as if both temples were compressed, e. Burning below nose as from severe coryza. Upper lip rough and dry with burning feeling. Bitter taste. Spasm of deglutition. Nausea. First bellyache then violent spasm in stomach, great nausea and flow of saliva. Pain on pressure in hepatic region, spreading through to scrob. cordis. When walking stitches in liver extending to scrob. cordis. Shooting in hepatic region relieved by stooping, cannot straighten himself on account of it. Shooting in hypochondrium. All p.m. while walking severe and incessant borborygmus in belly. Cough and hiccup together, as though she should be choked, for $\frac{1}{2}$ h. Great constrictions of chest. Gets thin, especially in back; her cheeks also are thinner. Red spots on r. shoulder which burn when touched.

i. 11th d. Staggering on rising, m. During stool tenesmus and violent burning in anus. Horrible burning in knee, and on touching it feeling as if it were full of pins. Itching papules on sacrum, back, and fingers. Chilliness and rigor.—12th d. She sang all d. Indistinct vision for some m. Adypsia, cannot get water down. Nausea. Shooting in scrob. cordis. All m. dry cough with shooting in scrob. cordis. When at rest pain as if excoriated in chest. When she lay on l. side in bed, palpitation of heart,—going off on lying on r. side. Severe sore pain in r. mamma, with feeling as though its nipple were bitten off. R. arm as if paralysed, with cramp in it. She became emaciated, all her dresses are too wide. L. hand cold, r. hot.—13th d. Dry cough.—14th d. Feeling in r. eye as if a hair were in it, e.—16th d. Constant hunger, if she does not eat she gets sick, for 3 d. Fingers swollen for 3 d.

j. (No time stated.) Apprehension and anxiety for several afternoons, relieved by weeping. Apprehension for several e. Apprehension, anxiety and melancholy, as though she anticipated a death, at 4 p.m. for 2 successive d. After dinner, heaviness of head. Pressive pain on crown, sometimes with shooting. Rumbling in belly. On breathing deeply borborygmus in abdomen, for 8 d. Some formation in glans penis. He can breathe better when he leans over to l. side and against a support. The l. side suffers more than the r. Dreams that a tooth had fallen out. Every e. rigor of whole body. Transient heat after vomiting. (HARTLAUB and TRINKS, *R. A. M. L.*, iii, 100.)

13. a. NENNING.*—Soon: Sudden transient heat rises to head. Rough and scrapy in throat. After 5 m. painful gnawing in r. ear. Burning shooting externally in l. hypochondrium. Pain in sternum as if a knife were sticking there. After $\frac{1}{2}$ h. heaviness of head on stooping. Violent itching in r. inner canthus, after rubbing it burns. Shooting tearing in r. lower teeth. Suddenly a number of prickings in whole abdomen. Tickling in throat provoking frequent cough. Acute shooting in r. side of chest, near axilla relieved by inspiration.—1st d. Great gaiety and loquacity as if intoxicated. Great heaviness of head, it tends to sink forwards. Painful tearing in r. ear. Sudden burning in l. nostril. Wakes after midnight with tenderness in abdomen, so that she can hardly bear it to be touched, without internal pain; this was followed by soft stool, with cessation of the pain; the same happened at 4 a.m. The menses, which were 1 d. later, are more profuse than usual. Burning stitch under l. breast. Tearing down l. calf. Jerking tearing in dorsum of l. foot. Trembling of head and hands, with high spirits like intoxication, after a meal. Trembling or rather shaking of feet for a long time. Yawning and sleepy after dinner. Wakes before midnight but soon falls asleep again. Icy coldness of feet, could not get them warm in bed all n. From 5 to 7 p.m. chilliness, at 6 p.m. thirst.—2nd d. Jerking tearing in and outside r. ear. Painful drawing in r. side of lower jaw. Tearing in front of and behind r. ear. Inclination to vomit. Acute shooting in r. flank. In 2 h. 2 small soft stools, followed by internal sensitiveness of abdomen. Two small soft stools with straining for long afterwards, e. Two soft stools, n. Frequent urging to stool, and each time very little was passed, with some pain in belly before and after.

* Ng.'s provings, doubtless of the usual character, were made with the broad-leaved Hungary-grown tobacco.—EDS.

Tearing in tendons of l. forearm towards hand, and then in elbow. Often painful tearing in little finger.—5th d. Violent tearing in facial bones and teeth, e. Bitterness of mouth, on waking, m.—7th d. 5 diarrhœic stools at n. with burning and tenesmus in anus. Frequent rumbling of flatulence, with pain in belly, then diarrhœa with tenesmus, e.

b. (No time stated.) Apprehension, unhappy and pusillanimous, with nausea; she thinks she must die; this goes off after vomiting (after dinner). Low spirited, joyless disposition. She could not retain an idea, others always came into her mind, chasing out the first, with heaviness and oppression of head; this all goes off after vomiting (after dinner). On coming into room after walking in open air, vertigo with nausea and eructation, the nausea increased in warm room so that she must again go into open air, when she vomited her dinner. Vertigo round in a circle with pressive pain in forehead and temples. After dinner heaviness of head. Headache with vertigo. Dull pressive pain in forehead and root of nose. During dinner pressure in r. side of head. Headache with feeling of slight throbbing in both temples. Headaches relieved in open air. Pressive feeling in eyes, especially on moving them. Sight is lost when looking at a white object. Pressive feeling deep in orbits with weakness of eyes and vertigo. Tearing and pricking in r. ear lobe. Deathly paleness during nausea. Dryness of whole mouth with great thirst. Dryness of tongue and lips. Mouth full of white viscid mucus, which must often be spat out. Bad taste as after burnt milk. Sore feeling in r. side of throat. Formication in throat which is painful on swallowing. Tickling and rough feeling in throat. Viscid mucus in throat which cannot be got up. No appetite, loathes dinner. Appetite returns immediately after vomiting. Increased thirst. When sitting quietly pretty well, but the slightest movement causes horrible nausea. Vomiting of water only, during which it was green and yellow before eyes. As long as he sits still he can keep off vomiting, but when he moves vomiting comes on. Pressive feeling in stomach. After vomiting weakness of stomach for a long time. Cold feeling in stomach and along spine. Pressive sensation under r. short ribs as if a heavy round body lay there; the part is painful to touch. Pains in abdomen, which is distended. Pressive pain in umbilical region, with cramp-like retraction of navel. Violent pressive pain in hypogastrium with nausea and inclination to vomit, and chilliness of whole body, relieved by discharge of flatus. A painful pressive pain in renal region. Crampy pains in umbilical region. Digging and pressive feeling in umbilical region. Painful retraction of navel, especially when stooping. Rumbling in belly, with cold feeling all over body. A very quickly coming, almost irrepressible, pappy, greenish-yellow stool followed by tenesmus. Greenish slimy diarrhœic stools with tenesmus. Liquid very fetid stools, followed by tenesmus. After stool burning pain in anus. Increased discharge of yellowish-red urine. Dryness of nose. Oppression of chest relieved by deep breathing. Fine stitches in middle of chest into sternum. Many transient stitches from before backwards, increased by deep breathing. Quivering in a finger. Obtuse pressive pain in hip- and knee-joints. On rising from seat and commencing to walk pressive pain in lumbar region which went off on continuing to walk. Tearing externally in l. tibia. Pressive pain on l. ankle-joint. Violent pressive pains with restlessness of whole body and sweat of anxiety. Better in open air. Weariness and weakness of limbs. Trembling of whole body during nausea. Itching in r. hypochondrium. Great drowsiness. (*Ibid.*)

14. Dr. HAMMOND was not in the habit of using tobacco in any form. He made two series of experiments, one when a sufficiency of food was taken to keep up the weight and vigour of the body; the other when the aliment was insufficient.

a. Having first ascertained his normal averages for 5 d., for another 5 d. he smoked 150 gr. of T. (nearly two cigars) after each meal. As result, his weight increased an average of 0.7 lb., carbonic acid of breath 88.04 gr., free acid of urine, 4.93 gr., uric acid 5.88 gr., phosphoric acid 28.83 gr., and sulphuric acid 4.41 gr. On the other hand, aqueous vapour decreased by 299.46 gr., fæces .01 oz., urine 1.87 oz., urea 42.37 gr., and chlorine 23.04 gr. "The general effects upon my

system," he writes, "were exceedingly well marked. There was great nervous excitement accompanied by irregular action of muscles, more particularly of eyelids, mouth, and lower extremities, which lasted for about 2 h. on each occasion of using the substance. The mind, however, was clear, and there was no headache. These sensations were succeeded by a pleasant feeling of ease and contentment, which also lasted about 2 h. During the first part of the n. there was wakefulness, but this was always followed by a sound sleep, which continued till the h. for rising. The pulse was increased (from 85) to an average of 92 per m. The appetite was as good as usual. The perspiration was apparently diminished."

b. After allowing 5 d. to elapse, H— cut down his bread from 18 to 12 oz. daily, and his meat from 16 to 10 oz., in other respects conditions being same. After another 5 d. of observation without tobacco for same period he smoked as before. The loss of weight induced by the insufficient supply of food was lessened from the first and entirely overcome by the 4th d. Excretion of carbonic acid from lungs was not perceptibly affected. Amount of aqueous vapour was reduced 159·94 gr., fæces 1·92 oz., urine 1·51 oz., urea 62·54 gr., chlorine 15 gr. Free acid of urine was increased 3·03 gr., uric acid 4·52 gr., phosphoric acid 30·23 gr., sulphuric acid 8·35. The general effects on the system were almost identical with those previously observed. (*Amer. Journ. of Med. Sc.*, N. S., xxxii, 316.)

II. *Poisonings.*—1. A woman of 40, and 3 girls æt. 18, 18, and 12 respectively,* drank coffee the beans of which had lain among fragments of tobacco leaves, exposed for some d. in warm rainy weather. Hardly had the coffee been drunk, when *b* suddenly complained of vertigo, fell unconscious from her chair, and was convulsed. At the same moment *c* was attacked with vertigo, nausea, trembling of limbs, and inability to hold herself erect, but did not altogether lose consciousness; and *d* felt giddy, and vomited contents of stomach, after which she continued to feel languid and prostrate, with pale yellowish-grey complexion. The woman herself was but little affected, though she had drunk the largest quantity. *b*, whose health had generally been good, and who was of small stature and sanguine temp., was now lying on floor with flushed but cool cheeks, violently throbbing carotids, distended jugulars, eyes staring and drawn upwards, pupils dilated and fixed, injected conjunctiva, head bent backwards as if by tetanic spasm, slow breathing, slow, hard and full pulse (60), cold feet and finger-tips; she was generally quiet save that extremities were occasionally moved by clonic spasms, head remaining tetanically drawn. She was quite unconscious. Pressure on abdomen with flat hand seemed to excite the spasms. *c*, a stolid phlegmatic girl, sat on a chair supported; arms were hanging down relaxed, head inclining backwards; face had a dingy yellow colour; eyes were closed but could be easily opened; every now and then she trembled all over, half moaning, half groaning; pulse 100, of unequal strength, apparently full but really soft and large; carotids throbbed violently; resp. was hurried and anxious. She could just answer questions; and it was thus ascertained

* These will be described as *a*, *b*, *c*, *d* respectively.

that she felt violent palpitation with synchronous throbbing in head, buzzing in ears, dryness and scraping in throat, but no nausea or pain in stomach or bowels.

All made a good recovery. (*Frank's Mag.*, i, 107.)

2. *a.* An insane man, æt. 26, swallowed over $\frac{3}{32}$ ss of dry T. He was insensible and motionless, in complete resolution; resp. was feeble; pulse barely perceptible; pupils closely contracted. He was placed in a warm bath. After $\frac{1}{2}$ h. he had violent tetanic convulsions, and abundant alvine evacuations containing the *débris* of tobacco-leaves. The stomach-pump was used, without more than the slightest effect on the symptoms; but the pupils became dilated. The convulsive attacks were renewed, accompanied by vomitings and by mucous and bloody stools. Tetanic stiffness with trismus became more and more pronounced; pulse was always frequent, filiform, nearly imperceptible; heart-beats irregular. Pupils had again contracted and gave no response to light. These symptoms continued for about 7 h., and patient died in syncope.

b. P.m., 40 h. after death. Cadaveric rigidity very pronounced. Medulla oblongata and encephalic mass much congested, as were also liver and kidneys. Gastric mucous membrane showed on all its surface a number of ecchymotic spots; intestines were contracted, and their mucous lining vividly injected at places. Bladder was contracted and empty. Blood everywhere black and semi-fluid. (*SKAE, Ed. Med. and Surg. Journ.*, 1855-6, p. 643.)

3. A girl of 18, for constipation, took an enema of about \mathfrak{z} ij of common shag T. boiled in Oss of water. After $\frac{1}{2}$ h. she was seized with faintings and sickness, and fell into profound collapse. The face was pale, the skin covered with cold sweat. She vomited several times, had slight convulsions, and died $1\frac{1}{2}$ h. after the injection. The heart was found flaccid and empty. No redness in stomach or intestines. (*EADE, Lancet*, 1849, ii, 480.)

4. A woman of 23, affected with itch, prepared a decoction of 3 oz. of T. leaves with which she soaked compresses and wrapped them round arms and legs on going to bed. After 3 h. she felt a shudder throughout body, which was followed by nausea and violent vomiting, with spasms in extremities and even in muscles of back. These symptoms had continued from 1 to 4 a.m., when a physician arrived. Pulse was small and very frequent, face deathly pale; patient vomited pure blood in doctor's presence, and had vomited a large quantity of it before. There was no blood in fæces. The compresses were at once removed, and she was bled. After vomiting (of mucus only) 3 times she was soon restored; but had a weak stomach and no appetite for a fortnight longer. (*Frank's Mag.*, i, 784.)

5. A man and his wife applied largely, for itch, a decoction of 60 grm. of T. to 3 litres of water. This was at 8.30 p.m. They then went to bed,—the woman having experienced during the application some headache and vertigo. In $\frac{1}{4}$ h. symptoms of poisoning shewed themselves, and Dr. Blanchard was called. He found the husband in bed; his face pale, covered with viscid sweat; he was in a stupor from which it was difficult to rouse him; he complained of violent pain at

stomach, of excessive cold, and of frequent desire to micturate. Surface was of ochre colour; limbs trembled; he had cramps in various parts, making him cry out, and spoke deliriously. There was constant retching, vomiting, and dejections recalling by their aspect those of cholera. Pulse was small, slow, miserable. The woman was able to assist in attending on her husband. She said that she had begun to feel oppressed, stupid, benumbed, and then had been seized with vomiting and purging. Her husband, thinking her worse than himself, endeavoured to get up; but fell like a drunken man, saying that all went round with him. He managed, however, to call his neighbours to their help.

By means of coffee and other stimulants, and washing the skin, the husband was revived; but a measles-like eruption occurred in both. (BLANCHARD, *Bull. gén. de Thér.*, lxxvi, 525.)

6. Mr. HOWISON embarked on board of a sloop in one of the ports of Cuba. He went to sleep in the cabin, which was full of large packages; but was harassed by wild and frightful dreams, and suddenly awaked about midnight, bathed in a cold dew, and totally unable to speak or move. He knew perfectly where he was, and recollected everything that had occurred the previous day; but could not make any bodily effort whatever, and tried in vain to get up or change his position. "Four bells" was struck on deck, and he heard the sound (though rather, as it seemed, through their vibrating in his body than by the ears); and he was conscious of other things that occurred,—that he was not dreaming. At length he became totally insensible and continued so till an increase of wind made the sea a little rough and the ship began to roll: this roused him, and he contrived to get upon deck. His memory was totally lost for about $\frac{1}{4}$ h.; he knew that he was in a ship, but nothing more. While in this state he observed a man drawing water from the sea in buckets, and requested him to pour one on his head. On the seaman's doing so, all his faculties were immediately restored; and he acquired a most vivid recollection of a vast variety of ideas and events which appeared to have passed through his mind, and to have occupied him during the time of his supposed insensibility.

All this singular constitutional derangement had arisen from inhalation of the fumes of T.: the packages in the cabin were full of the narcotic; the sloop was laden with it. (*Foreign Scenes*, Edinb., 1825.)

7. During the burning of a tobacco manufactory at Toulouse a number of persons employed were overpowered by the smoke.

a. E. C—, soldier, æt. 23, was brought into hospital in a condition of complete intoxication, face dark red, sparkling eyes, strong pulse, laboured breathing, relaxed limbs, cold extremities. He recovered consciousness during the transport to the hospital, when he was bled $\frac{3}{4}$ vj. He was then instantly seized with horrible convulsions, stiffening of limbs, violent contraction of abdominal muscles, head drawn backwards, dyspnœa, distended blood-vessels in head. He recovered after 5 or 6 h.

b. A—, soldier, æt. 30, became insensible and motionless, respiration apparently gone, pulse small and slow, face reddish-brown, gr

contraction of jaws, yellow mucus in mouth, flaccid limbs, complete loss of animal heat, cold and blue extremities. After camphor frictions and other means, his breathing returned and became regular; he passed from stupor into the merriest intoxication. He talked all sorts of funny nonsense, accompanied by convulsive movements and spasms of face. The eyes became small and like to close. He then fell asleep and awoke next m. quite well.

c. W. C—, soldier, æt. 27, had been working all d. in unpacking the tobacco. Complete insensibility, loss of voluntary motion and respiration, pulse very slow and weak, contracted jaws, froth in mouth, face brownish red, imperfect tetanus, cold and blue limbs. He threw up a little whitish mucus, fell into a profound sleep, and awoke well next m.

d. Julia B—, æt. 30, had been exposed from 8 a.m. till 2 p.m. to the fumes from the half burnt wet tobacco. At first felt unwell; headache, constant cough with feeling of burning in larynx, great flow of watery mucus from nose, pain in stomach. Soon afterwards vertigo and cold sweat all over body. She tried to get away but fell down insensible and was brought to the hospital in this state: Loss of respiration, pulse hardly perceptible, cessation of brain functions, violet-coloured face, stiffness and coldness of limbs. On recovering her senses under treatment she complained of her stomach and made efforts to vomit—got tart. em.—and vomited slimy matter. The pain in stomach increased, frequent eructation, general convulsions with bending forwards of body and stretching of limbs, cried out with pain in stomach. Soon recovered under dry frictions. (CANY, *Rec. de Mém. de Méd.* ii, 379; in *Frank's Mag.* iii, 856.)

8. An infant of 7 d. old was given at 8 p.m. two tablespoonfuls of water impregnated with tobacco-smoke, which was strong enough to make tongue of mother "smart dreadfully" when tasted. At 9 it was found with entire system flaccid, pallid, eyes closed, comatose; pulse imperceptible and heart's action almost so; resp. spasmodic, deep, 6 per m.; deglutition almost impossible; temp. high. From this time till 4 a.m. stimulants were used externally and internally, with artificial respiration for 5 h. of the time; at end of which, patient having breathed spontaneously for 30 m., suddenly expired. *P.M.*, 28 h. later.—An unusual redness over entire surface. Ecchymoses about occipital and part of temporal regions. Lungs gorged with venous blood. L. auricle and ventricle filled with fluid blood; r. side empty. Membranes of brain highly injected with blood. (WEAKS, *Bost. Med. and Surg. Journ.*, xlvii, 461.)

9. The symptoms of mild poisoning by tobacco-smoking are—increased flow of secretion from eyes, nose, and mouth, with feeling of tightness in head as though a band were stretched round it, disturbance of vision, with tinnitus and vertigo. Palpitation and præcordial distress follow, and notably aching and feebleness of the arms. Then come nausea, eructation, vomiting, clammy sweats, voidance of contents of bowels, in fact, a state of general collapse. (WOAKES, *Deafness, &c.*, 879, p. 59.)

10. A man, æt. 42, laid a wager that he would smoke during one

afternoon 25 pipes in succession, though he was not accustomed to more than 3—4 per diem. He gained his bet, but after some h. he was seized with numbness followed by loss of consciousness, which did not return till after very violent and repeated vomiting. This was in its turn allayed by buttermilk; but for eighteen months after he had pains in head and vertigo which at times assailed him with great violence, and he took such a distaste to tobacco that the very sight of it made his head ache. (*Journ. de Méd.*, 1757, p. 68.)

11. May 24th, 1815, Mr. J. H—, æt. 19, unaccustomed till a d. or two before to the use of T., smoked one and part of a second pipe without spitting,—partaking at same time of a little porter. He became affected by violent syncope, retching, and vomiting. He returned home, complained of pain in head, undressed, and went to bed. Soon after he was taken with stupor and laborious breathing. He was found in this state by the medical attendant. The countenance was suffused with a deep livid colour; eyes had lost their brilliancy; conjunctivæ were injected; r. pupil was exceedingly contracted; l. was much larger than usual, and had lost its circular form: both were insensible to light. Hands were joined and rigidly contracted, as was whole body; arms were bound over chest. Breathing very stertorous, pulse 80 to 82, otherwise natural. There was no paralysis. He was bled from temporal artery with some relief, and an ipecacuanha emetic administered. Dozed during n. On m. of 25th patient was affected with syncope during efforts he made to get up and go to stool. At visit he complained much of pain in head and eyes; eyes and lids were red and suffused. Pulse 80, natural; tongue loaded and brownish; feet cold. Continued to doze. Bleeding repeated, this time from arm. On 3rd d. he still dozed, complained of pain in head, nausea, and tendency to faint. Face more natural; pupils normal, contracting by light. A loose stool passed insensibly in bed. In e. he again became affected with a degree of stupor, spasms of hands, and stertorous breathing. Countenance was not livid. Treatment as at first. On m. of 27th patient was as on that of 26th, with dry and parched tongue; still dozing. Thenceforward to 31st he gradually recovered.* (*MARSHALL HALL, Edinb. Med. and Surg. Journ.*, xii, 11.)

12. a. The case of the human organism against tobacco is made out by Dr. Richardson and others to be something as follows:—In smoking tobacco we take in carbonic acid and carbonic oxide, several ammonias, and an oily substance, which is crude nicotine. In this crude nicotine are nicotine proper, a volatile empyreumatic substance, and a bitter extract. The ammonias and the nicotine especially are the substances which so sadly poison the system, and they act in numerous directions: 1. The ammonias, entering the blood, make it

* "It is difficult to account for the symptoms observed in this case without supposing that those which occurred after the patient reached his bed were attributable to an attack of congestion of the brain accidentally developed by the sickness which the tobacco originated. Yet there is another case on record which presented symptoms closely resembling these; and it is the more remarkable because the same poisonous cause acted at the same time and equally upon two persons, of whom one was affected after the usual manner, but the other presented the following symptoms." (He then quotes II, 1.) (*STILLÉ.*)

too alkaline and fluid, thus interfering with its proper nutritive activity. 2. The stomach is debilitated and dyspepsia induced by the general influence of the drug. 3. The throat is made dry and red, the tonsils enlarged, and the morbid condition known as "smoker's sore throat" results. 4. The innervation of the heart is disturbed, its action being weak, irregular, and intermittent; palpitation, præcordial pains, faintness and vertigo are the consequence, forming the well-recognised symptoms of the "tobacco heart." 5. The laryngeal and bronchial mucous membranes, if already irritable, are made more so. 6. Owing chiefly to the disturbance in the blood and heart, the processes of nutrition are slowed, and in the young may be seriously affected—tissue is degraded (Acton). 7. The sexual organs are at first stimulated, especially by cigarette-smoking, but are eventually weakened in power; "excessive smokers, if very young, never acquire, and if older, rapidly lose their virile powers" (Acton). 8. Vision is impaired, especially if alcohol is used in conjunction with the tobacco, "tobacco amblyopia" being produced. 9. Muscular co-ordination is impaired, especially in the young; drawing-masters find that young smokers cannot draw a "clean straight line." 10. The antidotal effect of alcohol to tobacco leads to forming the habit of drinking. 11. The power of concentrating the mind, and perhaps of intellectual activity in general, is lessened. The Minister of Public Instruction of France, finding that smokers, as a rule, stood lower in their classes than non-smokers, has forbidden the use of tobacco in the public schools. "Alcohol oppresses the well-nourished brain, though it soothes the exhausted one" (Richardson); in general, a person can do more intellectual work without tobacco than with it. All smokers can do more work if they smoke moderately than if they smoke excessively.

b. The above includes about all that can be said against tobacco, and it is an indictment that is heavy enough. Indeed, we cannot but feel a little of the conscious guilt that comes when ruthlessly proclaiming the frailties of a friend. It is in the cause both of justice and scientific truth, therefore, that we hasten to state some modifications of the very damaging charges given. Tobacco is essentially a functional rather than an organic poison. It modifies the special energies and not the structure. It does not, like alcohol, leave a knobby liver behind to proclaim past indiscretions at the autopsy. This is the strongest point to those who argue for its use. It is an evasive poison. Then again, it is a drug that works its bad effects on a minority of those that use it; and these bad effects disappear very rapidly when the habit is given up. Tobacco is eliminated chiefly by the kidneys, and it leaves the system very rapidly; both acute and chronic symptoms of tobacco-poisoning are, as a rule, in adults quite transient. The effect of tobacco upon the throat is not very often injurious; Dr. Richardson's idea that it has a tendency to produce dyspepsia is opposed by the experience of many. Tobacco amblyopia is not at all common.

c. All this, and still other things, can be said in favour of the drug, but it is to be remembered that they apply almost entirely to tobacco as used by adults. The evils of tobacco are intensified a hundredfold upon the young. Here it is unqualifiedly and uniformly injurious; it

stunts the growth, poisons the heart, weakens the sexual organs, impairs the mental powers, and cripples the individual in every way. Not that it does all this to every youth, but it may be safely asserted that no boy of twelve or fourteen can begin the practice of smoking without becoming physically or mentally injured by the time he is twenty-one. We refer to this with especial emphasis, because the practice among boys of smoking, and especially of smoking cigarettes, is now very prevalent. The most prominent cause of rejection of candidates for apprenticeship in the navy, says Dr. Magruder, is irritable heart—caused, in most cases, primarily by tobacco. Ten out of every thousand applicants, in the year 1879, were rejected for “tobacco heart.” It is the duty of our public-school instructors to make the facts in regard to tobacco known and impressively felt by their scholars, and we hope that this field of sanitary mission work will be actively occupied. Sewer-gas is bad enough, but a boy had better learn his Latin over a man-trap than get the habit of smoking cigarettes. For we may lay it down as certain that tobacco is a bane to youth, though it may be the proper indulgence of manhood, and a solace to old age. (*N. Y. Med. Record*, 1881, p. 349.)

13. A young Catholic priest complained of incessant ebullitions of blood, extraordinary heat, vertigo, stupefaction, headache, sleeplessness, humming and roaring in ears, anorexia, constipation, burning in urethra during micturition, feeling of great debility, great dryness of mouth, violent thirst and pains in all limbs, pulse 120, face hot and bright red. The patient was in the habit of smoking $\frac{3}{4}$ lb. of tobacco daily. He was persuaded to lessen this consumption of tobacco by 1 pipe a d., and at length he had reduced the quantity to 5 pipes. Seen 5 weeks later all the above symptoms had disappeared. (SCHMIDTMANN, *Hufeland's Journal*, xci, pt. 6, p. 112; in *Frank's Mag.*, ii, 813.)

14. M. le Comte de —, æt. 42, had ever since he was 20 smoked 7—8 cigars daily, without having ever—as he asserts—experienced the least inconvenience. In 1853 I frequently met him, and he seemed to be enjoying perfect health. It was quite otherwise when, at the commencement of 1856, he came to consult me. He then had considerable emaciation, especially noticeable in lower extremities; sense of general weakness; chilliness; pulse rather weak, but regular, 70—72; temp. equable and mild, notwithstanding serious apprehensions about his health; sleep not good, frequently disturbed, sometimes without apparent cause, but also often by cough and colic; sinking at stomach if his meals were at all delayed beyond usual time; attacks of ravenous hunger; immediately after eating pricking in stomach, soon followed by a diarrhœic stool, of which he usually has 3 or 4 daily; frequent irritation of throat and larynx, causing fits of dry cough, especially at n.; dull pains in loins, which seem to alternate with the sore-throat; stools usually soft and often diarrhœic; lastly, occasional violent diarrhœa with severe griping, sometimes lasting several d., and followed by constipation. (Treatment of all kinds had been tried, but in vain, nor did T—'s prescriptions benefit save that veratr. alb. 3 arrested the diarrhœa and griping when it occurred. He was then ordered the water-

cure, which, after several weeks, produced considerable amelioration; but the abdomen was still tender, and every meal was immediately followed by an acrid-smelling stool, pale and not formed. At last T— became convinced that the tobacco he smoked was the cause of his sufferings.) He adopted my advice, and was soon obliged to yield to the force of evidence. The less he smoked, the better he became—the stools formed, the pains diminished, &c. At last he gave up smoking altogether, and almost immediately the digestive functions were restored to their normal state. A week later he made the experiment of smoking for 1 d. only, the effect of which sufficed to convince him for ever. Two months later M. de — had regained his stoutness, and the rosy colour he had when I knew him in 1853. (TESTE, *Journ. de la Soc. Gallic.*, 1858.)

15. a. Captain C— is affected with an obscure disease, but which is generally agreed to be serious. He is 43, and originally of good constitution. He first consulted me Oct. 5th, 1856. The following description of him is taken from the notes I made at the time:—Pale, or rather yellowish complexion, reminding me at first sight of one affected by cancer; expression severe, melancholy, stamped with that indifference to everything going on which proceeds from excessive discouragement; eyes are dull, lustreless, sunk in the orbits; lips are colourless; mouth dry; tongue yellowish, not furred; no thirst, no alteration in breath or taste. He has appetite, but dare not eat; every meal, even of the lightest sort, is followed in 2 or 3 h. by the most horrible sufferings in the stomach, soon succeeded by vomiting. Walking, driving in a carriage, and especially the motion of a train, cause same symptoms; he then feels exactly as if sea-sick, has the same nausea and giddiness, coming on by fits, during which skin is covered with cold perspiration. Generally the vomiting affords relief; it sometimes occurs in m., fasting; the matter vomited is a watery fluid, sometimes tasteless, sometimes acid; on two or three occasions he has vomited blood in considerable quantities. He has habitual constipation, all the more obstinate the worse he is in himself; never diarrhœa. The whole abdomen, but especially epigastric and hepatic regions, is so sensitive that the pressure of his uniform coat is intolerable. Great heat or cold, and above all stormy weather, aggravate the symptoms, which on the other hand sometimes get better of themselves for a longer or shorter period, under the influence of atmospheric conditions which the patient cannot precisely indicate. These days of respite are becoming rarer, but while they last abdominal pain becomes more tolerable, and he can eat without vomiting. Pulse was normal.

b. Cancer of pylorus or duodenum having been diagnosed, T— carefully examined abdomen, but could find no tumour. Staphisagria 12 was prescribed, and at first with striking benefit; but on his return from Paris to Cherbourg, the old symptoms recurred in force, and other medicines failed to touch them. At last treatment was given up, and T— saw no more of the patient till Jan., 1858, when he met him looking the picture of health; his face fat, jovial, rosy; his eye sparkling; a frank smile on his lips; his step elastic. He seemed ten years younger. On inquiring who had cured him, he replied “Myself;

I used to smoke, which you did not know. One fine day I gave up smoking, and from that day I date my cure." (*Ibid.*)

16. *a.* It cannot be less than 23 or 24 years since I commenced to smoke. The discomfort it at first produced grew less and less, but I have never altogether ceased to feel some inconvenience. The immediate effects precisely resemble the secondary action of coffee—dulness of cerebral functions, confusion of ideas and inability to find words for their expression; squinting if I attempt to read; noise in ears; slight tremor of head and hands; dislike to movement and society; depression of spirits and desire to lie down, though I would take care never to go to bed in that state, being certain that I should be unable to close an eye. Soon the reaction commences. It begins by a slight disagreeable feeling about the heart and strong pulsation of temporal arteries; then the brain gets excited and there comes an immense flow of ideas. These intellectual paroxysms (if I may be allowed the expression) often last all n., leaving me quite exhausted and ill the next d.

b. In Dec., 1856, having for some time past smoked more than usual, I perceived a disagreeable taste in my mouth, which I could only compare to that of rancid oil. The digestive functions were otherwise normal. The taste continued; felt on waking, going off during meals, returning an h. after. After some weeks of it, a yellow spot—size of a threepenny piece—appeared on one side of my tongue, looking like a piece of lichen growing there. I thought I discerned, when I sucked at the spot, that the bad taste proceeded from it. It grew a little, but slowly, and soon afterwards a similar spot appeared on the pillars of the fauces. I then became troubled with a dry cough, which in a short time became very violent; it was precisely like whooping-cough, and lasted day and night save when I was eating; along with it there was dyspnoea and almost constant sibilant râles, which gave me a great deal of annoyance. The stethoscope found nothing but a good deal of bronchial congestion. Spongia and other medicines gave only temporary relief; I then left off smoking, and in less than a week cough, dyspnoea, bad taste, spots—everything, in fact, had disappeared.

c. I made several attempts subsequently at moderate smoking, but found that if I persevered after the rancid taste had once set in, the cough and other symptoms would follow. At this time (Feb., 1858) I had to take a nine hours' railway journey, and was tempted to smoke all the way. The taste of rancid oil towards the end was so intense as almost to make me sick. On coming near home, moreover, I experienced some slight shootings in the hypochondria. My abdomen was fuller than usual; and, while the seat of a dull pain, little increased by pressure, was itself insensible to contact. I also had some difficulty in speaking, through a benumbed sensation not only of the tongue but of the buccal and maxillary muscles, which when I attempted to speak were affected with a sort of nervous trembling. On reaching home about 8 p.m. I sat down to dinner with great appetite, but had no sooner swallowed a few spoonfuls of soup when a sudden, sharp, indescribable pain, so severe as to make me cry out, caused the spoon to drop from my hand, and I fell back on my chair, pale as death, panting, and apparently at the last gasp. I could not utter a word, and only my

hands clasped over my stomach revealed the seat of my sufferings. They got me to bed and applied hot fomentations, which gave much relief, and the pain went rapidly off. Still feeling hungry, I ate a few mouthfuls of chicken, whereupon the pain returned, and I had a horrible n. It came every 20 or 30 m. at first, lasting 1—3 m., and ending in copious perspiration. There were no other symptoms during the attack, and as soon as it was over I felt perfectly well. I had three more next d., but on the 3rd d., thanks to keeping my bed and eating nothing (though very hungry), they kept off. On the 4th d., after a good n., I swallowed a few spoonfuls of chocolate and went out in my carriage. Scarcely had 10 m. elapsed when an attack came on, and I returned home in despair. The 5th and 6th d. I spent in bed, taking no food, and had no pain. On the 7th d. I took some chicken broth, and sat up a little. There was some slight pain in the sides, but no attack. Three d. later I resumed my usual diet and habits. Tongue, at first loaded, was still a little yellow at root. After having been quite well for 5 d. I tried to smoke a cigar; but after 3 or 4 whiffs there occurred the acute characteristic pain in epigastrium, the rancid taste, and sweat on the forehead. I should certainly have had an attack had I persisted. (*Ibid.*)

17. M. BEAU believes that tobacco is a frequent cause of angina pectoris. The following are the facts on which he grounds his opinion:

a. A gentleman, æt. about 60, in the habit of smoking to excess, for a month suffered frequently at n. from palpitation, oppression, and pain in shoulders. He discontinued smoking, and the attacks entirely ceased, the digestive functions becoming at the same time more regular. After 3 mo. he resumed his old habits, and again experienced the same symptoms. At length he completely eschewed tobacco, and has had no further return of the attacks.

b. A physician, æt. 50, troubled with dyspepsia and debility, indulged in cigarettes whenever opportunity offered. For some time he complained of palpitations, accompanied by oppression and sense of tightness about chest, recurring in paroxysms at various hours of d. or n. He gave up smoking, and the attacks ceased. One d. he was in the same room with several smokers, and though he did not imitate them, on the following n. the former symptoms returned.

c. A physician, æt. 35, incessantly smoked cigarettes in the intervals of his professional visits. For a long time his appetite had declined, and he consequently took very little food. One m., fasting, while smoking on his way to a patient, he was suddenly seized with præcordial anxiety and tightness across upper chest. He was unable to speak or walk; his pulse became imperceptible, and his hands cold. These symptoms lasted $\frac{1}{2}$ h. He consulted M. Beau, and by his advice relinquished the habit of smoking, promising to report if any similar paroxysm recurred. M. Beau had not heard of him since.

d. A Spaniard, æt. 30, in the constant habit of smoking cigarettes, suffered much from dyspepsia. One e., while indulging as usual, he suddenly experienced violent constriction of chest, and for 10 m. his pulse was imperceptible. Alarmed at this occurrence, he greatly

diminished his daily consumption of tobacco, and the symptoms of angina have not since returned.

e. A physician, who had been compelled to discontinue the practice of smoking on account of disturbance of the gastric functions, also experienced, while he was using tobacco, nocturnal attacks of tightness of throat, with palpitation and neuralgic pains in neck. He now enjoys perfect freedom from these symptoms.

f. A merchant, who for 15—20 years has suffered from dyspepsia consequent on immoderate smoking of cigarettes, suffers, chiefly at n., from paroxysms of præcordial oppression, with palpitation and pain between the shoulders. The features are drawn, and the pulse small and irregular. This gentleman now smokes more than ever.

g. A healthy and vigorous old man, æt. 75, sought consolation in smoking from mental distress. One d. an attack of angina occurred, of $\frac{1}{2}$ h. duration; a second fit recurred next d., and he was found dead in his bed the following m.

h. A foreign diplomatic agent, an inveterate smoker, was seized one e. with angina pectoris, characterised by dyspnœa, smallness of pulse, coldness of extremities, and lividity of surface. He went to sleep at 11, awoke next m. at his customary hour, and transacted business as usual. At 5 p.m., while smoking a cigar in his arm-chair, he suddenly expired. A fatty condition of heart was the only alteration detected at the post-mortem examination. (*J. de Méd. et de Chir. prat.*, July, 1862.)

18. Mr. L—, æt. 35, complained Dec. 12th, 1861, of sore throat, with partial anæsthesia of fingers, toes, and end of tongue. Fauces were red, and tonsils slightly enlarged. He was rather thin, and had a somewhat anæmic and cachectic look. On Jan. 1st he was losing flesh and strength; numbness was increasing, as also a tendency to constipation; while appetite was inordinate. Urine was found normal. By 12th he was confined to house; numbness was now pretty general, and eyesight somewhat affected. Heart beat a little irregularly, with a slight anæmic murmur. Tongue slightly coated. He had no erections or sexual desires. On calling on 15th, Dr. Farnsworth found patient in bed, and smoking. He then ascertained that he had been for several years in the habit of smoking the coarsest kind of tobacco in the foulest of pipes during all his waking hours. Anæsthesia was now general; and motion, though itself unimpaired, was only possible by aid of sight. The smoking was stopped at once. Three d. later urine was heavily charged with urea, urates, and triple phosphates, with a distinct odour of nicotine; he complained also of a fœtid sweat. By 22nd he was improving; perspiration still copious, smelling of nicotine. Sensibility did not return as fast as strength; cold was hardly felt, and he had but little taste. Numbness now gradually went off up to March, passing downwards to extremities. He could then walk five miles to see the doctor as at first, and normal hue of face had returned. At this time, for experiment's sake, he tried a cigar. It produced nausea and all the feelings of a novice, together with a return of the numbness of the fingers, and a smarting of the fauces. (*Amer. Med. Times*, v, 189.)

19. The anaphrodisiac properties of T. have been long known ; it is used on this account in many monasteries in Italy. Demonstration by recorded observations, however, is not abundant ; and I am glad to be able to cite the following cases furnished me by M. Martin-Damourette.

a. A young man who spent part of his time in society, where he smoked more than 20 cigars daily, from a certain time felt his digestive functions becoming impaired, his strength failing, his memory growing weak ; and he became absolutely impotent. Wishing to marry, he consulted a physician. By his advice he broke with his associates and renounced his tobacco. His health returned, and with it his virile capacities.

b. M. Martin-Damourette was consulted by a young physician the subject of complete sexual frigidity, for which he had taken, without effect of any kind, doses of strychnine increasing at length to 36 centigr. daily. No cause for the impotence appearing, he was questioned about smoking, and confessed to having a cigarette in his mouth the greater part of the day. His muscular energy and resistance were sensibly diminished. The abandonment of tobacco completely cured the impotence,—no other therapeutic measures being needed.

c. A robust young man became inspector of the tobacco manufactures. After some time, he experienced a great enfeeblement of his genital power, and at last became impotent. After a fruitless trial of tonic and stimulant measures, he decided on leaving his employment ; and his sexual power was not slow in returning. (FOUSSARD, *Etude sur le Tabac*, Paris.)

20. a. The symptoms of central toxic amblyopia, which is a rather common affection, are : gradual failure of sight to much the same extent in both eyes ; absence of any restriction of the field of vision, or indeed of any interference with the functions of the peripheral portions of the retina ; and the existence of an oval scotoma, most marked for colours, extending from the point of fixation, which it involves, to the blind spot. Most of such cases are met with in men after age of 40. Occasionally younger men are affected ; the youngest undoubted case I have seen was 20. This form of amblyopia is very rare in women, though not quite so rare as was at one time supposed. Those who suffer from it are almost invariably smokers ; and generally they have smoked for many years before becoming affected. It is very doubtful if alcohol has anything to do with it, though this is maintained by some. Certainly one not infrequently finds that those affected not only smoke, but also drink to excess ; yet the same symptoms are never observed to follow the excessive use of alcohol alone, though they are very frequently met with in smokers who abstain from alcohol in any form. As a rule, when the affection begins, no change has been recently made in the amount smoked, and this circumstance accounts for its being comparatively rare to find the patients suspect the cause of their amblyopia. Indeed, they not infrequently begin to smoke more after their sight has begun to fail, on account of the worry that this causes. Very often smoking is indulged in on an empty stomach, the first thing in the m. or very late at n., or, in the case of bad sleepers, during the n. It is owing to this circumstance,

probably more than to the difference in the kind of tobacco smoked, that tobacco amblyopia is more common in the working than in the educated classes. Many men have to rise early and work several h. before partaking of a substantial meal, but nevertheless smoke during this time As a general rule not less than 3—4 oz. of strong tobacco are smoked in the week, often much more,—in exceptional cases less. In women a smaller quantity seems to suffice to bring on the symptoms. The same symptoms are produced by chewing tobacco.

b. The defective area is oval in shape, with its long diameter horizontal, and stretches from the outer side of the blind spot to very slightly to the inner side of the point of fixation. It corresponds to the external projection of that portion of the retina which lies between the optic nerve and the outer margin of the macula, a portion which recent investigation has shown to be supplied by a special bundle of optic nerve-fibres—the so-called papillo-macular bundle. The form sense as well as the colour sense is defective over this area. . . . ; the defect is most marked for red and green. As it is only over a particular area that the colour sense is defective, the patients are often not aware of the colour-blindness they have acquired; a large surface of red or green appears to them quite as distinct as formerly. Individuals with tobacco amblyopia often complain of seeing worse in a strong light. The lesion which produces this peculiar form of amblyopia is not known. The regularity in the shape of the scotoma, as well as the complete recovery which so often takes place, renders it extremely unlikely that, as has been maintained by some lately, it is a form of retrobulbar neuritis. It is much more probable that the poisonous effect is exerted on some part of the brain which includes the central terminations of the papillo-macular fibres.

c. A large proportion of cases completely regain vision if the tobacco be stopped. Improvement, though less rapid, generally takes place when the amount consumed is reduced, or when the quality of the tobacco used is milder. (BERRY, *Diseases of the Eye*, 1889.)

21. I wish to make some remarks on a form of bad vision caused by the use of tobacco, and will call special attention to seven cases occurring in women which I have observed at the Manchester Royal Eye Hospital. All complained of a rather rapid deterioration of vision, and the fundi were either quite normal or only showed very insignificant changes. How then was the diagnosis made certain in these, as it is in all cases of tobacco amblyopia, by the presence of a central colour scotoma? This test is easily applied by causing the patient to cover one eye, while with the other he or she gazes steadily at the eye of the examiner, who then brings a small piece of red or green paper, fixed on the end of a pen, into the centre of the patient's field, and notes the presence or absence of the patient's perception for colour in that part of his field. This test, so easily applied, is, I believe, an infallible test of bad sight produced by tobacco; and, further, I have never met with a central colour scotoma in a person who did not use tobacco, though I ought here to say that some such cases have been recorded. In my experience, then, a case of central colour scotoma is synonymous with

tobacco amblyopia. I cannot too strongly insist upon the necessity of applying this test in all recent cases of failure of sight, whether in men or women, where the ophthalmoscope reveals a normal, or nearly normal, state of the fundi, and you will be astonished how large a proportion of such cases will fall under the head of tobacco amblyopia. Hardly a day passes at the Royal Eye Hospital without a case turning up. We must not be thrown off our guard by any slight changes we may find in the fundi, and at once conclude that they are the cause of the defective sight, for they may be only accidental changes in a case of tobacco amblyopia, and have little or nothing to do with the bad sight. For example, in three cases I have seen a solitary retinal hæmorrhage confined to one eye, the vision being equally diminished in both; in several, fine vitreous opacities; in others high degrees of myopia with posterior staphyloma, and in one woman I at first imagined the bad sight to be due to the presence of a few very minute white ticks at the maculæ, which were only made out with difficulty by the erect image. In this case I afterwards found a colour scotoma, and elicited the fact that the patient smoked. Again, I have seen two cases in patients with well-advanced locomotor ataxy, and have no hesitation in saying that it was tobacco, and tobacco alone, that was the cause of the bad sight. Professor Hirschberg, in a paper on Tobacco and Alcohol Amblyopia, in the second volume of this journal for 1879, says, "we never meet with the disease in women;" and the only cases I have seen recorded besides my own were published by Mr. G. A. Berry in the 'Ophthalmic Review,' April, 1884. I may further add that at the Royal Eye Hospital the first diagnosis of the affection in a woman was made rather less than twelve months ago. (GRIFFITH, *Brit. Med. Journ.*, Dec. 18th, 1886.)

22. M. GUELLIOT gives the following as the characters of tobacco amblyopia: It always commences in one eye (generally r.). At first patient sees through a mist, with central scotoma; then from time to time he sees objects yellow. There is no confusion of colours. Sight is worse in e. Pupils are contracted and immobile. (Alcoholic amaurosis, on the other hand, commences in both eyes at once; there is confusion of colours, sometimes pain; and patient sees better in e.) (*Le Progrès Médical*, June 2, 1877.)

23. Dr. CHAPMAN states that he was consulted by a member of Congress, in the meridian of life, and of a stout frame. "He told me that from having been one of the most healthy and fearless of men, he had become 'sick all over, and as timid as a girl.' He could not even present a petition to Congress, much less say a word concerning it, though he had long been a practising lawyer and had served much on legislative bodies. By any ordinary noise he was startled or thrown into tremor, and was afraid to be alone at n. His appetite and digestion were gone; he had painful sensations at the pit of his stomach, and unrelenting constipated bowels. During the narrative of his sufferings his aspect approached the haggard wildness of mental dis-temperature. On inquiry, I found that his consumption of tobacco was almost incredible by chewing, snuffing, and smoking. Being satisfied that all his misery arose from this pernicious weed, its use was

discontinued, and in a few weeks he entirely recovered." (*Lond. Med. Gaz.*, xxxvi, 981.)

24. P. C—, æt. 30, on e. of Feb. 18th was suddenly seized while passing water with most violent pain in head, followed immediately by vomiting; pain was so violent that he screamed for assistance. He was found pale; skin cool, covered with clammy sweat; pupils contracted, irresponsive to light; pulse 48, small and feeble. He was perfectly conscious; he complained bitterly of pain in head; voice was feeble and low, and he was evidently in a state of great nervous prostration. He admits having been addicted to drinking ardent spirits to excess, and to inordinate use of tobacco; he was at same time exposed for several h. daily to fumes of tobacco while being "stoved." 19th.—Head easier, pulse 60, skin warm; says that pain is now most intense when he makes water, coming on suddenly worse just as act begins. Urine high coloured, 1018, non-albuminous; pupils still contracted, but little responsive to light. During following days headache remained much the same, always materially increased on micturition, but also on assuming erect posture. He never complained of uneasiness along urinary tract. By 22nd pupils were widely dilated and obedient to light. On 26th he was admitted to hospital, and found with pulse 60, small and weak; countenance anxious and distressed; pupils dilated; little sleep; pain in head in paroxysms, and greatly increased at micturition; tongue moist, covered with white fur. He improved very slightly, if at all, till March 6th, when a strong smell of nicotine was observed all over his skin. He was now ordered a vapour bath every n., and left hospital on 12th much better, but was still suffering occasionally from pain in head up to April 11th. (There was no syphilitic history.) (BABINGTON, *Dublin Q. Journ. of Med. Sc.*, xlii, 545.)

25. A man, æt. 63, had smoked excessively since he was 14, and had now smoked Hungarian T. in a meerschaum several times daily for 6 mo., besides several cigars each d. At last there came on almost painful restlessness. "I was," he says, "frequently obliged to change my position, and, when standing, to stand on one foot and frequently change position of body, to lean or support body in some way; while sitting was obliged to stretch out or bend up the feet and move them backwards and forwards; while reading, the arm speedily became fatigued from holding the book, and sometimes there was stitching in the fingers and especially the thumbs; even in bed I was obliged frequently to change the position, and while asleep became very restless, so that my slumbers were frequently interrupted and I was often weary in m. Following this there was complete loss of co-ordination of antagonistic muscles, so that while standing the knees gave way, or on sitting down I fell with my full weight on the chair. I became unable to draw on my clothes without supporting myself. At times the gait became slow and shuffling, the steps short, scarcely raising the feet from the ground, so that I frequently stumbled and became weary; it was especially difficult to go upstairs, worse still if these were steep; such ascent caused anxiety and dread of falling backwards, so that I went with the body bent forwards. This was associated with transient attacks of vertigo while walking in open air, especially on suddenly

looking upward ; with great weakness and speedy fatigue, though there was no confusion of head or difficulty in performing mental labour ; and with epistaxis at times without cause." (RITTER, *Med. Corr.-blatt, Wurtemb.*, xxxviii, 5.)

26. In a vast number of extreme cases of smoking, when those who have indulged in such excess have had what has been called toothache, their sufferings have been great, yet in most instances I have observed that the crowns of the teeth seemed perfect, save that the enamel appeared to be altered in structure and colour. I therefore directed special attention to the state of the fangs, and found them, in all such cases, denuded of their periosteum, being rough at the extremities, as if rasped ; while the fangs were of a darker hue than healthy dentine presents, and of a porous appearance. In consequence of the active absorption thus shown to be going on, the affected teeth act as foreign bodies and produce much local irritation. Hence I am led to the inference that T. affects the teeth themselves ; and that the affection must not be confounded with their injury induced by the acidity often caused by stomach derangement resulting from an inveterate habit of smoking. The symptoms of the smoker's toothache are as follows : More or less uneasy sensations about the crowns of the teeth, which gradually extend to the fangs ; at this stage of the disorder, if the teeth are touched tenderness is experienced, and if bitten on while in this condition a sudden and most painful sensation occurs. As the disease proceeds, the patient seems cognisant of its immediate seat, the agonising pain being confined to the bottom of the alveolar process of the affected tooth or teeth, which is attended with palpable throbbing, or, as an unscientific patient expressed it, "jumping pain." The most distressing symptoms are felt under vicissitudes of climate ; in great and sudden changes from heat to cold, and *vice versa* ; or after alcoholic stimulants : in fact the teeth, in this affection, suffer from anything that accelerates the circulation. Among many of my most intelligent patients, when there happened to be a space (from previous extraction) between the affected teeth, they have described their sensation as if a series of galvanic or electric shocks continually passed from tooth to tooth. (LEVISON, *Med. Times*, xxi, 27.)

27. Dr. G. DECAISNE has submitted to the Society of Public Medicine the results of some interesting observations on the effects due to the use of T. among boys. There were placed in his charge 38 youths, æt. 9—15, who were in the habit of smoking to a greater or less degree. The effects of course varied. In 22 there was distinct disturbance of circulation, bruit in carotids, palpitation, deficient digestive power, sluggish intellect, and craving, more or less pronounced, for alcoholic stimulants. In 3 there was intermittent pulse. Analysis of blood showed in 8 cases a notable falling-off in the number of red corpuscles. 12 had frequent epistaxis, 10 complained of agitated sleep ; 4 had ulcerated mouths, and 1 became the subject of pulmonary phthisis. The younger the boy the more marked were the symptoms, and the better fed suffered least.

Out of 11 who were induced to cease smoking, 6 were completely restored to health in less than 6 mos., while 3 others continued to suffer

slightly ; the other 2 were lost sight of. Treatment with iron and quinine gave no satisfactory results. (*Gaz. d. Hôp.*, June 30th, 1868.)

28. Dr. CORSON had been in the habit of chewing T. and swallowing the juice. After 7 years of this he was suddenly seized with intense pain in chest, gasping for breath, with sensation as if a crowbar were pressed tightly from r. breast to l., till it came and twisted in a knot round heart, which now stopped deathly still for a m., and then leaped like a dozen frogs. After 2 h. of death-like suffering, the attack ceased ; but ever after the heart missed every fourth beat. For the next 27 years he continued to suffer milder attacks like the above, lasting from one to several m., as often as 2 or 3 times in d. or n. After discontinuance of T. attacks ceased. (*Bost. Med. and Surg. Journ.* xlix, 518.)

29. D. W—, a student of law, of nervo-sanguine temperament, had been a martyr to dyspepsia two or three years ; applied for treatment to eyes, which were highly injected, cornea vascular and semi-opaque, and lids granular. He had low spirits, want of resolution, and general hypochondriasis. Had good relish for food, but a train of nervous symptoms came on directly after meals and lasted until stomach was empty. Acidity, cardialgia, gastrodynia, palpitation of heart, vertigo, and fulness of head ; profound gloom, while keenly alive to every feeling ; in constant fear of death, yet tempted to commit suicide. Had suffered thus for months, when a new symptom arose. Had had frightful dreams for more than a year ; now, in first h. of sleep, was suddenly awoken by shock in epigastrium, causing great alarm. This recurred several times in n., as often as he fell asleep. The shocks were first confined to epigastrium, but after a few weeks they were transmitted to head, and were even more unendurable. They were followed in head by sensation of rush of blood, and a firm conviction he should die of apoplexy. Symptoms were palliated by morphine and carbonate of ammonia, but only temporary benefit was obtained. He used tobacco freely, by smoking, chewing, and snuffing. Abandoned the two latter, and his health improved, particularly the shocks and epigastric sinking. He then renounced smoking entirely, and the whole train of nervous symptoms vanished as if by magic. The gloom and despondency cleared away, and the inflammation of the eyes yielded readily to treatment. (*SHIPMAN, Bost. Med. and Surg. Journ.*, xxxi, 354.)

30. Sister of foregoing, æt. 39 ; married, two children, youngest 10 ; nervo-sanguine temperament. Dyspeptic for 10 years. Suffered since last confinement from leucorrhœa, partial prolapsus uteri, and hypochondriasis. Has smoked and snuffed tobacco fifteen years. Eight years ago began to have shocks at epigastrium, with sinking, cardialgia, acid eructations, sense of rushing of blood to head, palpitations, sleeplessness, and startings when first going to sleep. These symptoms kept increasing, and there came on tenderness all along spine, especially in cervical and lumbar regions, rigidity of limbs, costiveness, derangement of catamenia, &c. Snuffed and smoked more to soothe her feelings, with temporary relief ; but on abandoning these habits the dyspeptic and nervous symptoms soon got well, the spine recovering under cupping, counter-irritation, anodynes, and tonics. Frequently

afterwards, venturing on moderate use of tobacco, the same symptoms invariably returned in slighter degree. (*Ibid.*)

31. S. E—, æt. 40, in good health until 1838, when he began to emaciate and grow pallid; his food did not digest well; he had acidity, heartburn, gastralgia, palpitation, sinking at pit of stomach, and a host of nervous symptoms; gloom, hypochondria, and apprehensions of sudden death. Shocks in epigastrium when just falling to sleep followed, and his sleep became a succession of starts. After 2 h. these shocks came upon him during the d. Quite unfit for business, was weak, irresolute, and desponding. Was a heavy smoker, and on abandoning the habit rapidly recovered, the shocks in epigastrium leaving him after the first 3 d. of abstinence. (*Ibid.*)

32. C. P—, æt. 43, farmer, temperate, nervo-bilious temperament; has been a tobacco smoker twenty years. Complained of similar symptoms to S. E—, which rapidly subsided on leaving off use of T. Was healthy until resuming it again after 18 mos. In 2 mos. shocks came on with great severity. They were now felt in chest and cardiac region, at first always in n., but after a while in daytime, with rushing of blood to head which would momentarily deprive him of consciousness. The shocks also now took place in head. On abandoning T. again the shocks left him, sleep became quiet, dyspepsia disappeared, mind became calm, spirits elastic, and he was able to work. (*Ibid.*)

33. S. J—, æt. 54, nervous temperament, farmer, has used T. 10 years. It has frequently salivated him. Is emaciated, nervous, and hypochondriacal. Shocks commenced 2 years ago in bowels, first on just falling asleep, afterwards in daytime, with epigastric sinking, costiveness, and general dyspepsia. Gradually improved on leaving off T. Similar symptoms to the foregoing, though to a much less extent, were observed in A. C—, æt. 27, farmer, who had used T. to excess for 4 years; and in Rev. Mr. H—, æt. 30, who had used it 15 years. They both quickly recovered without medicine on abandoning the T. (*Ibid.*)

34. Bridget V—, wife of a miller, æt. 46, with regular catamenia, extremely emaciated, seen Feb. 7th, 1864. Had been much tried by domestic and other sorrows. Four years ago lost a daughter by typhoid fever. Since then had been so wretched that she resorted to all sorts of means to stupefy herself, drank much alcohol and ate all sorts of tobacco, the kinds used for smoking, chewing, and snuffing. She ate about two francs' worth every week. When seen was aphonic; she could hardly utter some inarticulate sounds in a hoarse voice. Breathing difficult, sighing; pulse weak, slow. The heart scarcely beat. Pupils dilated, insensible to light, her haggard eyes could hardly direct her hand to any object offered to her; almost total blindness. Hearing extremely dull. Face pale, emaciated, stupid looking; tongue trembling, red, dry, pointed. Painful dysphagia in consequence of spasms of the throat. Abdomen retracted. Stools like sheep's dung, had long been only passed by means of enemata or purgatives; at first, on the contrary, she had copious evacuations and vomiting. Soon, however, she lost her appetite, her gastro-intestinal walls seemed to be affected with the stupor the rest of her body showed, and she became prostrated.

Involuntary emission of urine, febleness, cold sweats, sleeplessness. When seen 2 d. later the voice was completely extinct, like that of one suffering from cholera; swallowing was impossible, her thorax scarcely moved, respiratory sounds and movements of heart scarcely perceptible. All the organs seemed to be, as it were, sent to sleep by the influence of the drug. Death ensued a few h. later. (LE BRIERT, *Gaz. de Hip.*, July 21st, 1864.)

35. In 1849, the Academy of Medicine, at the request of the Minister of the Interior, appointed a commission to inquire into the sanitary state of the workpeople employed in the manufacture of tobacco. The report of the commission was drawn up by Dr. Melier. He writes:—"The first impression on the new workpeople is always more or less disagreeable; all, or nearly all, find a certain difficulty in accustoming themselves to the work; many cannot succeed, and are obliged to leave the manufactory. We ascertained that of 5 who entered at the period of our visit, 1 only had been able to remain. . . . If they persist, their employment produces in course of time a peculiar alteration of complexion. This is not a simple loss of colour, an ordinary pallor; it is a grey hue, somewhat dull, a mixed shade between chlorosis and some cachexia. The physiognomy assumes a peculiar character, by which the experienced eye can to a certain degree discern those who have long been employed in a tobacco manufactory; for this kind of countenance is never seen except among the old hands. The preparations of iron cure this state, and restore their original complexion to the workers. . . . M. Hurteaux (the medical attendant of the manufactory at Gros-Caillon) has remarked that when the workpeople are bled, it is rare to observe a buffy coat on the blood, or if there be one it is very slight; and the coagulum is very soft. Thus the blood becomes modified to such a degree that a portion of its fibrin has disappeared. . . . The men grow thin, and alter rapidly. We saw one who, when he first came into the manufactory, was fresh and stout; now he is thin, and his complexion is assuming the dull colour above alluded to; he is also much weaker than he was. Another informed me that he lost 10 lb. in a very short time." Finally, the reporter says that though he cannot positively prove from statistical tables that the mean duration of life is shorter among the tobacco manufacturers than among other classes of men, still there is much reason for believing that it is so. "All that we know," he says, "is, that if among the workpeople there are some old men, there are very few or none in a flourishing state of health, most of the old hands being asthmatic or at least subject to dyspnœa."* (TESTE, *loc. cit.*)

III. *Experiments on animals.*—1. Schubarth, in a series of 22 experiments (*Horn's Archiv*, 1824), upon horses chiefly, found the action of T. on these animals most strikingly indicated by infrequency of pulse, which fell from 37 to 26 after administration of about 4 oz., and remained depressed for 24 h. Brodie (*Phil. Trans.*, ci) found a strong infusion produce death in dogs by arresting action of heart; while the empy-

* It is fair to state that most enquirers into the subject take a more favourable view than did the French Commission of the influence of tobacco-working on health. (See STILLÉ, *sub voce.*)—EDS.

reumatic oil killed the animals without such cardiac effects. There was retching, vomiting, faintness, tremor, and when the oil was employed spasms and convulsions also, before death. Wright found that from 2 to 5 gr. of the essential oil, given to dogs 2 or 3 times a d., induced gradual and complete marasmus; a peculiar dragging action of the hind legs; loss of venereal power, and softening and shrivelling of the testicles; shedding of hair; and, before death, sloughing of eyelids and blindness. After death the blood was invariably found fluid, deficient in fibrin, and particularly so in red globules; the heart was pale, soft, and smaller than natural; the body never stiffened, and decomposed very rapidly. The gums began to swell and bleed early in the experiments, and the teeth became loose and sometimes dropped out. The mucous membrane of mouth, nose, and trachea was softer, more tumid, and more vascular than usual. (STILLÉ, *op. cit.*)

Nicotinum, alkaloid derived from *Tabacum*, $C_{20}H_{14}N_2$.

1. *Provings*.—I. FALCK and WACHENFELD proved N. on themselves in doses of 0.2 to 0.3 mgrm. It caused frequent eructations, nausea, weariness, drowsiness. A third prover and Wachenfeld experienced after 0.04 headache and vertigo, with trembling and oppression of chest. (HUSEMANN, *Planzenstoffe*, p. 470.)

2. REIL took of 1st dil. of N., at first 1 dr., increasing the dose gradually by 1 dr. till he reached 15 dr. After 1 dr. he experienced slight scraping and burning in tongue and throat, headache in forehead and temples, coming on after 10 m. and lasting 1 h., with slight symptoms of dysphagia. After 2 dr. these symptoms were more intense, at same time moderate vertigo and transient pains in r. arm, thigh, and leg. After 3 dr. extreme weakness in lower extremities, dazedness of head, slight lachrymation, heaviness of eyelids, and after another dose great eructation and trembling. After 4 dr. frequent need to draw a deep breath on account of oppression of chest. After 10 dr. throbbing in temporal arteries, indisposition to mental work, dilated pupils, weakness of vision, and hiccup. During the 16 d. the proving lasted the stools were delayed, the pulse and respiration very irregular, sometimes quicker, sometimes slower. Urine not much increased. (*Ibid.*)

3. DWORZAK and HEINRICH proved N. in doses of 1, 2, 2½, and 4½ milligrams. In all doses it caused a sharp burning sensation on tongue, scraping in fauces, and in the larger doses as though a sharp brush was drawn through œsophagus to stomach; increased saliva. Immediately sensation of warmth commencing in stomach quickly spreading over chest and heart and extending as in a stream to finger and toe tips. Along with this great excitement, in smaller doses generally marked headache, feeling of an aura in superior maxilla; from the larger doses great confusion and heaviness of head, vertigo, stupid feeling, sleepiness, indistinct vision with great sensitiveness of eyes to light, imperfect hearing with feeling as if ears were stuffed with cotton wool, rapid and laboured breathing, oppression, feeling as if a foreign body were sticking behind sternum, dryness of fauces. About 10 minutes after the larger doses uncommon feeling of weakness and exhaustion, so that

the head could with difficulty be kept upright, pale face; features distorted, extremities very cold; the coldness began in tips of fingers and toes and spread equally over trunk, premonitions of syncope with commencing loss of senses and consciousness. A disagreeable feeling in stomach spread upwards and downwards, causing eructation, nausea, inclination to vomit and actual vomiting with some relief; the sensation spread downwards over whole intestinal canal, abdomen distended, urgent call to stool, with discharge of flatus and urine and relief throughout the whole body, which, however, did not last long. In the first half of the 2nd. h. one of the provers had clonic spasms throughout the whole body which increased for 40 m. and lasted altogether about 1 h. The extremities began to tremble, this trembling spread further until the whole body shook violently, the muscles of respiration were most affected, the respiration was laboured and tightened, each expiration consisted of a series of short impulses in rapid succession, the air was as it were jerked out of the thorax; the inspiration was similar. In the other prover during this period there occurred uncommon muscular weakness, very laboured breathing, and on one occasion rigor. The gastric symptoms, eructations and inclination to vomit were repeated several times; vomiting brought some relief; the coldness of the extremities was repeated in the same proportion; from the tips of the fingers a feeling of formication spread at first to wrist, later to elbow. After 3 h. the intensity of the symptoms abated, there only remained confusion and heaviness of head, feeling of great weakness and emptiness of stomach and intestines, great exhaustion and drowsiness. A cup of tea and a roll were eaten without appetite. When going home both the provers felt uncommonly weak; their gait was unsteady, and on reaching home they felt very cold; in one of them the above-described spasms returned with urgent call to urinate, and much urine passed. Both passed a restless sleepless n., felt hot and excited; and all next d. they were very ill,—inability to fix their mind on any subject, great exhaustion, drowsiness, violent headache, anorexia and desponding humour. The next n., though they slept well, did not completely relieve their sufferings on the 3rd d. In one of the provers the amount of urine was considerably increased; in both, the skin was dry. The pulse at first, even after small doses, was accelerated, and the larger the dose the quicker it became; it then varied much, so that it was sometimes several beats faster and then as many or more beats slower, and this variation went on but not with any regularity. But it always commenced with acceleration. In both there was a great loathing for tobacco-smoke. One, a smoker, thought to mitigate his sufferings by a pipe, but he could not take more than a few puffs; the other, a non-smoker, was very much affected by the smoke of a pipe in his vicinity. In both the expired air had a smell of alcohol (qu. nicotin?) perceptible to themselves and to those about them. (SCHROFF, *Lehrb. d. Pharm.*, 577.)

II. *Poisonings*.—1. A young gentleman, poisoned by his brother-in-law, died in 5 m. after ingestion of the poison. His symptoms before death are unknown, but there is reason to believe that they consisted mainly of tetanic convulsions. The P.M. appearances were

those of corrosion in face and in alimentary canal as far as duodenum. N. was found in stomach. (TARDIEU, *op. cit.*)

2. A marine officer, for some time melancholic, was found dead in his room. The body showed remarkable rigidity, and this continued longer than its usual time; the surface was of a palish colour. A small vial of N. solution was nearly empty. There were no signs of irritation in alimentary canal. (*Ibid.*)

III. *Experiments on animals.*—1. *a.* According to NUNNELEY, 1 or 2 m. after the injection of $m\frac{1}{30}$ under the skin, a frog falls into a state of rigid spasm; shortly after the eye becomes insensitive, and twitches occur in the limbs, except in that into which the injection had been made, in which the reflex power is abolished, although it is not so in the animal generally for 1—2 h. The heart beats regularly, but more and more slowly, until after death it remains in diastole filled with blood.

b. MELIER gave 1—8 dr. doses to dogs and cats, generally hypodermically. The breathing was, in most of the cases, affected first, and is noted as difficult and anxious; the pupils were dilated, and the animal staggered in walking. Violent efforts at defæcation were observed in several cases, and a copious discharge of urine, apparently followed by relief. At a more advanced period there was vomiting, and a slavering of frothy or ropy mucus; at variable stages from the commencement, agitation and trembling, and in several instances a lively movement of the ears. When death occurred, it was immediately preceded by signs of complete exhaustion, and more remotely by convulsions. The exhaustion or paralysis appeared to affect the posterior extremities chiefly.

c. Very carefully conducted experiments were subsequently instituted, among others, by Albers, Kölliker, Bernard, and van Praag. They agree in their main results, which may be thus epitomized:—N. uniformly renders the respiration slower, after having, in some instances, increased its frequency; the larger the dose the more speedily does the former effect ensue. The breathing has generally a very characteristic peculiarity, which consists in a hissing sound, and is probably owing to a spasmodic contraction of the larynx and air-tubes. The pulse, like the breathing, becomes slower after being accelerated. The muscular apparatus of various parts of the body is affected with alternate tonic and clonic spasms, and the eyeballs usually protrude, and are spasmodically drawn upwards and outwards. General relaxation succeeds these phenomena, with a tremulous movement of particular muscles or of the whole body. In some cases which are more rapidly fatal, no spasmodic movements are observed, but immediate and complete prostration, with the tremulousness before mentioned. When the poison acts most promptly, the animal sometimes perishes without any convulsive or muscular agitation whatever. In general, its application does not elicit signs of pain, and the effect in some instances is to destroy sensibility. The pupils are uniformly dilated under its primary action, but afterwards may become contracted.* Sometimes, but not generally,

* HIRSCHMANN, who performed (*Bull. de Thér.*, lxxv, 561) many experiments on animals with this alkaloid, affirms that it always contracts and never dilates the pupil.

there is abundant salivation. In experiments which did not destroy life, and in these only, was there vomiting and purging; yet recovery is possible without these symptoms. (STILLÉ, *op. cit.*)

2. From the yet more recent researches of Traube, Rosenthal, Krockner, Erlenmeyer, and Schroff may be derived the following *résumé*: N. paralyses the brain, producing loss of consciousness and of voluntary movement, after a more or less brief interval of excitement. The primary action on the cord is exciting, and produces clonic and tonic convulsion; this is followed by paralysis, the cord becomes insensible to direct and to reflex irritation, apparently from affection of the grey matter of the anterior cornua. The motor nerve-trunks are but little affected, but their terminals in the muscular substance are at first strongly irritated and then paralysed. Small doses affect the heart in a double manner, the vagus branches being in comparison slightly, the cardiac motor nerves much more powerfully affected; the excitement is followed by paralysis. If the vagus be divided, N. nevertheless acts on the peripheral vagus-twigs, and the ganglionic apparatus in connection with them. The cardiac muscular structure does not appear to be directly affected. Respiration is at first quickened, and there may even be tetanus of the inspiratory muscles; apparently this action is exerted upon the nerve termini among the muscles, for section of the vagi does not prevent it. The respiratory excitement also is followed by paralysis. A very constant lowering of superficial temperature has been observed by Tscheschichin, which probably depends on rapid cooling of the body in consequence of vaso-motor paralysis. Intestinal peristalsis is hurried, and there may even be intestinal tetanic spasms, while in women there are vigorous contractions of uterus. The action on the pupil has been much disputed, but the most recent and reliable researches seem to prove that N. produces contraction of the circular fibres of the iris. (PHILLIPS, *op. cit.*)

3. M. STAS, who had charge of the case forming II. 1, made experiments with the N. found in stomach of the murdered man.

a. The tongue of a siskin was touched with a capillary-tube containing a minute quantity of the alkaloid. In a very short time the bird shook its head and fell into tetanic convulsions. It died in 2 m. 40 seconds, falling on to r. side. In another similar experiment on a bird of this kind, the tetanus was immediate, and the death occurred in 30 seconds.

b. A fraction of a drop was placed on the tongue of a vigorous pigeon. The convulsions came on after a few seconds, and death after 1 m. 15 seconds. (TARDIEU, *op. cit.*)

4. Dr. Hobart Amory Hare has received the Fiske Fund prize for an essay on "The Physiological and Pathological Effects of the Use of Tobacco." His conclusions are as follows: 1. Tobacco-smoking does not decrease the urine eliminated, but rather increases it. 2. Tobacco does retard tissue waste. 3. Tobacco and its alkaloid cause convulsions in the primary stage of the poisoning, by depressing the reflex inhibitory centres in the cord. 4. It causes palsy in the second stage, by paralysing (*a*) the motor nerve-trunks, (*b*) the motor tract of the spinal cord. 5. The sensory nerves are not affected by the drug. 6.

Nicotine contracts the pupil, by stimulating the oculo-motor and paralyzing the sympathetic, this action being peripheral. 7. Nicotine, primarily, lowers the blood-pressure and pulse rate; secondarily, increases pressure and rate; thirdly, decreases pressure. 8. The primary lowering of pressure and rate is due to pneumogastric stimulation, associated with vaso-motor dilatation. 9. The secondary stage is due to vaso-motor constriction and pneumogastric palsy. 10. The third stage is due to vaso-motor dilatation returning. 11. Death, in poisoning from this drug, is due to failure of respiration, the action of the drug being centric. 12. The blood-corpuscles are broken up and crenated by the action of the poison. 13. In death from nicotine poisoning the blood shows changes in *spectra*. 14. Death can be brought about by the cutaneous absorption of nicotine. 15. Tobacco increases intestinal peristalsis in moderate amounts, and produces tetanoid intestinal spasms in poisonous doses. 16. The liver seems to destroy the poison, although this destruction is participated in by any set of capillaries in other parts of the body. 17. Tobacco-smoking increases the pulse-rate, and decreases arterial pressure. (*Therap. Gaz.*, Jan. 15th, 1886.)

TANACETUM.

Tanacetum vulgare, L. Tansy. Nat. Ord., *Compositæ*.

I. *Provings*.—1. DR. BURT took 1 dose per d. of the pure oil,—1st d., 4 dr.; 2nd d., 6 dr.; 4th d., 10 dr.; 6th d., 25 dr. Was in perfect health at commencement of proving. The following symptoms were observed: Confusion of thought; dulness of all senses; fatigue of mind after least mental exertion. Dull frontal headache, with cutting pain in temples; severe frontal headache, with great fulness of head; constant dull heavy headache for a number of days. Agglutination of lids in m.; dull aching pains in eyeballs. Stitches in internal ear; roaring in ears; sensation as if something closed ears very suddenly. Dryness of nostrils; profuse secretion of mucus in nose, with frequent coryza. Mouth feels rough, tongue white-coated; flat insipid taste. Roughness of throat; constant tickling sensation in throat as though he would cough, but he was unable to cough throughout proving. Constant eructations (tasting of oil) for 24 h.; eructations of sour air at n. Drawing, cutting pains in epigastrium many times; dull pains in r. hypochondrium, sharp pains in l.; sharp sticking pains in whole umbilical region; hard dull aching pains in whole of bowels (constantly); frequent colicky pains at umbilical region throughout d., and especially at 4 a.m., for 2 weeks; constant hard drawing pains in l. groin. Diarrhœa from larger doses, with secondary constipation; soft papescents stools, preceded by sharp cutting pains in umbilicus. At first suppression, followed by profuse flow of urine; later, constant inclination to urinate, with dull heavy pain in small of back; urine high-coloured primarily, very pale secondarily; urine very foetid. L. wrist very lame and sore in m.; constant dull aching in lumbar region for 8 d.; severe

attack of lumbago all one e.; great weakness of legs, with general prostration. (*Med. Inves.*, i, 63.)

2. Mrs. B.—dark complexion and fleshy. Jan. 13th, took one powder of 30th dil. in m.; was then menstruating. Menstruation stopped entirely at noon and did not return; sleepy all p.m.; could not apply herself to anything; no appetite for supper but intensely thirsty; urine very scanty and cloudy. 2 a.m., woke with hiccough, which lasted an h. Slept uneasily until m., and woke with a sharp, darting, stitching pain low down in uterine region, which lasted until dressed. 14th.—Another dose of 30th; slight rheumatic shooting pains in different parts of body. Extremely sensitive to noise; very nervous and low spirited; urine scanty; thirst and "laziness" continued; confused headache. 15th.—Another powder of 30th; slept well; appetite better; urine still scanty and thick, pinkish, and cloudy; great thirst, and "so lazy;" almost irritable; the children's noise is almost unbearable. 16th.—Urinary symptoms increased; thirst continues, also nervousness and "laziness." 17th.—All symptoms wore off. 18th.—A reaction came on; felt as gay and ambitious as she had been depressed and lazy before. 20th.—Commenced taking 12th dil. Return of the sharp pains in uterine region and the thirst. The depression of spirits and laziness returned in a two-fold measure; could neither read, sew, study, think of her patients, nor even play backgammon. Urine took the other extreme and passed in large quantities, yet normal in all other respects. Head felt dull, heavy and confused; shooting rheumatic pains; sore mouth, not quite aphthous. Left sub-maxillary glands swollen and sore. The laziness all through has not been a stupor but an uneasy desire to do something, yet nothing was the right thing. (Dr. A. K. HILLS' provings, *Hom. Times* (N. Y.), viii, 49.)

3. Miss A.—light hair and blue eyes; took one powder of 30th dil. four successive d. Pain and stiffness in r. sterno-mastoid when turning head to l.; lameness and soreness in base of brain; soreness and lameness in r. leg, from inguinal region to knee; burning sensation in face; intense feverish heat throughout body; dull, darting pain through both shoulders and arms, and in back of neck, rheumatic in character. (*Ibid.*)

4. Miss A.—, blue eyes and brown hair. Jan. 24th, 12 p.m. One powder of 30th dil. After about 2 was very restless; could not sleep although sleepy; felt dull pain in limbs and back, and general uneasiness which compelled frequent change of position; felt more comfortable on l. side; about 5 slept, but dreamed of ridiculously unnatural things. Mouth and tongue very dry upon awaking. About 7 woke, with dull pain in hypogastric and iliac region, as if menses were about to appear; this pain continued all through m. with slight nausea; pain around waist and from thence down to knees. Dull pain in temples, particularly r., also in forehead; rest of head seemed unusually clear. Some soreness of upper teeth of r. side upon closing mouth. A dull pain also through r. lung from front to shoulder-blade. Lips quite dry, unless frequently moistened with tongue. None of these symptoms as perceptible while walking out of doors as in house. 26th.—One powder of 30th. Sleep quite restless; not much appetite in m., but quite thirsty. Same pain in uterine region. Looseness of bowels, with no pain. About 4 p.m. much headache and great nausea, especially in a warm room, which continued until eating, by which the nausea was partially relieved, but not the headache. Symptoms all more marked in a warm room than in open air. More severe pain in uterine region, back, and limbs; and nausea increased. Feeling of numbness in r. lung, shoulder, and arm. 27th.—Great nausea soon after rising, continuing severe all d., with temporary relief from eating. Lips dry and parched; much thirst for cold water. Thoughts of eating unpleasant, but not eating, except sweet things, or soft food, like oatmeal, &c., which increased the nausea very much. Very little appetite for anything. Dull pain over whole head, especially temples and forehead; headache and nausea much increased in a close room, with excessive sleepiness. Bowels loose, yet no pain. Urine rather scanty. Quite severe dull pain in lumbar region. P.m., feeling of sadness, with no cause whatever, and desire to be let entirely alone. 28th.—Neuralgic pain in muscles of various parts of body, and in muscles of hips and neck a stiffness with every motion, which commenced in morning and continued all d. 29th, 30th, 31st.—Very sleepy much of the time, especially in a warm, close room. Still frequent soft stools and

constant urging in rectum, with pain while passing stool, but relief after; also constant dull pain in back and r. side over liver. Feb. 1st—5th.—Still same condition of bowels, which gradually decreased. Same constant dull pain in liver, which seemed sometimes to prevent lying on r. side. 6th.—Pain in liver less, and bowels quite natural and free from pain. During all this time a feeling of weakness in abdomen, with disinclination to stand erect, and intense sleepiness, more especially between 11 a.m. and 2 or 3 p.m. Quite thirsty. Mind not as clear as usual. P.m. took one powder of 12th. 7th.—In m., menses appeared 3 d. too soon, without much pain and quite scanty. Mind very clear. 8th.—Nausea all d., and increased flow, but watery. Stiffness of muscles of r. shoulder and neck, which extended later in d. down r. side also. Toothache, dull, in r. lower molar. Mind still very clear; seemed able to accomplish anything intellectually. 9th.—Rheumatic symptoms gradually wore off, and at n. were almost entirely gone. Menses very scanty and pale, almost ceasing at times. Toothache of r. side at intervals during day. Thirsty. 11 p.m., took another powder of 12th. 10th.—Menses very scanty and pale. Slight return of bowel symptoms. Little stiffness in neck and shoulder still remaining. Weakness of abdominal muscles, also tension, causing inclination to stoop forward. Nausea all d. Menses ceased. 11th.—Another powder of 12th. Nausea continued. Increase of bowel symptoms; sleepy, and inability some of the time to think; at other times mind felt unusually clear. 12th, 13th.—Symptoms unchanged. 14th.—Felt utterly tired out; in m. could not do anything, from complete exhaustion. 15th, 16th, 17th.—All this time no relish for any food; satiety after eating little, but thirsty; sweets and soft food very nauseating. As soon as she had eaten, pain in bowels, and urgent stool, which relieves the pain. 17th.—Twitching in face over l. malar bone at intervals during whole d. 18th.—Same twitching in face. Bowels painful, and movement almost immediately after eating. Feels better in e. than in middle of d. Same distaste for food. 18th—22nd.—Pain in liver and twitching in face continued about the same, then both gradually decreased until 24th, when twitching had all disappeared, and pain in liver nearly. Bowels now rather constipated, yet urging quite frequent after eating, particularly mornings. 25th.—Still considerable pain in region of liver while sitting, not so apparent while moving. During all this time an almost constant pain under r. shoulder-blade. Several d. after this, several small glandular swellings appeared in l. axilla, which caused slight pain, but disappeared without any discharge. No more symptoms of any marked character not easily accounted for in some other manner. (*Ibid.*)

5. a. Dr. VAN DE WARKER took $\text{m}x$ of oil in syrup. There was immediate sense of heat in the stomach, and in about 15 m. sense of fulness of head and face, and the sense of warmth diffused itself over whole abdomen. In about $\frac{1}{2}$ h. there was slight giddiness, and a marked diuretic action, urine having a strong tansy odour. The diuretic action continued during the n., obliging him to rise and urinate (very unusual).

b. Two doses of 15 min. each were now taken at 4 h. interval. After 1st dose great heat of stomach and bowels, face flushed, and after about 15 m. very unpleasant sense of fulness within head. In $\frac{1}{2}$ h. urine passed in increased quantity, high-coloured, with strong odour of drug; pulse 98, temp. 99.5° . Flatulent eructations, tasting strongly of T. Urinated 3 times in the 4 h. After 2nd dose above symptoms were all renewed. Also, in 20 m. ringing in ears and dizziness; in 1 h. pricking sensation in extremities, with flushes of heat; strange fulness and sense of pressure of head, amounting to pain. In 1 h. 20 m. urine produced slight scalding, and constant desire to micturate was present, but not strangury. In 2 h. there was thirst, and strong desire to draw a deep breath, which, however, did not relieve chest when drawn. Dizziness continued, but mind was quite clear. After

2½ h. same symptoms, but dizziness and fulness diminished; pulse 115, temp. 100.5°. After 3¼ h. some drowsiness, and in 15 m. more he went to bed, drowsy but restless, the pricking sensation coming and going over extremities and along spine; weight at stomach, breathing slightly oppressed, sense of uneasiness but not pain in head, still constant desire to urinate. (*Criminal Abortion*, Boston, 1872, p. 74.)

6. Women who have used the oil inform me that they find a heat and fulness through the hips, which increase as they persist in its use, until finally they have a "show." (*Ibid.*, p. 72.)

7. X. Y. Z., March 12th, 1833, took at 8.55 p.m. 10 dr. of oil on sugar. No apparent effect following, at 9.10 took 20 dr. more. He soon felt a slight glow in stomach, and sense as of thrill through frame. Pulse was fuller and less compressible than usual, but not faster. At 9.30 took 15 dr., 45 m. later 16 dr. more, then 17 and 20 dr., but with little effect save slight exhilaration, and two loose evacuations. Next m. felt well, save that abdomen seemed full of fluid as after a cathartic. Next d. took of another and different specimen of oil ʒij in all during an h. Dizziness and confusion of mind set in, as after camphor. In 1½ h. some nausea and tremor, but no vomiting. Feeling of confusion increased for 2 h., remained stationary for 1½ h., and then began to subside. Two loose stools occurred. During operation of drug his voice had a strange sound in his ears. (*Bost. Med. and Surg. Journ.*, x, 30.)

II. *Poisonings*.—1. Dr. CONANT was called to a young married woman, who had had two children, youngest being 5—6 mo. old. She was in a semi-conscious state, complaining of "feeling bad," of nausea, and of much pain in l. side. Husband stated that she was in a "fit" when he had summoned the doctor. No cause could be found for this. She had had a chill before it, and was now hot and feverish. Besides the l. side pain, which extended from ribs to hip, she had severe occipito-frontal headache, backache, and pains in limbs. Aconite, followed by actæa rac., was given; but next d. headache was worse, and face and eyes red, though back, limbs, and side were better. She was said by attendants to have had five "spasms." Bell. and nux v. were now given, and next d. she was better in every way, and had only had one spasm. On the following d., however, she was worse again; and innocently asked if some tansy she had taken could have anything to do with her symptoms. It turned out that, suspecting pregnancy (about which she proved correct), she had taken several large doses of tansy to provoke abortion. This was now stopped; but the convulsions continued for 2 d. more in spite of caulophyllum. Gelsemium then at once brought them down to one a d., and puls. removed even this. (*Hom. Journ. of Obstet.*, Nov., 1882.)

2. A young negress took, to produce abortion, a strong decoction. When seen 2 h. later, she was found with pulse a little retarded, but somewhat full; tongue natural; skin moist; breathing slightly embarrassed, 14; pupils contracted; countenance dusky, immobile, with solemn look; answers to questions incoherent; indifferent; surface cool. Four h. later, coma; pulse 60, resp. 12; skin covered with cold clammy sweat; accumulation of mucus in larynx and trachea causing

embarrassed breathing; general paralysis of voluntary muscles and of those of deglutition; vomiting of matters smelling of T. She died 24 h. after taking poison. (PENDLETON, *Amer. Med. Times*, ii, 177.)

3. A young woman took nearly \mathfrak{z} ss of the oil as an abortifacient. She was found unconscious; cheeks bright red; eyes open and brilliant, pupils dilated and immobile, sclerotic injected; skin warm; respiration hurried, laboured, stertorous, embarrassed by accumulation of frothy mucus; pulse was full, strong, 128. At intervals of 5—10 m. there were violent convulsive attacks, during which head was drawn backwards, respiration suspended, arms raised and extended in tonic spasm, fingers contracted; then after some 30 seconds this tetanic state gave way to tremulous motion, often sufficient to shake room. The whole attack lasted about $1\frac{1}{2}$ m., until a deep inspiration announced its close. The tongue was occasionally bitten. After each attack face became pale and livid, and pulse was feeble and slow. Trismus persisted during intervals. She died $3\frac{1}{2}$ h. after taking poison. Autopsy was made 10 h. later. Rigidity marked; cadaveric patches little developed and of purplish red. Arachnoid dry; cranial cavity otherwise normal. L. ventricle strongly contracted; blood very liquid, having strong odour of T. Lungs normal. Gastric mucous membrane brownish at greater curvature, thinned, softened, and at one spot nearly destroyed. Spleen soft and bloodless. Uterus contained a 4 mo. fœtus; all here and in ovaries quite normal. (DALTON, *Am. Journ. of Med. Sci.*, 1852, i, 136.)

4. A woman, took \mathfrak{z} ss of the oil. She was seized with spasms, which recurred about every 12 m. They were most violent rigid spasms, not convulsions, coming on instantaneously and generally, and continuing about 1 m. There was no movement in arms, save a slight tremor; but these limbs were peculiarly affected, and always in the same way; they were thrown forward at a right angle with the body, hands similarly bent at wrists, forearms supinated, points of fingers nearly in contact, fingers straight but slightly bent at juncture with hand. Muscles of respiration were strongly affected during each paroxysm; air was forced from chest slowly but steadily, and made a slight hissing noise as it escaped from between lips. During intermissions of spasms muscles were perfectly flexible; and transition was very sudden. Trismus was more persistent than other spasms at first. As patient grew weaker, spasms were more frequent, but had same severity and duration. During 1st h. pupils were closely contracted, but afterwards much dilated. Respiration was laborious, not stertorous, most markedly so after a spasm. She died in 2 h. (HILDRATH, *Ibid.*, 1835, i, 256.)

5. A married woman, æt. 28, accustomed to 5 dr. doses of oil without inconvenience, now took 15—20 dr. Heat and burning in œsophagus ensued; after 3 h. dizziness and numbness, increasing almost to paralysis; then convulsions followed by vomiting. Pulse was 90, and pupils dilated. Severe pain was complained of in head. Coma ensued, with cataleptic condition of limbs, and lasted for an h. (BINKERD, *Phil. Med. and Surg. Rep.*, xxiii, 538.)

6. A boy, æt. 12, took \mathfrak{z} ss of extract for worms. Great mobility,

makes extraordinary movements and curious gestures, stretches himself, draws up his legs, stands on his head; when remonstrated with he says: "Leave me alone, it does me good; I cannot help doing it." When he draws up his legs, and the muscles will not go farther he pulls them up with his hands and then suddenly stretches them out again. All the time he has no pains; it lasts $\frac{1}{2}$ h., and occurs with each repetition of the medicine. (HERING, *Archiv*, xiii, 1, 170.)

III. *Experiments on animals.*—1. In March, 1872, while making biological researches on a series of essences having isomeric relations, I had noticed one resembling in odour that of absinthe. It was the extract of a *Synanthera*, the *Tanacetum vulgare*. This essence had been very little studied, chemically or biologically. Bruylants has since obtained from it a kind of camphor, which, curiously enough, has the same atomic constitution as essence of absinthe and Japanese camphor, $C_{30}H_{16}O_9$. Putzeys, of Liège, has studied its properties;* but I can affirm that these are by no means coextensive with those of the essence from which it is extracted.

a. This is what I ascertained in 1872. When I injected 2 dr. of the essence into the veins of a rabbit of medium size, after 20 seconds the animal was seized with convulsions as suddenly and violently as if lightning-struck. The anal and vesical sphincters relaxed, and allowed the urine and fæces to escape. The spasmodic and hurried respiration (115 in the m.) was so embarrassed, that each instant one expected the animal to die of asphyxia. These convulsions became less intense for a few seconds, but then returned stronger than ever. A sound near the animal's ear made him start as in poisoning by strychnine; evidently the sense of hearing was more acute. When a stick was brought near his muzzle he bit at it with force, and could be lifted up without letting go his hold. This biting action was voluntary, and quite distinct from a convulsive movement of the jaws. The convulsions lasted 50—60 m., or even longer if the doses were raised. If they were too strong the animal died asphyxiated. No higher dose could be borne than 3—4 dr. To the convulsive stage succeeded a comatose period of 2—3 h., during which the animal appeared insensible to every kind of stimulus. At last the normal state returned, and next d. the animal appeared in no way affected by the violent attack he had undergone. Finally, we ascertained that the essence of tansy is rapidly eliminated, unchanged, by the lungs, which leads to the supposition that it is oxygenated.

b. Nevertheless, the tanacetic convulsions differ notably from those produced by absinthe and camphor. There is no loss of consciousness; the attack is of unique character, as is also the long period of coma which follows it, and the tendency to voluntary biting; the sensorial functions are rather excited than abolished. In 1876 we observed, as very marked, an increase of the convulsions caused by a mirror being held before the eyes. In the phenomena produced by absinthe and camphor, on the other hand, we see a succession of epileptic fits, each followed by its coma; and one knows that in epilepsy there is complete loss of consciousness. Bromide of potassium, given

* See *Bull. de l'Acad. royale de Belgique*, 1878, p. 1101.—EDS.

beforehand, prevents the occurrence of these, but not so with the tanacetie convulsions. Another difference between the action of these substances is that absinthie and camphor arrest the glyco-genic function of the liver; while tansy has no such effect.

c. We have found in the trachea and bronchi of animals dying of the tanacetie convulsions frothy and sanguinolent mucosities, as in rabies; and it is to this type, rather than to the epileptic, that we think them conformed. All the symptoms of rabies are found here,—hallucinations, convulsions without loss of consciousness, opisthotonos, spasms of muscles of pharynx, larynx, and thorax generally, abundant salivation, asphyx phenomena, sensorial excitability, tendency to bite, characteristic hoarse cry, diminished sensibility and motility, momentary paralysis, the mucosities in air-tubes, subpleural ecchymoses, and hæmorrhagic infarctions in the liver. We think, therefore, that with absolute truth we may give to the effects of T. the name of *rabies tanacetica, simili-rabies*. [M. Peyraud has supported this opinion by using T. as a substitute for the virus of rabies in Pasteurian “vaccinations,” and reports like success.—EDS.] (*Bull. de la Soc. Méd. Hom. de France*, xxix, 570.)

2. The most marked symptoms of tansy toxæmia are a rapid disturbance of the nervous system, profuse salivation, immobile and dilated pupils, and severe strangury. These symptoms in animals appear rapidly and together. In a dog twice poisoned with the oil, and which died on the second occasion, the nervous centres and their meninges were found highly congested, with much serum beneath dura mater of both brain and cord. The lungs were congested even to hepatisation, as also the kidneys. L. side of heart was empty, r. full. Stomach and intestines showed no signs of inflammation, but bladder was contracted to capacity of a fluid drachm, and much corrugated and congested. (VAN DE WARKER, *op. cit.*)

TARAXACUM.

Taraxacum dens-leonis, Desf. Dandelion. Nat. Ord., *Compositæ*.

I. *Proving*s.—I. HAHNEMANN, *Mat. Med. Pura*, vol. v of original, vol. ii of translation. Contains 264 symptoms from 5 provers.

2. A lady, believing herself to suffer from a liver complaint, took a dessert-spoonful of a fl. extr. twice a d. for more than a week, when she began to feel uncomfortable and restless in herself—a sort of fidgetiness, as she expressed it, and general uneasiness, for which she could not account, as she had often been much more indisposed without experiencing such miserable feelings; she had, moreover, some nausea, and an uneasy sensation of sinking in the præcordia; her nights also were restless, and her bowels had become confined—rather an unusual occurrence with her. An aperient corrected this for the time, and relieved the other symptoms; but they soon recurred, and the same thing happened again. All this time she continued the T. On awaking one m., however, she found upper part of body covered with a rash, to

which her attention was first drawn by intense tingling and itching. Scratching relieved this, but increased the range of eruption and redness of skin. When I saw her there was no eruption on face, but this was slightly swollen, exhibiting patches of efflorescence or redness without thickening or elevation of cuticle. On forearms and hands eruption appeared to be of a mixed character—lichen and urticaria combined. The lichenous or papulous eruption (papulæ of pin's head size, and of purple or dark red colour) was dispersed all over arms, back and front, thickest about wrists and bend of elbows, in which places it was clustered in papulæ on an inflamed base. The urticaria occupied principally the front of the arms; the wheals were not very numerous or prominent, save under friction, by which they could be produced to any extent; they came out and went several times in d., and were always very large and abundant in m.; chest and around waist were also said to be thickly covered, and the redness intense, but I was not permitted to inspect these parts. The pulse was considerably accelerated, full, but soft, and there was also much febrile action, with rather severe frontal headache. Tongue was thickly coated at back with yellowish-brown fur, and there was much complaint of dryness of throat, in which there was a circumscribed ring of inflammation surrounding isthmus faucium; bowels were much confined and urine high-coloured, and considerably diminished in quantity.

On leaving off the T. and adopting a cooling regimen the eruption and other unpleasant symptoms speedily disappeared, and after 5 to 6 d. nothing was left but a little desquamation at the affected parts. (G-SMITH, *Lancet*, 1845-6, ii, 506.)

TARENTULA. See ARACHNIDÆ.

TELLURIUM.

The element so called.

I. *Proving*s.—I. HERING, after triturating T. on October 26th, 1850, at 7.45 p.m. washed off with some alcohol what adhered to mortar and pestle, mixed with water the blackish-grey fluid thus produced, and swallowed it. Immediately pressure upon a small place behind vertex. Soon violent pressing through metacarpal bone of r. 4th finger, increasing; confusion in head posteriorly; disagreeable sensation in stomach; something seems to come up in pharynx, but nothing results, till at last there is difficult retching, and then accumulation of water in mouth, followed by yawning. 8.3, at outside of r. knee, interiorly, burning aching. 8.5, peculiar pain in head above eyes, deeply within in a long line, like pressure from within outwards, worse on r. side. 8.20, pain in r. metatarsal bones, pressive. 8.30, dulness of head; headache has ceased; has at times a strange sensation as if round waves pushed against the pharynx below. Feels strange in whole body, but cannot describe the sensation. 8.44, violent linear pain in small spot above l. eye, behind brow. Towards m., when waked up, same

headache deep in l. sinciput, in a small spot, pressing there like a hazel nut, continuing slightly through m. Next m. once again same pain in r. metatarsus very distinctly. This m., and several subsequent m., tensive headache externally over whole l. head when lying on r. side, passing off when lying on l. Every d. for a week a second stool besides his usual one. On 5th and 6th d., at anterior margin of l. axillary cavity sensation as if it were thicker, as if there were a round tumour internally, the spot painful on pressure and motion; it went away without coming to anything. During this time he forgets and neglects much, finding things too much trouble to him. (An habitual cough at first became more violent, especially towards m., but then ceased altogether.) For one week a much more excited and powerful sexual instinct, with subsequent prolonged reaction. For six weeks continued sweat of feet, somewhat ill-smelling. During first week, and now and then during following, a peculiar twitching and distortion of l. facial muscles, often when speaking, l. angle of mouth being drawn to l. and upwards. (*Amer. Hom. Rev.*, v, 125.)

2. RAUE took, Jan. 18th, 1851, at 10.30 p.m., a few gr. of 3rd trit. It caused only a little rough scratching sensation in throat, not passing off by swallowing, and coolness in mouth on inspiring as from peppermint. 19th.—At 10 a.m. repeated dose. P.m., prickling itching at scrotum, thence visiting other neighbouring parts. Towards e. dull ache over whole head. At 10 p.m. repeated dose. 20th.—In m. much saltish mucus from post. nares. 12.30 p.m., 1 gr. 21st.—1 gr., fasting. Early in m. painful pressure or pain as if beaten in sacrum, worse when stooping, but not abating on rising again; it extends, after a time, into renal region; is relieved by walking in open air, but returns after a short time when sitting down. P.m., headache, worse on l. side and in front; nausea before e. meal, ceasing on eating, together with the headache. 22nd.—Prickly dry feeling in fauces, worse on l. side; l. nostril stopped, much mucus from r. posteriorly, prickly feeling went off after breakfast, but state of nares continued same all forenoon. Pain in sacrum began again on first stooping, and continued all d., better when walking, worse while lying on back, but when lying on l. side worse towards r. 5 p.m., very tired from knees downwards, especially r. side; whole e. drawing in r. leg posteriorly from ilium to calf. 10 p.m., heaviness and numbness in l. forearm and hand. Pains in sacrum and leg are so severe after lying down (11.30 p.m.) that they hinder sleep, and make him very restless. 23rd.—Again sacral pain on stooping, almost intolerable if this position is maintained; increased also by pressure to stool, coughing and laughing; relieved as before by walking; when aggravated, pain extends from sacral plexus along sciatic into thigh, worse r. side. Dryness in fauces in m., as yesterday; 11—12 a.m. it ceases, and r. side instead becomes painful, worse on empty swallowing, pain extending into r. ear, making it feel stopped; this last sensation recurred more than once in one or other ear. 24th.—Wakened with sweat about 4 a.m. Much mucus in post. nares, obstruction of r. nostril, dryness and prickling in fauces. While walking in open air a fluent coryza develops itself, with hoarseness, watering of eyes, short cough, pressure behind sternum; but it soon

goes away again. 25th.—Recurrence or symptoms of nares, throat, and sacrum. 26th and 27th.—Same, also occasional catching of air in l. Eustachian tube. (*Ibid.*)

3. a. OSCAR TIETZE took 3rd trit. (manner not stated). 1st d.—Drawing and dull pressure at r. scapula, soon afterwards at l.; dull headache and dulness of head; sensation between roughness and pressure in region of larynx, which generally provokes cough, passing gradually into pure tickling; slight stitches in chest, transient, more on l. side; internal chilliness with single shuddering; pressure at tonsils; drawing cutting pain around and in l. nipple, extending towards scapula; single pressive stitches at forehead. The stitches in side (l.) became more pronounced, lasting 3—10 m.; so also headache, feeling like the pressure over eyes felt after being awake for several n. Unpleasant drawing in r. hand, later involving whole forearm; sometimes tearing pains towards elbow and in palm towards thumb; sensation as if skin of hands, especially r., were contracted, from tips of fingers downwards; at same time at ends of fingers a feeling of deadness. 2nd d.—Pains in head have for the most part disappeared, but a stuffy cold has set in; it ran a natural course during some d. more.

b. After about 5 d. appeared on l. hand small red points, shining through skin, which sometimes itch; feet also itch, especially l. After several d. more similar points appear on calves, and extend to thighs, then to epigastrium and over l. breast to axilla. On rubbing itching spots these points become more visible. The itching now came in back, and later in head posteriorly and superiorly, not anteriorly. While sitting with head bent forwards a sudden rush of blood towards head, recurring irregularly, but almost daily twice. Itching at head lasted about 14 d., and rush of blood recurred for about the same period. At same time every n., while getting to sleep, sensation as if he were wafted or drawn forth very quickly in the direction of his legs. He is always wakened by it, but it never returned later in m. (*Ibid.*)

4. A female school teacher, æt. 40, took 3rd trit. Jan. 18th, at 10 p.m. After 1 h. dull pain deep internally in whole length of r. thigh, later for a short time in head above and behind l. ear, then in pelvis at l. side (pain in thigh continuing). A sharp pain passed quickly over toes of r. foot, then into heel. She got to sleep, lying on l. side, and woke once in n., with dull pain in region of heart, passing away on turning on back. No change of position had any influence upon pain in thigh. 19th.—Very frequent urging to pass water, and unpleasant sensation if she cannot yield to it. She walked to-day 8 or 9 miles, and felt the effects so sensibly that she stopped the T. until the fatigue should have passed over. 20th.—Menses appeared p.m., one d. too early. She still felt effects of her walk. 25th.—Again took 3rd trit. in e. First noticeable symptom was pain in upper sacrum, which extended upwards. 26th.—Repeated dose. There is either pain or sense of weakness in back all d. At 10 p.m. another dose. After lying down, throbbing on r. side of pelvis superiorly. 27th.—About 10 a.m. pain above l. eye, coming suddenly and going as quickly; it seemed to have been caused by a sudden rush of blood thither. As it was passing

off, there was indescribable sensation along l. neck, as if blood there had been suddenly retained in one of the large veins, or had streamed backwards. Next followed weakness and faintness in stomach, and pain in l. chest. All through d. constant pain in chest, anteriorly, in middle, sometimes extending backwards between the shoulders; and dull unpleasant feeling in head, especially above eyes. Weakness and pain in back continued. 28th.—Pains change about more than yesterday—mostly on l. chest, now and then in r. chest and over r. eye, once or twice in r. shin. These pains (which were quite unusual) were so continuous and violent that they compelled prover to remain at home p.m. 29th.—After going out in m., pain above r. eye towards temple, then in flanks, r. pelvis and shin, over l. eye and ear, last in r. eye; at same time she is chilly. On 30th there was return of earlier symptoms but with less severity, and later constant pain in region of heart, and occasionally over l. eye. (The heart pain, which seemed to be in the apex, is like something she had had 5—6 years ago, but then more severely.) While having this she had great disposition to bend forward, even so as to lie on face, without, however, experiencing any relief from it. (*Ibid.*)

5. Dr. KITCHEN took 3rd trit. Pain in l. flank within ilium; pain in sacrum, sometimes stabbing, worse on stooping or on rising up, passing down r. sciatic, and making it almost impossible for him to press at stool; restlessness; fulness in upper abdomen. He had erections all n. long—a thing which had never before happened to him. (*Ibid.*)

6. Dr. GARDINER took same, e. and m. While sitting, a.m., burning in r. hypochondrium and, later, heavy pressure there. (Next m., while dressing, a very violent attack of vertigo, becoming much worse after walking out; he could hardly stand, and was compelled to lie down and remain at home several d. The vertigo caused nausea, after eating rice he was obliged to vomit; it recurred at every movement of body or even head. At same time pulse was more frequent. He had previously had similar attacks,—one, severe, after glonoin. On other occasions aconite had always helped him, but this time it did not; nor did glonoin or belladonna. The vertigo gradually passed away after 3—4 d.) (*Ibid.*)

7. Dr. WHITEY took 2nd trit., several gr. n. and m. In fauces above larynx, itching and a kind of burning, as if he had scalded himself with hot drink, lasting several d. After 2—3 d. an eruption makes its appearance, such as he had never had. Small red pimples, very bright red and sharply defined, with minute vesicles upon them, appeared first outside calves, then inside forearms above wrist, and spread from these points, causing very severe itching, worst at n. in bed. (*Ibid.*)

8. Dr. GOSEWICH took 12th dil. at 4 p.m. Next m., when lying on l. ear, a kind of sharp pressing pain from neck into l. ear. After a few d. small red papules, itching much, appear on abdomen, inside thighs, and on perinæum. Temper during and after proving much quieter than usual. (Almost every drug he had hitherto proved gave him headache; this did not.) (*Ibid.*)

9. Same gave 6th dil. to two persons.

a. A man took 1 dr. at 5 p.m. (He was hardly in normal state when beginning, for he speaks of "sleepy, heavy condition" as then existing.) While lying on sofa after supper numbness in abdominal walls; slight feeling of suffocation in upper throat; palpitation of heart and general throbbing through whole body, with full pulse; after this had lasted an h., copious sweat for $1\frac{1}{2}$ h. Metallic earthy taste in mouth; feels empty and weak in stomach; dull pain between shoulders; numbness in occiput and nape; sense of warmth, as after spirituous drinks. Next m., customary stool is lacking; urine dark. Some pain in mid-sternum, abdomen, and clavicle. On returning from a walk after supper, large joints of limbs felt as if sprained and beaten; on every movement brain felt as if bruised. In m., after deep sleep with bad dreams, felt heavy and dull; skin was hot and dry; sensation as if overstrained, as if bruised, as if he had taken cold after severe exertion. At close of urination, burning in orifice of urethra.

b. A woman took drop doses (how often is not stated), and made following report:—Lassitude and weakness, then pains in elbows, ankles, and various parts, sharp and quick; singular contracting sensation in epigastrium as if parts were folded together; when this sensation passed away, there remained pain and soreness in l. side; very quiet mood (opposite of usual state). After she had for some time remarked nothing further, pain and soreness began in renal region, extending downwards and over to abdomen, with pressing down as if from a weight, which increased during whole n. Nightmare during n. In m., kidney pains were still worse, especially sense of soreness. She was also attacked in r. abdomen, and still worse low in back, with gnawing rubbing pains, which continued several d. Head heavy, full, and sleepy; constipation, with much flatulence; blind hæmorrhoids; pimples on face. (*Ibid.*)

10. Dr. METCALF took, Aug. 14th, 1851, at 5 p.m., 1 gr. of 3rd trit. After 15 m. drawing cramp-like pain in supinator longus of l. arm, just below bend of elbow, lasting $\frac{1}{2}$ h. General warm sweat over whole body when sitting writing (afternoon was cool). Fine sticking prickling in various parts of skin whole e., very annoying; it compels him immediately to rub the spots. 9 p.m., a second gr. 15th.—At 6.30 and 10.30 a.m. repeated dose. Already at 10.20 prickling returned; it was like flea-bites here and there for whole d., and continued off and on for some weeks, though no more T. was taken. On the 24th there appeared on forehead a small group of round vesicles on a red areola. The vesicles dried up into small scabs and extended gradually at the circumference; there was only a little itching and pricking. 31st.—The spot is now completely circular, and in centre is a red desquamating spot without vesicles. Urine is in smaller quantity ($17\frac{1}{2}$ oz. in 24 h.), dark red, sp. gr. 1030. Sept. 1st.—Itching and stinging in "herpes" became very troublesome, and wandered over whole body. A similar spot, with intolerable itching, appeared on l. flank, forming about $\frac{3}{4}$ circle, and not so regular as that on forehead. 2nd.—Urine $22\frac{1}{2}$ oz., characters same. Analysis gave—

Fluids	...	...	...	...	930.10
Solids:					
Urea	...	...	...	...	30.06
Uric acid	...	...	...	...	.80
Incombustible salts	...	...	...	...	19.40
Organic matters	...	...	...	...	19.64
					— 69.90
					—————
					1000.00

Colouring matter in marked excess. Hydrochloric acid produced striking changes in colour. 25th.—During last week (6th from first dose) the sticking pain in skin was much less, but it was followed by constant itching on scalp compelling continual scratching. There are fine vesicles there upon small reddish spots, drying up in a few d. and leaving little white scales behind; they are most abundant at margins of hair and on neighbouring skin. Ring on forehead is diminishing, but a smaller one is forming above it. Oct. 1st.—Eruption and itching on head almost gone, and the two original rings quite; but third is on the increase. Urine normal. By 8th the last “herpes” had disappeared. (*Ibid.*)

11. *a.* Dr. CARROLL DUNHAM took 1 gr. of 4th trit. every n. for 5 d.* About 12—20 d. after first dose l. ear began to itch, burn, and swell. There were aching and throbbing pains in external meatus, and, in course of 3—4 d. there was copious watery discharge from ear, smelling like fish-pickle. Discharge was offensive and acrid, and caused vesicular eruption on lower lappet of ear and on neck wherever it touched the skin. The inflammation of the ear generally was not vesicular; the colour was a bluish red, and the ear had the appearance of being infiltrated with water. It lasted nearly 3 mos.†

b. During second month the spine, from last cervical to about fifth dorsal vertebra, became very sensitive and seat of peculiar irritability, which made prover dread having part touched or even approached. This dread was disproportioned to the actual sensibility of the part when pressed or rudely touched, for this was not really very great. From the vertebra above mentioned a peculiar irritation seemed to radiate upwards into neck, outwards into shoulders, and forwards through thorax to sternum. The distress caused by this sensation was aggravated by fatigue, but only partially relieved by repose. It was great and very annoying, and lasted nearly 2 mos.

On two subsequent provings, with same preparation, being made within two years after the above, the same symptoms substantially were reproduced. (*Ibid.*)

12. Dr. X. HANSEN took for 7 d., each d. an h. before dinner, a dose of bitellurite of potash, dissolved in water by aid of some potash (therefore

* The original records of this proving have been lost. The above is a summary (from memory and a few imperfect notes) of the most striking effects. The notes of time must be regarded as only approximately accurate.—C. D.

† “An examination which I made after the proving showed the membrana tympani to be irregular, thickened in parts, thin in other portions, the result of perforation and cicatrisation.” (Dr. HOUGHTON, *Amer. Obs.*, Feb., 1881.)

strictly a neutral salt). During the first 4 d. 0.04 grm. was taken, on the two following 0.05 grm., and on the last 0.08 grm. On the first 2 d. sleepiness set in, which compelled him, contrary to his custom, to sleep for $\frac{1}{2}$ h. after eating. In subsequent course of experiment he no longer felt this sleepiness. During first 3 d. he thought he noticed increased appetite, but subsequently this diminished more and more. After last dose there occurred oppression in cardiac region, disposition to vomit without actual vomiting, and uncommonly copious secretion of saliva. Tongue was coated white and somewhat swollen, so that on its margin impressions of teeth were strongly marked. Appetite was lost. These gastric phenomena did not cease till after 14 d.; and garlic-like odour which breath assumed in first minutes after commencing dose was still perceptible even 7 weeks afterwards. (*Ibid.*, p. 426.)

13. VON ROEDER took before dinner 0.04 grm. of same salt. Already, after a few m., breath assumed peculiar alliaceous odour, evident to all who conversed with him. There occurred frequently light eructation; he could, however, eat (as he thought) with more than usual appetite, then felt unusual sleepiness, and actually fell asleep. No further effects. Next d. he took a dose of 0.05 grm. There resulted eructation and (he thought) increased appetite, without further effects; but after 3 d. his breath betrayed the T. odour. (*Ibid.*, p. 427.)

14. Prof. WÆHLER, while busied with investigations of telluric ethyl, had in his breath for some weeks the above-mentioned odour of garlic; and, it happening once during this period that in consequence of taking cold he got into a very profuse perspiration during n., the sweat gave out this offensive T. odour to so great an extent that it was hardly tolerable. He had an opportunity of observing this symptom a second time during course of his work.* (*Ibid.*)

III. *Experiments on animals.*—1. GMELIN introduced 3 gr. of an oxide into stomach of a medium-sized and lively dog, with some meat. After 22 m., vomiting of a watery mucus; the animal lost its liveliness and would not eat, but drank much water and passed much urine. After 4 h. the vomiting was repeated several times. After 8 h. appetite returned, and next d. animal was quite well. (*Ibid.*, p. 78.)

2. Same gave a rabbit, which had 2 d. previously taken 4 gr. with impunity, 10 gr. made into pills with gum-arabic. Immediately after swallowing these the animal lost its liveliness for a time, but soon recovered and ate with appetite. It seemed well for remainder of this and through following d., but on 3rd m. was found dead. Intestinal canal showed externally, except distended blood-vessels, nothing particular. On opening stomach, a thick, white, frothy mucus made its appearance, in which the mucous membrane—which everywhere came off with the greatest facility—seemed to be, as it were, dissolved. Inflammation proper had not occurred. Near the pylorus a quantity of black ink-like mucus was found, and the same filled all the small and large intestines as far as the rectum. It was washed off with

* For similar experiences see *Pharm. Journ.*, xiv, 376; *Pacific Med. and Surg. Journ.*, 1869 (Bunsen).

difficulty. The rectum itself was empty and contracted. The liver was bestrewn with red inflamed spots; gall-bladder was full of green bile; ventricles of heart were filled with a polypus-like coagulum; lungs showed, save some red spots, nothing particular; serum, wherever present, was violet-coloured.* (*Ibid.*)

3. HANSEN introduced into stomach of such a dog as No. 1 0.3 grm. of bitellurite of potash dissolved in water by aid of a few dr. of liquor potassæ. The animal immediately lost his liveliness, seemed to be stupefied, and lay down quietly. Garlic-like odour appeared in breath after 1 m. In 20 m. vomiting set in, which was frequently repeated in course of first h.; appetite was lost. On following d. animal had recovered, but still gave out strongly the odour of T. Two repetitions of the dose produced the same stupefaction and vomiting; the ejecta were black mucus, excrements were of same colour. (*Ibid.*, p. 366.)

4. Another dog received during 4 d., in 3 doses, 1 grm. of tellurous acid and 1.4 grm. of bitellurite of potash, with no other results. On the 7th d. 0.5 grm. of the salt, in sol., was injected into the jugular. There followed a few convulsive movements, *exoneratio alvi*, and death in 4 m. Save for a blue-black coloration of intestinal canal and of all glands, even parotids, nothing abnormal was found; but in both eyes cataract had formed, apparently due to deposition of T., as granules—black by transmitted light—were found in lenses, and fluids of eye gave out the alliaceous odour. T. was also found in the urine. (*Ibid.*)

TEREBINTHINA.

Oleum terebinthinæ, the distilled oil (purified) from the oleo-resin (turpentine) obtained from several species of *Pinus*.

1. *Proving.*—1. PURKINJE swallowed ʒj for 3 m. in succession. Besides a general rise of the animal temperature he became very drowsy, and found it very difficult to keep awake. There was no other effect felt; but he noticed that while under influence of the T. wine exerted intoxicating influence much more readily, especially in regard of vertigo. (WIBMER, *op. cit.*)

2. A man took early in m. ʒj. In about 10 m. he began to experience a sense of heat at stomach, which was followed by pain in head. Pulse and breathing became quickened. In course of 3 h. he became easier. P.m. he had slight return of these complaints, and urine had stronger odour of drug than before. At 5 he had a loose motion, whereupon symptoms subsided. Four d. later he took another drachm. In 40 m. heat at stomach and pain in head ensued, whereupon he took ʒiiss more. Symptoms did not increase in severity, he was quickly

* Dr. Hering points out that T., prepared according to Klaproth's method, is not free from the selenium with which it is combined in nature; and to this element some of the effects observed by Gmelin may be traced.—EDS.

purged, and by noon experienced no effects of the medicine. (MONEY, *Med.-Chir. Review*, iii, 452.)

3. Dr. JAMES COPLAND took, at 8 a.m., fasting, ʒx in a cup of coffee, when his pulse was soft, regular, 69. After 5 m. it was fuller, 73; after 30 m. hard, smaller, 80, and there was slight vertigo, general chilliness, and feeling in scrob. cordis of something between pain and warmth. At 9 pulse was small, rather hard, 82; there was increase of other sensations, face very pale, features shrunk; pulsation in carotids smaller and less resistant than normal; intellect rather unsteady, inability to fix the attention; increase of gastric uneasiness; slight anxiety; feeling as if intestines were drawn against spine, great thirst and appetite. 9.30 a.m., pulse small, regular, 86; carotid pulse quickened; general loss of power, trembling hands, feeble and somewhat tottering gait; coldness greater, at least in extremities; considerable thirst, with heat in stomach. 10—11 a.m., all symptoms increased, especially anxietas; hunger and thirst compel him to take food (tea and toast). Towards noon the vertigo began to go off, but all d. he feels weak; pulse at 7 p.m. small, weak, 92; the above feeling in bowels, considerable anxiety, slight nausea, drowsy in e.; stupid and confused; no stool; urine in normal quantity, smelling of violets; breath with turpentine odour. On going to bed at 10.30 p.m. very distressing anxiety and sinking at præcordia; great weakness, pulse weak, irregular, intermittent; fingers became insensible and gone asleep; palpitation of heart; spasmodic contraction of thoracic and cervical muscles (as in hysteria); sleep restless. Next m. still weak, pulse 60, weak and soft; tongue white and dry. Till 3rd d. no motion, then a very costive one. (*Lond. Med. and Phys. Journ.*, xlvi, 107. 1821.)

4. a. Dr. BRUCKNER took for neuralgic pain in l. upper arm Tereb. 6. Immediately cough as if a foreign body were in trachea, at same time spasm in larynx, as in whooping-cough. Inspiration in 6 or 7 interrupted breaths, and the spasm soon became so severe that he could not make an inspiration. About 10 m. thereafter peculiar scraping in throat.

b. Took 2 dr. Res. Tereb. 1ʒ. Soon feeling of soreness in lower part of chest, lasting a long time. (*Allg. h. Z.*, lxxviii, 131.)

5. Dr. WOOST made a proving of T., doses and number of provers not stated. Soon slight transient nausea, m. After 3 m. boring in chest along sternum, gradually spreading all over chest and terminating in transient stitches out at both nipples after drinking something warm. After ½ h. slight pressive pain in scrob. cordis on a small spot, removed by stooping, lying, and deep breathing. After ¾ h. feeling of flatulent distension of abdomen, must rest. Distension of abdomen as after taking salts. Slight drawing in l. testicle, when sitting. After 1 h. slight tearing headache. Gradual painful drawing from nape up to occiput, thence extending to forehead. After 1½ h. slight cutting in upper part of abdomen. After 2 h. a transient shoot in r. mastoid process. After 2½ h. black points and spots hover for an instant before eyes, with transient giddiness when walking in open air. Violent spasmodic drawing on l. testicle and along l. spermatic cord. After 6 h. sudden transient vertigo causing him to fall, with blackness before eyes. After 8 h. urging as if a second stool would come. After 10 h. pressive pain in l. kidney. After 12 h. a stab as with a knife in forehead. His usual spring in walking is gone, the muscles feel stiff, he walks slowly and bent like an old man. After 14 h., when seated, e., warm feeling at heart, he yawns much, and water comes into mouth. After 15 h. sudden and great longing for rue (to eat cut up with bread and butter), though he had just had a full meal; when engaged in mental work, e. After 17 h. pressure in stomach, in bed, e., when lying on l. side; it prevents him sleeping,

relieved by emission of flatus, going off gradually on lying on r. side. Burning in r. hypochondrium. 1st d. general dull headache with cutting in abdomen for 3 d. Tearing headache on r. side, lasting all d. Loss of appetite for 2 d. Burning in urethra when urinating. After 36 h. transient jerking shooting on l. side of upper abdomen when urinating, e. Spasmodic forcing or pressure in iliac region outwards, as though hernia would be protruded, now on r., now on l. side, repeatedly even after 3 weeks. Inguinal glands painful and slightly swollen when sitting, e. Drawing lame pain in l. thigh. 2nd d. giddiness in head, with nausea and loss of appetite. Violent tenesmus and cutting in bladder, which alternates with a similar pain just above navel, worst when at rest, better when walking in open air. Increased urine for 2 d. After 60 h. a sore tickling pain in l. temporal region, going off and recurring, removed by rubbing, in bed, e. After 3 d. a kind of coryza, when, without premonitory symptoms, thin watery fluid flows from one or other nostril, and lasts 2 d. After 6 d. ringing and singing in ears like a clock striking, increasing for 4 h.—*No time stated.* Pressure in whole head. Pressive pains in head with nausea, soon passing off and soon recurring. Heavy pressive headache over l. eye, when seated and engaged in mental work, lasting $\frac{1}{2}$ h., e. Tearing from forehead to r. ear, which is very hot, while l. ear is cold; the tearing headache lasts till e., soon going off and soon recurring. Scrapy feeling in throat. Rancid eructation. Appetite diminished, no relish for her favourite food. Loathing of meat for a week and longer. After a meal which is relished very distended belly. After eating, pressure in scrob. cordis, as if he had eaten too hastily. Pressure in stomach, turning into slight nausea, relieved by eructation. Pressure in scrob. cordis as if from without. Feels as if he had swallowed a small ball which had stuck in the pit of the stomach. Severe burning pressure in hypochondria. Slight pressure and drawing in l. side of upper part of abdomen. Pressive and cutting pain in l. side of upper part of abdomen, under ribs, when sitting, going off by movement. Pressure under diaphragm going from l. to r. side, after a meal. Pressure in abdomen with feeling of weight and discharge of flatus. Weight in abdomen after siesta. Fulness of abdomen as after eating too much. Tearing cutting in l. side of abdomen in bed, e., when lying on r. side; later in r. side also. Cutting in abdomen spreading thence to legs. Cutting in abdomen, with distension of some places, as if a hernia would protrude. Shooting and pinching in r. side after stool. When lying after dinner umbilical region retracted. Cold as if pressed from without by a round cold plate. Cold feeling in abdomen as if it were uncovered, after dinner. Feeling in abdomen as if he should be violently purged. Rumbling in abdomen, m. Immediately after dinner loud rumbling in stomach and bowels. Rumbling in abdomen, followed by cutting pains there, e. Pressure in kidneys, when sitting, going off on moving, m. Transient drawing in r. kidney, and thence down to r. hip. Feeling as though his pubic arch would be burst asunder. Transient tearing pain in groin. Persistent, more or less violent forcing and cutting in r. iliac region. Movement and working about in inguinal region as if a hernia would protrude, especially when he stretches out leg when sitting. Transient cutting drawing in r. iliac region. Burning in skin of r. iliac region. Urging to stool without effect. Urging late at n. for the 4th time to stool, but nothing comes. Diminished, scantier stool. Constipated with distension of abdomen. Small hard stool. Fæces dark chestnut colour, abnormally dry. Itching burning in anus after stool, as from piles. Slight burning in anus when standing. During stool a transient movement in vesical region as if bladder were suddenly distended and bent forwards. When sitting spasmodic pain in bladder, frequently recurring. Burning in bladder, and when urinating also in urethra. Tearing in mons Veneris. She passes less urine than usual. Frequent desire to urinate, but little passes at a time. Urine smells distinctly of violets, its colour normal. Urine deposits a slimy sediment 12 h. after it is passed. Cutting drawing from inguinal ring into l. testicle, going off when stooping. Transient burning on posterior side of r. testicle. Drawing in thighs with cutting in abdomen as if menses would come on, though she had had them only a week ago. Catamenia delayed 2 d., and were scanty. Increase of dry short cough, especially when lying down after dinner. Complains of short breath. Transient itching pain in l. pectoralis major. Pressive pain in back, going up between shoulders, and there throbbing. Drawing pain in back, when sitting, especially e. Drawing in dorsal and lumbar muscles, with lazy feeling and heaviness, on moving in open air. Drawing

pain in sacrum. Drawing and tearing pain in r. hip-joint. Drawing in outer side of r. thigh, as if in fascia lata. Drawing in both thighs in the course of the large vessels. Pain in feet. Heaviness in limbs. Feeling of general exhaustion. Cannot sleep for 2 h., and tosses about. Restless sleep, frequent waking and tossing about at n. for a week. Does not dream as usual. Hardly fallen asleep when is waked by nightmare. Perspires much on legs in bed at n. (HARTLAUB und TRINKS' *Annalen*, iii, 118.)

b. Dr. SEIDEL (no information). Immediately disagreeable coolness in throat. After 1 h. pinching under scrob. cordis, with nausea and eructation.—1st d. Drawing in teeth. Boring in tip of tongue, its papillæ elevated. Scraping in throat causing him to cough frequently, c. A pappy stool with pinching in abdomen and burning in anus. Urine increased. Seminal emission, n.—2nd d. Violent burning, drawing pains in renal region, lasting 5 d. Urine first clear, on standing turbid with reddish-white sediment. Drawing in humerus, m., for 2 d.—3rd d. Dislocative pain in muscles of l. upper arm.—4th d. Drawing in bones of r. side of face and forehead, c.—*No time stated.* Drawing along thighs. Drawing in iliac region and thighs. (*Ibid.*)

7. Dr. HOPPE in the course of 1 h. dropped upon his naked l. elbow 180 dr. of warm T., 5 to 10 dr. at a time every five minutes. The skin reddened gradually until it attained an intense red colour. There was itching extending beyond where the T. was dropped, and burning which increased with every repetition of the application; the burning assumed a pricking character, the corium was somewhat swollen; there was slight numbness, and the affected part was very tender to the touch. (*N. Z. f. h. Kl.*, vii, 178.)

II. *Poisonings.*—1. A male infant, æt. 14 mo., swallowed ℥iv (?) by mistake. It was found 2 h. afterwards in a comatose state; pulse 130; conjunctiva injected, pupils dilated, eyes watery; face flushed; breathing hurried; strangury, urine of violet odour; abdomen tender, especially along course of spermatic vessels. Emetics and cold to head were employed, and 10 h. after the accident he was much improved and quite lively; pulse 120; bowels loose, and 8 small worms had been passed. For 4—5 d. he improved steadily, showing only a little excitement about brain, and after this was quite well. (EVANS, *Journ. of Med. and Phys. Sc.*, Nov., 1846; from Taylor on Poisons.)

2. A young man drank about ℥iiss of the oil. Soon after he was seized with frightful præcordial oppression, and with all the symptoms of strong intoxication. All n. he lay drenched with sweat, in profound sopor, and woke next m. very weak and with bewildered head. He could not stand on his feet without staggering from side to side. After profuse emission of violet-smelling urine he was so relieved that by e. he only felt a little weakness. (SCHLEGEL, in *Frank's Mag.*, iii, 646.)

3. A young man took oil for tænia,—℥ss hourly from 8 a.m. till ℥ij had been taken. After 1st dose burning in throat, less from those which followed; after 3rd nausea and vomiting; after 4th purging, and sudden access of nausea; violent burning in rectum, which lasted 2 d., much relieved by cold water enemata. He was purged 8 times during d., chiefly mucus and water passing, and towards e. had two copious emissions of urine, with burning. (OSANN, *Ibid.*, ii, 886.)

4. A man took same for same. On 1st m. he had ℥j in 2 doses within an h., and in e. repeated dose; after latter he had burning in stomach, one turn of vomiting, and fulness of head. Next d. ℥iiss was

taken in emulsion within an h. Soon after he experienced violent burning in stomach, colic, vertigo, and pressure and fulness in head threatening apoplexy. After 3 h. vomiting of oil relieved head, but breathing was laboured and colic continued. Five h. after taking drug a scarlet eruption broke out over body. In e. he had 2 stools, and next d. some gastro-enteritis showed itself. (WIBMER, *op. cit.*)

5. A woman of intemperate habits swallowed an unknown quantity, possibly \mathfrak{v} . She was found dead, her body in rigid opisthotonos, eyes open, pupils dilated. Brain, lungs, stomach, and both sides of heart were gorged with dark blood, and \mathfrak{v} of oil were obtained from stomach. (MAUND, *Glasg. Med. Journ.*, April, 1857.)

6. An infant, 14 weeks old, swallowed \mathfrak{ss} . In about 1 h. it became insensible, cold, and slightly convulsed; 2 h. later pupils were contracted, pulse small and feeble, breathing very slow and irregular, with moist râles. Death took place at end of 15 h. (MIALL, *Lancet*, 1869, i, 360.)

7. A boy 3 years old drank nearly \mathfrak{v} of "camphine" (which is practically identical with T.). Within $1\frac{1}{2}$ h. he was in a state of profound coma, eyes suffused and injected, pupils dilated, pulse 130, skin dry and hot, mouth and fauces dry and parched, features somewhat contracted and anxious, and respiration hurried. The abdominal muscles were very tensely contracted, as he lay curved, with arms closely folded and pressed on the abdomen. The child could not be kept awake, even while vomiting. There was constant priapism, with frequent attempts at micturition, but only 4 oz. of urine, and that bloody, were passed during 18 h., for which time the coma continued. For several d. patient remained excessively nervous and irritable, but at the end of a week he appeared to be well. (HARRIS, *N. Y. Journ. of Med.*, N. S., x, 40.)

8. J. H—, æt. 27, porter, of temperate habits; never had dropsy or other symptom of renal disease. On March 21st, 1847, he took ol. terebinth., ol. ricini, of each \mathfrak{ss} , for tapeworm. Soon after his head felt confused; he vomited once, and was purged 2 or 3 times. In about 8 h. he had frequent, almost incessant desire to pass water, passing only a few dr. at a time. The water scalded him very much, and contained coagulated blood. I saw him on the 22nd. He said he had passed water 14 or 15 times during the n., and as often in the course of the m.; the pain and irritation were now less than yesterday. The urine was deeply tinged with blood, and contained a large quantity of albumen. Under the microscope numerous blood-casts of the renal tubes were seen. A few small inflammation-cells and some crystals of the oxalate of lime were entangled in the casts; no epithelium; much of the blood was not moulded in the tubes. On the 25th there was still a considerable quantity of blood in the urine. On the 27th the urine contained less blood and albumen; casts of the tubes were still visible, and contained, besides the blood-corpuscles, a large proportion of inflammatory cells, about twice the size of blood-corpuscles. On the 29th urine had the natural colour; no cloud with heat or nitric acid; it contained a very few blood and inflammation corpuscles, and a very few casts of tubes. On April 6th urine was pale, free from blood and albumen,

but still containing oxalate of lime. (G. JOHNSON, *Diseases of Kidney*, p. 487.)

9. Oil of T. is often taken by labouring people for sciatica and other rheumatic pains, but sometimes with bad effects. A woman, æt. 60, whose dose I cannot determine, was seized with a pain in the kidneys and diabetes,* and died hydropical in 25 d. Another took ʒij in warm ale, which soon brought on strangury, bloody urine, and its total suppression, with fever, violent thirst, and vomiting, so that I really despaired of being able to recover her. But she was happily cured by the warm bath and diluent drinks. (STEDMAN, *Med. Essays and Obs.*, ii, 48.)

10. a. Administered internally, in doses of 50 centigr. to 1 grm., T. excites a sensation of weight and heat in the stomach, soon followed by one of warmth in the skin, which may sometimes go on to perspiration. The urine next passed will have a peculiar odour, which has been compared to that of violets.

b. If the dose be as much as 4 grms., there is experienced a feeling of heat and acridity in œsophagus and stomach, a little anxietas, some nausea, but rarely vomiting, frequently colic with twisting feeling in bowels, considerable irritation, and meteorism. Soon thereupon, in the majority of cases, there is general excitement, announced by febrile heat and a sense of warmth extending all over the body; hard and frequent pulse; headache; redness of face; thirst; dryness of mucous membranes; dysuria, urine being scanty and red or copious and pale, but in either case of pronounced violet odour; abundant perspiration, which, like the breath, smells of T.; anorexia; weight at stomach; and in many persons a condition somewhat like intoxication. Finally, there is some diarrhœa.

c. If the quantity taken is 32—64 grms., either (1) the whole action is one of gastro-intestinal irritation,—to the local effects already mentioned vomiting, sharp colic, and frequent loose stools being added; or (2) absorption takes place, and to the signs of general excitement, yet more marked, are added those which tell of specific action on the urinary apparatus; on the mucous membrane, especially of the air-tubes; or, more rarely, on the nervous system of the limbs. The first shows itself by considerable pain and heat in the lumbar region, especially over the kidneys, and in the hypogastrium; the latter region is sensitive to pressure, which causes—as in acute cystitis—vesical tenesmus, pains in urethra, and strangury; then ardor urinæ, dysuria, sometimes actual urethritis; urine scanty, red, even bloody; painful erections like chordee. More rarely the urine passes easily, and is copious and pale. The mucous membranes are dry as in the first stage of catarrh; they are injected, turgid, and hot; there is frequently herpes labialis, heavy substernal pain and tickling in the trachea as at the commencement of bronchitis, and the patients have been seen to bring up phlegm streaked with blood. The skin is sometimes reddened by erythematous patches of more or less brief duration; it may be vesicular or papular, as after the ingestion of shell-fish.† The effect upon the

* The author probably means diuresis.—EDS.

† “According to Béranguier, after comparatively large doses there appears a

nervous system of the limbs consists of an exquisite sensibility felt most in the lower extremities; a general painfulness of the parts existing, especially along the course of the large nerves.* Headache also, pretty severe, and lasting long after the subsidence of the other symptoms, is one of the most constant results of a too prolonged administration of T. (TROUSSEAU et PIDOUX, *op. cit.*)

11. A stout man complaining of anomalous symptoms took one Sunday at 7 a.m. ʒiʒss. In about $\frac{3}{4}$ h. he felt inclination for stool, and on rising for purpose fell backwards and was seized with spasms. These were quickly succeeded by a severe epileptic fit, which continued for 30 m., and left him senseless. In course of d. he had 3 more, and during ensuing n. suffered from constant spasms and twitchings. Countenance was at times much flushed, at others pale; breathing occasionally sonorous and laborious, but generally quick; pulse oppressed and full, sometimes intermitting; belly hard and distended. No stool occurred till middle of next d., and till then he remained perfectly senseless. By the Tuesday the spasms had entirely ceased, but urine was bloody and thick, and voided not without uneasiness; he had pain in region of kidneys and also in head. On Thursday urine became clear, and no distress remained save the pain in head, which lasted into the following week. (MONEY, *loc. cit.*, p. 448.)

12. From the smell of T. there was observed:—Spasm of face commencing under chin, spreading up face to cheeks with nervous drawings in cheeks. These symptoms are only subjective, nothing observable on the face; they pass off to give place to a supra-orbital cephalalgia, as if the part were bruised. (DEMEURES, *Journ. d. l. Soc. Gall.*, iv, 108.)

13. BOUCHARDAT inhaled the vapour of T. by remaining for 5 or 6 h. in the laboratory, the atmosphere of which was loaded with the vapour. All this time he felt only slight headache. At bedtime he had sleeplessness, persistent excitement, heat of skin; pulse rose from 65 to 86, he had difficulty in passing urine, which had the well-known violet

simple scarlatinoid erythema, spreading by preference over the face and the upper part of the body in irregular patches. Sometimes there appears upon the reddened surfaces, with itching, a large number of small papules, which give to the skin an eczematous appearance. In rare cases a vesicular eruption is noticed. A number of cases have been reported by Brochin (*Gaz. des Hôpitaux*, 1879, p. 99) in which erythema or an urticarioid eruption always showed itself in certain persons after the administration of T., either in solution, in capsules, or in a pure state." (LEWIN, *op. cit.*)

* Dr. ROTH relates two cases in which, after large doses of T. taken for tape-worm, neurotic phenomena in the limbs ensued. In one, a gentleman of 40, there were "neuralgic pains in various parts of the body, especially in one or other of the lower extremities. He had no control over his hand and arm when attempting to write; when standing or walking his feet were placed far apart. During the two previous years he had been unable to ride on horseback. When dressing or undressing, though his feet were placed very far apart, his body swayed backwards and forwards." The other, a young lady of 15, "soon after partially lost the use of her r. arm and l. leg. When I first saw her," some 3 years later, "she had but little use in the r. arm. She could raise the shoulder-blade and bend the arm at the elbow; but the hand fell with a jerk in the position in which she wished to place it. She could only advance the arm from the body a short distance. She limped with the l. foot, and dragged the leg in walking; the ankle-joint was stiff." (*Monthly Hom. Rev.*, ii, 312. We share in Dr. Roth's reserve as to the part played by the T. in such long-lasting disorders, and give the cases in a note only accordingly.—EDS.)

odour strongly marked. Next d. an extraordinary stiffness of body, combined with weight and pains in renal region. For 2 or 3 d. had weakness and felt faint, which deprived him of the power of working. (*Ann de Thér.*, 1846, p. 66.)

14. Miss H— was convalescent from an attack of acute rheumatism, when she had the windows and doors of her sleeping apartment painted with oil colour, composed of ceruse, oil of pinks, and oil of T. She retired early that n., and had not been asleep more than 2—3 h. when she awoke in a state of alarming uneasiness, but having sufficient strength to cry out. M. Favrot found her with countenance anxious, shrunk, and pale; eyes sunk, and surrounded by a dark ring; voice gone, and strength so completely exhausted that limbs on being raised fell heavily back by their own weight; acute pain in all joints; violent and continuous abdominal pain, causing patient to lie doubled up; nausea, yet inability to vomit owing to excessive weakness; resp. hurried, short, and anxious; pulse thread-like and scarcely perceptible; a cold and clammy perspiration all over body. M. Favrot would have suspected cholera but for the strong odour of T. he perceived in the room. She was immediately removed and stimulants exhibited, but she remained utterly prostrate for 36 h., and it was a week before she had strength to stand. (*Revue de Thér. Med.-Chir.*, Jan., 1858.)

III. *Experiments on animals.*—1. A 3-year old dog got ʒij rectified T. It immediately ran a few steps, tumbled down, screamed loudly, and fell into a tetanic fit; heart's beats much quickened, almost uncountable; died in 3 m. P.M.—Stomach smelt of T., but not a trace of redness in it. A small red spot on cardia; liver and lungs full of blood. Bloody froth in bronchial tubes; a very red spot on m. m. of trachea, cricoid cartilage; heart flaccid, auricles and l. ventricle bloodless, r. filled with coagulated blood. (SCHUBARTH, *Horn's Archiv*, xlv, i, 89, in *Frank's Mag.*, ii, 240.)

2. A large young dog got ʒij T. It immediately staggered as if intoxicated, crossed the feet over one another, and slavered much. After $\frac{1}{2}$ h. vomited twice, later three times more, throwing up bloody froth. After 1 h. of rigor again vomited bloody froth with great effort. After $3\frac{1}{2}$ h. it walked slowly about very exhausted and sad, lay down, and remained several h. lying. Killed by prussic acid. The P.M. showed the m. m. of œsophagus inflamed, stomach and intestines normal, lungs full of blood, bladder full of urine. (*Ibid.*)

3. A 6-year-old horse got ʒj T. After $\frac{1}{4}$ h. restlessness, scraping with fore-feet; pulse rose in 2 h. from 36 to 45, fuller and harder. After 4 h. pulse as at first, restlessness almost ceased, passed dung several times, and a large quantity of milky, whitish, very fetid ammoniacal urine; other functions normal. (*Ibid.*)

4. A large rabbit got ʒss T., whereupon there ensued great restlessness, quick breathing, and rapid pulse, which gradually subsided, lasting altogether 2 h. After 4 h. repeated discharges of violet smelling urine and soft dung. It usually sat with its legs all gathered together, seemed to be suffering, but still ate and drank. This condition lasted 60 h., the diarrhœa and weakness continually increasing, and then it died without convulsions. The evacuations from the

bowels consisted partly of fæces and T., partly of mucus containing large numbers of swollen cylinder-cells.—*P.M.* No inflammation of stomach or intestines, but the former showed a large number of bluish spots with whitish borders. It contained much food smelling of T., and a thick layer of mucus with normal and shrivelled cells. The epithelium underneath was thinner than usual, consisted of cells of normal form and size, and in many places was raised up like a blister. These blisters were the size of peas; they contained blood-corpuses and dissolved blood, and gave the interior of the stomach a blackish-brown colour, the exterior a bluish-black appearance. Several of them had burst, leaving a depression in the vascular membrane, and the m. m. was coloured by the exuded blood. The epithelium between these blisters was normal. The small intestines were of normal colour, contained a fluid smelling of T., and much mucus; their epithelium was very thin. The large intestine contained soft dung with the odour of T., and its thin epithelium consisted partly of swollen, partly of imperfectly formed cylinder-cells of various shapes. The bladder was full of urine, and was only slightly red; the urine contained many small round bodies, apparently cell nuclei. Other organs normal. (MITSCHERLICH, *Med. Zeit. v. Verein f. Heilk. in Preussen*, xii, 1843, Nos. 44 and 45. In *Frank's Mag.*, i, 121.)

5. A large rabbit got 3j T. It died in 44 h. with similar symptoms, only that the diarrhœa was greater, and latterly consisted of mucus only with swollen, almost round, cells.—*P.M.* The stomach had from 40 to 50 brownish-black spots the size of pins' heads and larger; these had no epithelium, but a plug of blood projected into the stomach, and when this was removed there was a depression that extended into the vascular membrane. These spots were covered with mucus stained brown from the exuded blood, and they had all a white border without inflammatory redness. The hæmorrhagic blisters had therefore burst. The very thin epithelium of the large intestine consisted chiefly of imperfectly formed cells. Otherwise the appearances were the same as in the other case. (*Ibid.*, 122.)

TEUCRIUM.

Teucrium Marum, L. Cat-thyme. Nat. Ord., *Labiata*.

I. *Proving*s.—1. BETHMANN (no information).* Pressure in forehead over eyes; frequent feeling of flying heat in face without external redness; soon after med. (and frequently recurring), crawling in nose; feeling in r. nostril as if half blocked, has to blow, and sneezes, which, however, does not relieve obstruction (3—4 d.); a bright red patch in middle of r. cheek, $\frac{1}{2}$ in. in circumference, in centre of which is a small pointed elevation, painless, getting pale from pressure, but immediately after red again (for 6 h., 2nd d.); violent tearing in fangs and

* All that is said about the following provings is that the symptoms have been observed by the provers on themselves and others, and are conscientiously reported.—Eds.

gums of r. lower incisors (2 h.); smarting, as from pepper, at root of tongue; smarting and scraping at back of throat, especially l. side; unusual irritation to hawk with increased expectoration of mucus; after having hawked up tough mucus has for several h. putrid taste in mouth (4th d.); immediately after med. feeling of warmth down throat; increased appetite in m.; very frequent discharge of mostly noiseless very warm flatus, frequently of livery smell (1st d.); increased emission of aqueous urine; feeling of impending coryza; very frequent sneezing with crawling in nose, without coryza; visible, painless, paroxysmal jerking in r. biceps, transversely, at point where the two heads unite; bubbling (?) painful feeling deeply in 2nd phalanx of l. index (6 h.); twitchings in muscles of arms and legs, especially in region of hip (5 h.); feeling of lassitude (as after intoxication) and emptiness about noon, especially soon after dinner (8 h., 3rd d.); sleepy p.m., wants to sleep, but cannot, from indistinct confused ideas cropping up which he cannot retain (3rd d.); very vivid, mostly pleasant dreams (1st d.); desire for movement in open air, where he takes continued strong exercise without feeling tired in the least, with good humour, gaiety, and serenity (1st d.); lazy, disinclined to either bodily or mental work (2 h.); a few h. after med. an almost irresistible desire to sing. (STAPF's *Beiträge*.)

2. CASPARI. Stupid feeling in head with fatigue, so that she has always to lie down; face red and swollen; eyes red and inflamed, with coryza; l. eye waters much in open air for several d.; on passing his hand through his hair and over r. ear (2nd d.) a hissing sound occurred in latter, passing down parietal bone and throughout internal ear,—the experience could be renewed some time after (a similar sound occurred later when speaking or merely uttering a fine or strong note, also on simply forcibly inhaling through nose); at times quite fine ringing in r. ear when blowing nose, a peculiar squeaking note as if air was forced through mucus, after that ear remained as if blocked for a little while, and then reopened with a dull sound (30th d.); dry scaly eruption on r. ear lobe, skin is cracked, and gradually peels in small white flakes, part is sore and painful to touch; nose blocked both sides several times during d., especially in e. while reading aloud (2nd and 5th d.); in open air at once fluent coryza set in (several d.); a large red efflorescence below l. nostril close to septum, sore and biting on touch as if something acrid was poured into a wound, with coryza (for many d.); a few furrows internally on both sides of lower lip, with raised margins, and on l. side a very small painless pimple,—when touching with tongue the spot feels sore and velvety, but painless (for 3 d.); pain on r. side of tip of tongue as if sore or squeezed by teeth, corrosive, especially when touched by teeth; for many d. very disagreeable feeling of roughness and dryness in windpipe, causing constant hawking, with but little coming away after long efforts,—at times something loosens easily, but without relief; stitching pain in neck, with impeded swallowing; unusual feeling of hunger, as if stomach would not fill properly with the food nor yet be satisfied (for several d.); feeling of hunger, preventing sleep (relieved by *ignatia*); bitter taste in throat after dinner, also several times

risings of slightly bitter food (after several d.); during food sometimes violent hiccup, with forcible strokes in scrob. cordis; dull pinching in r. side of abdomen towards sacrum, passing off quickly (after some m.); rumbling in abdomen (do.); slight colicky pain in lumbar region after food; after partaking of pure light brown beer, some flatulent colic with discharge of very offensive flatus, then feeling of impending diarrhoea and evacuation of very copious pappy offensive stool (13th d.); repeated fine pinching in r. hypochondrium at different times, especially in m. and e.; pressing down in r. hypogastrium (spermatic cord), e. in bed, towards abdominal ring, painless, but with feeling as if cord were pressed, repeated next m. after breakfast in little starts while sitting, without flatus, nothing felt during stool, it recurred at 5 p.m. during a slight meal; at various times in m. and e., before food, and after eating a little bread or drinking water, sharp cutting deeply across abdomen, or sudden transient nausea as if about to vomit, as if water disagreed; feeling of swelling, itching and crawling in anus, as from worms, restless n. with tossing about,—this lasted for several d., and returned after 4, 6 and 8 weeks; some creeping, at times really violent fine stitches in anus, e. in bed; after stool creeping in rectum; sexual appetite much diminished, no tendency to erections; after a few m. short dry irritative cough, beginning with slight tickling in upper part of trachea, recurring at short intervals; tickling feeling as from dust in trachea, e. in bed, causing disagreeable dry cough which cannot be suppressed, and gets worse as coughing goes on, lasting $\frac{1}{2}$ h., preventing sleep (recurring with other symptoms after 8 weeks); very painful paralytic pressure in upper part of r. upper arm, no pain when arm hangs at rest or is slightly moved, but as soon as he lifts it it appears heavy and paralysed, pain worst if arm is raised high and stretched backwards, as when taking off hat, and then at insertion of deltoid,—when trying to bend arm downwards it loses nearly all strength and falls; drawing intermittent pain in back of r. metacarpus; creeping in front joint of l. thumb and index, spontaneous or from slight pressure, as if they were going to sleep, passing off quickly; ready and painful straining of 1st joint of l. little finger, e. g. when rubbing palms of hands together; drawing tearing pain in front joint of l. index, by starts, of short duration (9 p.m.); pressive pain in small spot of top of r. index when bending it, as if a whitlow were coming on,—passed off after 2 d.; in middle phalanx of l. index pulsation suddenly perceptible and quick, each beat accompanied with sharp rheumatic pain from behind forward as if in middle of bone,—this lasted some m., then pulse grew gradually slower with diminution of pain; pain from middle of thigh down to bend of knee when sitting, as if n. ischiadicus were pressed; limbs go to sleep, with creeping, m. in bed and p.m. sitting (8th—11th d.); frequent stitches as from fleabites in various parts; some reeling, crosses feet when walking and straggles (soon after med.); cannot get to sleep till after midnight, then awakes frequently, turns from side to side, dreams a little,—heat all over towards m., when in spite of all he feels refreshed (11th and 12th n.); very drowsy during d.; feels cold after eating for several d., so that he cannot get warm, with feeling in abdo-

men as if stool was to come and caused the cold feeling ; while quietly talking in warm room in e. with somebody on a disagreeable subject, a chilly trembling of the whole trunk overcame him, which constantly recurred after short intermissions, and disappeared after finishing his conversation. (*Ibid.*)

3. v. GERSDORF. Confusion of head ; frequent dull pinching headache ; pressive headache in r. forehead ; tearing in head from both temples ; turns of tearing in interior of r. side of head ; pressure in forehead over eyes ; pale miserable complexion, with deep sunken eyes and feeling as if they so lay, for 2—3 h. (a.m., 1st d.) ; frequent feeling of flying heat in face without external redness ; eyes look as if he had wept, and are lachrymose, with smarting therein ; upper lids of both eyes are more red than usual, and slightly swollen ; pressure in r. eye as from grain of sand ; smarting in inner corner of both eyes, with redness of conjunctiva ; tearing under r. eye ; some pain in both ears ; stitches in l. ear ; stitching tearing in interior of l. ear ; soon after med. recurring crawling in nostrils ; violent crawling in r. nostril, with lachrymation of r. eye ; short stitches tearing high up in r. nostril ; frequent short tearing toothache in l. and r. first molars ; violent tearing in fangs and gums of r. lower incisors ; tearing toothache in last upper molars ; burning pain in incisors ; incisors and gums ache during mastication ; biting as from pepper in l. and later r. side of root of tongue ; biting and scratching feeling in back of throat, especially l. side ; sometimes slight drawing and tearing in throat ; pressive pain in throat, l. side, near pharynx ; unusual inclination to hawking, with increased mucous expectoration (1st d.) ; pressure in scrob. cord. ; outward pressure in r. inguinal region ; pressure outwards in l. hypochondrium ; tearing drawing in r., later in l. side under short ribs, between these and hip-bone, returning in several increasing fits ; pressive pain on small spot of l. hypochondrium a hand's breadth to l. of and on same level with navel, worse from pressure ; rumbling in abdomen, with pinching bellyache and discharge of noisy inoffensive flatus ; frequent discharge of mostly noiseless, very warm flatus of bilious odour (1st d.) ; pinching bellyache with discharge of flatus ; pinching feeling deep in abdomen, descending to testicles as if the latter had suffered strong pressure ; increased discharge of watery urine ; in front part of urethra pressive soreness (not when urinating) ; biting pain in fore part of urethra (apart from urination) ; on first passing urine soon after awaking, lasting burning in front part of urethra ; drawing pain in m. (returning at other times later on) at root of penis, which extends into integuments of l. testicle, leaving for some time soreness on touch ; very frequent sneezing with crawling in nose, without coryza ; violent sneezing, then lasting fluent coryza ; coryza with moist obstruction of l. nostril, and tearing in l. side of neck below jaw ; some sharp stitches deep in r. chest while breathing ; wave-like tearing in chest under r. axilla ; pressure on r. breast ; pressing oppressive feeling in front of chest ; dull stitches on l. ribs a hand's breadth below l. nipple ; pressure on r. side of spine in region of r. kidney ; short tearing pain in r. side of neck, aggravated from touch ; pressive pain on top of r. shoulder near neck ; burning on l. scapula ; rheumatic drawing and

tension at l. of back near axilla; pressive tearing on r. short ribs; pinching pain on short ribs, l. side; pressive sore pain in l. axilla as if an ulcer were about to form; rheumatic drawing in bone of l. shoulder; tearing in r. arm a little above r. side of wrist, and in various parts of upper extremities; tearing in bend of l. elbow; short sharp burning in tips of the three middle fingers of l. hand; stitching burning in inner side of lowest parts of joints of ring and middle fingers of l. hand; pressive pain in front below l. knee; stitching tearing above l. knee; pressive tension in and above tendo Achillis of l. foot; r. big toe somewhat inflamed, l. of nail and above, and painful, as if nail were growing in (which is not the case), better rather than worse from walking, returning when seated quietly in forenoon for several d., redness and pain disappeared p.m.; tensive tearing in lowest parts of joints of the three smallest toes of r. foot; excited tremulous feeling in whole body; feeling of exhaustion (as after intoxication) and emptiness about noon, especially soon after eating (8 h. and 3rd d.); cannot recover himself after waking in m., tired and exhausted when rising, gradually improving afterwards; restless nights from great excitement, with very vivid often anxious dreams with sudden fright until after midnight; very vivid, generally agreeable dreams (1st d.); increased warmth of body and pleasant mental exaltation, with special inclination to talk much; lazy, disinclined for bodily or mental exertion; angry mood during dinner and soon after, and such irritability as to be painfully distressed by talk of others which has no relation to himself, with pressure on forehead; a few h. after med. an almost irrepressible desire to sing. (*Ibid.*)

4. HARTMANN. Pressive pain in whole front head, deeply in centre of forehead, extending outwards and then felt chiefly and most lastingly in temples; burning pressive and tensive feeling, now on r. now on l. frontal eminence externally; transient pressing feeling in r. tuber frontalis; on bending forwards painful pressure in l. frontal eminence, disappearing again when standing upright; pressive pain in small spot just over r. frontal eminence; burning pressive feeling externally in forehead; painful pressive feeling in whole occiput; very painful pressure in r. temple, often alternating with similar feeling in r. frontal eminence and l. temple; skin over forehead tender to pressure of hand,—on pressing for some time a painful aching in forehead, but only in that region where hand lies; pressive tearing in r. cheek-bone, extending to teeth of that side; flabby feeling in scrob. cordis, without eructations or nausea; anxious oppressive feeling in scrob. cordis while standing; painful inward pressure in scrob. cordis without anxiety; empty feeling with rumbling in stomach when hunger could not have caused it, extending deeply into bowels and constantly recurring; dull pressive pain across abdomen in region of navel, with rumbling as from flatus, some of which is also discharged (5 h.); on bending backwards while sitting, pinching painful feeling in lower part of chest with pressive pain under ribs of l. side close to spine, bending forwards removes it all ($\frac{3}{4}$ h.); pinching pressive feeling in lower part of chest and scrob. cordis, extending upwards into chest, and deeply into abdomen, causing anxious discomfort, returning frequently,

but always disappearing on walking; dull drawing tearing pain in both forearm bones ($1\frac{1}{2}$ h.); tensive painful heaviness in muscles of l. forearm (10 m.); quick blunt cutting pain across muscles of r. forearm above wrist ($3\frac{1}{2}$ h.); heaviness to dropping of l. arm, passing away quickly; pressive tearing in r. external metacarpal bone; dull tearing in metacarpal bone of l. hand; pressive tearing pain in bones of r. wrist, increased by pressure with other hand, going and coming again; pressive tearing in 2nd phalanx of l. middle finger; painful tearing and pressing asunder in lower end of bones close to l. ankle-joint; jerking recurring tearing in r. ankle-joint while sitting, disappearing on walking; painful pressive and tearing sense of heaviness in whole of r. leg, especially calf; chilliness all over, with icy hands, also yawning and desire to stretch ($\frac{1}{4}$ h.). (*Ibid.*)

5. STAPF. Confusion of head; stitches in occiput and whole head; very painful pressure in r. temple, alternating frequently with similar feeling in r. frontal eminence and l. temple; eruption on forehead and upper part of face, feeling on touching like a grater, with burning itching chiefly at n., worse in warmth, stitching in cold, reddening from rubbing,—for several d.; many restless anxious dreams; very sad. (*Ibid.*)

THUJA.

Thuja occidentalis, Willd. American arbor vitæ. Nat. Ord., *Conifere*.

I. *Proviings*.—1. HAHNEMANN, *Reine Arzneimittellehre*, vol. v of original, vol. ii of translation. Contains 334 symptoms from self, and 300 from 10 fellow-observers.

2. a. BÖHM, Nov. 12th, 1844, took 5 gr. of 1st trit. of dried twigs an h. before breakfast (bread and milk); in forenoon he experienced slight vertigo and dull pain at root of nose, with feeling of warmth as if a cold would set in; in e. several times fleeting stitches in heel and in ball of the r. foot, a sensation which he had never before experienced. 13th.—No medicine. 14th.—In m. took 10 gr. In forenoon an increased feeling of warmth over forehead and pressing in r. temple from without inward; bleeding at nose in e. 15th.—In m. took 10 gr. Drowsiness p.m. and e.; restless sleep at night, and frequent urination. 16th and 17th.—Took no medicine. 18th.—In m. took again 10 gr. Aching in forehead, with obstruction of nose, from which a quantity of blood was blown in e.; painful stitches in glans. 19th.—No medicine. 20th.—Took 10 gr. in m. Great flow of saliva into the mouth, frequent sneezing, bleeding at nose, and remarkable drowsiness after dinner. 24th.—Took again 10 gr. in m. Unusual dryness in both nasal cavities; frequent urination, with urging at first, as though there was always more water to come away, afterwards without urging; fleeting stitches in heel and big toe of l. foot. Took no medicine for seven days. Dec. 1st.—20 gr. Dryness of palate; slight swelling of tonsils, painful, and inducing frequent deglutition; small white vesicles on tongue, resembling military rash. 4th.—Took another 20 gr. Above-mentioned vesicles on tongue, which had

almost vanished, reappeared, with burning, especially after eating warm food. This was accompanied with painful compression in region of both malleoli of l. foot, and slight burning during urination, urine being redder than usual. 8th.—Another 20 gr. They produced frequent eructations, as of rancid grease; desire to urinate; great drowsiness in e. 12th.—Another 20 gr. in m. They occasioned rancid eructations, violent bleeding at nose almost every time he blew it, and frequent urination, with burning in fossa navicularis.

b. After an interval of more than 2½ months B. instituted a second proving with the tincture. He diluted 10 dr. with 6 oz. of distilled water, of which he took two table-spoonfuls on m. of 3rd March, 1845, before breakfast. After 2 h. he experienced frequent eructations; frequent urging to urinate in daytime. Next d. obstruction of nose, which began to bleed as soon as he attempted to expel air through it. 5th.—In m., B. took four table-spoonfuls of the above-mentioned dilution. Headache in forehead with warmth, frequent urination with urging, slight burning under sternum, painful pressure at root of nose. These symptoms disappeared gradually within 3 d. 10th.—Eight spoonfuls. Continued rancid eructations; oppression of chest; frequent hawking and hacking; continued burning along whole length of sternum; frequent urination followed by long-continued urging. 15th.—B. took, as a final experiment, 10 dr. of the undiluted tincture on sugar. The effects were rancid eructations (for 8 h.); fluent coryza, disturbing night's rest; weight on chest; painful stitches in big toe of l. foot; frequent urination with urging. All these symptoms increased on d. following, subsequently decreased, and disappeared entirely in a few d. (MAYRHOFER'S provings, *Æst. Zeitschr.*, ii, 309.)

3. FRÖHLICH instituted six separate provings with Thuja.

a. 1844, Dec. 20th.—F. began by chewing a few fresh twigs, and swallowing the juice. He experienced no change in his feelings. 21st.—In m. he repeated the experiment, and experienced, p.m., protrusion of hæmorrhoidal vessels, with sticking in them when walking; in e., 10 h. after swallowing juice, he felt tearing in l. knee-joint, extending to middle of calf, commencing while sitting and lasting only a short while. 22nd.—In m. experiment was made a third time. Soon after he felt continuous digging and burning pain in two upper hollow molars of r. side; in e., 10 h. after swallowing juice, he experienced short but frequently returning paroxysms of lancinating pain from l. acetabulum down to calf, deep in bone (while walking in the street). The toothache was removed by a dose of merc. sol. 3. No chewing on 23rd, lest the toothache should occur again. It returned, nevertheless, whenever he entered a warm room from the street and remained there a little while. He tried nitrate of silver 6, with but temporary relief; and the troublesome toothache, for which cold water was the only palliative when the pain was very violent, disappeared gradually in some d.

b. The symptoms of the former proving having entirely ceased for several d., on 2nd Jan. F. took 3 dr. of 3rd dil. in a table-spoonful of water before breakfast. No result. 5th.—In m., 6 dr. of same. A painful stitch through middle of l. eye, commencing in centre of brain;

a few stitches in external tuberosity of l. thigh when walking; the above-mentioned toothache again made its appearance, but only under similar circumstances. 12th.—12 dr. After walking in open air for $\frac{1}{2}$ h., he entered a warm room, when above-described toothache again made its appearance, but soon abated, and disappeared on using cold water. This symptom returned as often as F. entered a closed apartment, even though not heated, and remained in it for a while. The toothache was immediately diminished by inhaling the air at an open window for a few moments. On same day following symptoms were observed: Drawing tension in nape of neck (more on l. side), recurring several times; feeling of weakness in chest; frequent emission of flatulence which had not much smell; drawing, and fleeting deep stitches (resembling slight electric shocks) in various parts of the body.

No medicine was taken from 8th to 19th; the toothache recurred during all this time under the circumstances indicated above, although several remedies, such as merc. sol., camph., sabina and nux were taken to remove it.

c. Jan. 22nd.—After the toothache had entirely subsided, F. took 20 dr. of tinct. in a glass of water. That same forenoon the toothache returned 10 m. after having entered a room without fire; after dinner he experienced a piercing stitch in l. hypochondrium, and a continuing squeezing sticking pain in concha of l. ear. 23rd.—In m. 30 dr. At noon he was unable to distinguish by the taste what sort of soup he was eating (room was dark). Nor was he able to discern the vegetables by the taste, and black coffee tasted like warm water, without aroma. 24th.—40 dr.: stitches in region of liver when sitting. 25th.—The same dose produced slight colicky pain in small intestines and a few stitches in r. thumb. 26th.—Another 40 dr.: painful stitches in inner side of l. knee-joint when standing. 27th.—60 dr. In forenoon he experienced a few deep stitches in l. hypochondrium. 28th.—80 dr. In forenoon pinching pain in stomach, and feeling of fulness and of being bruised in chest under sternum, which last symptom he had observed for several d. past. No Thuja was taken from 29th of Jan. to 3rd of Feb. During this period the following symptoms were observed: Single deep stitches in hypochondria; gnawing-stinging pain in stomach (coming on in bed and going off after rising); drawing-sticking pain in head of l. femur; dulness of senses of taste and smell. Feb. 3rd.—F. took 100 dr. of tinct. in a tumblerful of water before breakfast. An h. after, he experienced a single stitch through lower portion of lungs from behind forward. This was accompanied by bruised sensation in the chest, with dulness of the head, sad mood and discouragement, alike in the open air and in the room. Afterwards the well-known toothache made its appearance again in the usual paroxysms, and in e., while sitting in a crowded theatre, he experienced a drawing-sticking pain in r. forearm, extending from elbow to wrist-joint. 4th.—Painful stitch through occiput from above downward. 5th.—The troublesome toothache came on again as often as F. entered a closed apartment from the open air, and continued until the 23rd. During that period F. had several characteristic symptoms of Thuja, especially in the limbs, but which were not noted

down because he had taken several remedies, such as *sabina*, *rhus* and *mezerium* against the toothache with only transitory relief.

d. April 4th.—Before breakfast F. took 20 dr. of the 11th dilution in 3 oz. of distilled water. While proving the attenuations he avoided every kind of spirituous beverage, and partook of the plainest food. 6th.—He felt vertigo with fulness in head, and hands became easily stiff and tired when moving them. 7th.—12 dr. of the 11th potency produced the following result: In forenoon, while walking in the street, he felt a few deep stitches in r. groin; afterwards he felt a violent drawing tearing from l. elbow-joint as far as the two middle fingers; vertigo at home, with vanishing of letters when reading, and continued digging pain in two hollow upper molars of r. side, relieved by cold water, but increased by warm soup and tobacco-smoke. 8th.—Feeling debilitated all over as by fatigue, and gloomy, was compelled to take a little wine, after which all the above symptoms disappeared.

r. April 22nd.—After all the symptoms of Thuja had ceased and the carious teeth had become entirely free from pain, F. took 80 dr. of the tinct. before breakfast, after which he swallowed a glass of water. No effects were observed either this or the next d. On 24th and 26th he took 100 dr. each d. On the latter d. prover experienced considerable dulness of head and mistiness of sight; on dorsum of r. foot a small blotch was discovered with a red areola, which rendered walking in boots difficult. 28th.—Another 100 dr. The blotch is diminishing, and nothing remains of it except a dark red, somewhat elevated spot with a lighter areola, still impeding walking. General weariness during d. as if he had not slept all n. These symptoms are accompanied by dulness of head, sad mood, dulness of taste, indistinct sight, and bad, sunken appearance. Nevertheless, on 30th F. took another 100 dr. In forenoon: dulness of head, with vanishing of objects when attempting to fix them. In afternoon: painful stiffness of nape of neck when moving head, bruised sensation in chest, dulness of taste and very gloomy mood. The efflorescence on the dorsum of the foot began to subside. May 2nd.—Another 100 dr. elicited no new symptoms. No medicine was taken on 3rd and 4th; during this period F. observed the following symptoms: Dulness and feeling of fulness in head, with ill-humour and drowsiness; after a siesta of $\frac{3}{4}$ h., vertigo so that he could scarcely walk without holding on to something; great sensitiveness of skin to cool air. 5th.—F. took the last 100 dr. Result: sticking tearing in tarsal joint in forenoon, while walking. Another little blotch makes its appearance in the still existing red spot on the dorsum of the r. foot, impeding walking very much. 6th.—In m., in bed, sticking beating in r. hand extending as far as tips of fingers, and in anterior part of r. foot. Towards noon, pressive headache with pressure in both eyes, accompanied with gastric uneasiness and reddened urine. F. had to lie down on account of increasing debility, and was not able to go to sleep for several h. 7th.—He felt a general debility as from fatigue; feeling of fulness in head; a paralytic burning sensation, which had been felt already for some d. past in all muscles of forearm, and which extended as far as tips of fingers, was

particularly troublesome (coming on when moving arm, going off in rest). In the afternoon and e.: feeling of coldness through back, with debility and stiffness in all the limbs; dulness of head; sticking pain in l. patella when going up stairs; great debility in sacrum and legs, and feeling of weakness in chest. 8th.—After having spent a n. full of dreams, F. woke greatly improved; head continued dull, and he was attacked with turns of vertigo after talking long; at noon he felt chilly all over, especially on extremities; he was ill-humoured and restless, and had canine hunger without thirst. A small quantity of wine which he took at an unrelished dinner aggravated headache very much, and smoking increased it to vertigo.* At 8 p.m.: aching pain, especially in frontal eminences and temples; vertigo when walking; bruised pain in shoulder-joints and upper arms; weak feeling in chest with pressure under sternum and difficulty of breathing, especially while going upstairs. 9th.—F. felt better in every respect, and all the symptoms disappeared within a few d., except the weak feeling in chest and difficulty of breathing in going upstairs, which did not entirely leave him until the end of the month.

f. May 21st.—F. swallowed before breakfast a table-spoonful of recently expressed juice, obtained by crushing the twigs of Thuja and pouring upon them a mixture of equal quantities of distilled water and alcohol. Of this nauseous juice F. took one table-spoonful on the 1st and 2nd of June, and two table-spoonfuls on the 3rd. On the last d. he experienced in forenoon frequent paroxysms of tearing and sticking in both hands, which became so violent in middle of r. ulna while he was writing that he had to give it up. P.m., while driving in a carriage, he experienced very violent tearing in l. forearm, which was especially violent in anterior tuberosity of humerus, that region becoming very sensitive to touch. Moreover, prickings in fingers of same hand. These symptoms continued while driving, and did not abate until F. got into a profuse perspiration in e. while in a crowded theatre. Upon moving hand quickly and strongly he felt burning pain in all muscles of forearm. 4th.—F. again took two table-spoonfuls of juice, which did not produce any new symptoms. The tearing pain in anterior tuberosity of l. humerus continued, was increased by motion, and was heightened to a burning pain by contact, especially after the painful spot on the arm had been knocked against something, though only slightly. The red spot on dorsum of foot impeded his walking very much. Under sternum he experienced oppression, with bruised sensation in chest. These symptoms were accompanied by frequent hawking of mucus, dulness of taste with great appetite, and swelling of hæmorrhoidal veins. 5th.—The following symptoms were observed: Sensitiveness of anterior tuberosity of l. upper arm, especially when touched; in afternoon, feeling of fulness in head with drawing pain in nape; feeling of weakness in chest; painful stiffness in l. forearm extending as far as fingers, and impeding motion; pressing sensation in the turgid hæmorrhoidal veins; sticking burning pain in external tuberosity of l. tibia (coming on when sitting and increased by pressure).

* As the use of wine was beneficial previously, this aggravation seems to be rather attributable to the effects of a meal eaten with canine appetite.—*Mayrhofer*.

All these symptoms disappeared gradually on the following days except the great sensitiveness in the tuberosity of the humerus, which seemed to become more and more circumscribed every day, but which only entirely disappeared in the course of a week. The last to yield was the hæmorrhoidal congestion, to remedy which he used several bottles of a mineral water. (*Ibid.*)

4. a. Caroline P—, æt. 45, took 10 pellets, moistened with 3rd dil., Nov. 12th, 1844, before breakfast. Two h. after, she experienced drawing from l. axilla as far as elbow-joint; afterwards drawing along vertebral column and in calves, with feeling of weakness in legs. 13th.—Prover again took 10 pellets, which elicited following symptoms: Drawing from r. wrist as far as tips of fingers, and from r. calf as far as malleoli, with sensation as if foot were lame; afterwards drawing from r. elbow as far as wrist; then transient paralytic feeling in both thighs as far as knees. 14th.—After another 10 pellets she experienced weakness in knees and decrease of appetite. No medicine was taken on 15th, 16th, and 17th; during first two d. above symptoms were yet slightly felt. From 18th to 23rd, Caroline took 10 pellets every d., and observed following symptoms: Drawing sticking in r. upper arm as far as elbow, and in r. thigh as far as knee; sticking in r. forearm as far as finger-joints; drawing in both scapulæ in direction of nape of neck, in both legs from knees to malleoli, and at same time in both forearms from elbows to wrist. These symptoms generally appeared 3 or 4 h. after taking drug, and lasted from 10 to 16 h. Prover discontinued medicine until 26th Nov., when she took another 10 pellets. On that d. she experienced sticking in l. thigh as far as knee, single stitches in l. tarsal joint, and in e. drawing in both thighs. 27th, 28th.—She again took 10 pellets each time, after which she experienced tearing in l. upper arm, afterwards in l. leg; sticking in l. wrist extending as far as tip of index finger; drawing in l. calf, afterwards in r. forearm from elbow as far as wrist. Dec. 5th, 6th, and 10th.—She took 10 pellets each time without experiencing any new symptoms. Same drawing and sticking was experienced in various parts of limbs. On inner surface of l. forearm a red, round, itching spot was observed, with white vesicles raised upon it, which burst, poured out clear lymph, and left a yellowish crust behind.

b. Dec. 12th.—Before breakfast, F. gave prover 10 pellets of 202nd dil., without her knowing that preparation was different from what she had previously taken. Results: drawing in both hands and feet, afterwards only in forearms as far as wrists, and sticking in both sides of chest. 13th.—She took another 10 pellets, with same result. 19th, 20th.—She took usual number of pellets, and observed, besides symptoms mentioned above, drawing in both hips from without inward, and from above downward toward genital parts. After an interval of 12 d. prover took 10 pellets of same on 2nd, 3rd, 4th, 6th, 7th, and 9th Jan., 1845. After every dose she experienced tearing, drawing or sticking sensations, accompanied with repeated attacks of vertigo, and feeling of stiffness in legs and back, as far as nape of neck. Prover having taken cold, in consequence of which she was attacked with toothache and swelling of the cheek, the experiments were concluded.

F. mentions that prover had frequently asserted with great positiveness that she had experienced with more intensity all her former symptoms ever since 12th Dec., when she took the 1st dose of Thuja 202. We ought to state that prover observed a very plain diet during whole period of proving. (*Ibid.*)

5. WILLIAM HUBER, of Linz, instituted three provings upon himself with Thuja.

a. ʒj of 3rd attenuation* which H— took on 12th September, 1844, at 8 o'clock a.m., produced no effect. He took a similar dose on 13th at 5 o'clock a.m.; after 1½ h., while lying in bed, he experienced a momentary starting in epigastric region, in direction of the l. hypochondrium, as of something alive. Next d. he took a 3rd dose of same dil., but observed no further symptoms. Sept. 15th.—At 6 a.m. H. took ʒj of 5th dil. One h. after dinner he experienced a fine transitory stitch in posterior surface of the l. ulna near elbow; soon after a sudden starting bounding sensation in r. iliac region, as though from something alive; in ¼ h. afterwards he experienced painful drawing in outer surface of l. upper arm near olecranon, recurring several times at short intervals. At 8 p.m. H. experienced sensation on glans near frenulum præputii as if spot had been excoriated, although no change was visible. 16th.—Took a similar dose, after which same feeling of soreness on glans, only when touching it; at 4 p.m. a few fine stitches in fossa navicularis of urethra; an h. afterwards, during siesta, he experienced a second time a sudden bounding up in abdomen, accompanied with starting of whole upper part of body, as if from fright. 17th.—After a similar dose drawing intermittent pain in l. side of forehead, and at same time symptoms of colic, accompanied by emission of flatulence. 18th.—ʒj of 4th dil. a.m. and p.m.; this caused in n. profuse secretion of insipid saliva, and painful tension in r. side of nape and in sacrum. 19th.—Dose was repeated, causing slight tension in l. side of nape, and a pretty severe sticking crosswise where radius and carpus unite, from without inwards (in rest). 20th.—In m. H— repeated dose. After lapse of an h. he felt as if stomach were deranged, with pressure over scrobiculus, which impeded respiration. At 9 he experienced pain in l. side of forehead when writing, which continued the whole a.m.; upon being waked from the siesta H. became giddy, and had great trouble in collecting his thoughts. 21st, 22nd, and 23rd.—H. took ʒj of 3rd dil. at 7 a.m. On 1st d., towards 9 a.m., he experienced aching in epigastrium, towards r. hypochondrium, for ½ h. (more in rest than when walking). On m. of 2nd d. dulness of head, and at 10 painful drawing in l. thumb, lasting only short while, but returning frequently. On 3rd d. sudden sensation of giddiness was experienced at 11 a.m. while writing. He felt as if a current of air was ascending from occiput and penetrating towards forepart of head, causing vertigo and loss of thought. 24th, 25th, and 26th.—H. took ʒj of 2nd dil. in m. Result: after 1st dose he experienced a momentary tearing in dorsum of l. hand, at noon, while writing; after 2nd dose several stitches were experienced periodically in l. side of chest, apparently deep in pectoralis

* All these dils. were on the decimal scale.

major muscle. 3rd dose was without result. 3j of 1st dil., taken on 27th, 28th, and 29th of same month, was likewise without result.

b. Second proving was made with the tinct. Five dr. on m. of 30th Sept. produced no effect. Oct. 1st.—8 dr. In e. while chewing a piece of bread, H. experienced intense sticking pain between l. ear and zygomatic arch, as if jawbone had become suddenly dislocated, extorting a scream. This pain was experienced every time he attempted to chew, continued whole e., and was still felt next m. 2nd.—In m. 10 dr. As soon as he awoke he felt an extremely disagreeable, painful sensation in nape of neck, close to occiput, as if he had been lying on a hard couch. In course of d. this pain spread over whole of r. side of back, as if muscles in that part of body were sprained, and was felt especially when bending head forward and raising r. arm.* In e. pain moved more into region of r. shoulder and neck; upon chewing bread before-mentioned pain in muscles of mastication was again experienced. 3rd.—In m. 16 dr. After dinner voluptuous itching in forepart of urethra, while penis was relaxed. The pain in r. posterior cervical and dorsal muscles continued whole d., accompanied with whizzing and buzzing in r. ear. On bending head forward he experienced sensation as if muscles were too short, and as if pain was caused by tension of the muscles. Had quiet n. after taking 40 dr. in e. 4th.—26 dr. Shortly after taking drug pain in nape of neck, shoulder and back was increased to such an extent that raising of r. arm and carrying hand behind head caused most exquisite pain. He was unable to bend head forward or turn it; in order to accomplish this he had to move whole upper part of body. Pain was a sort of tumultuous digging, as if muscles had been crushed, and as if a gathering were taking place in subcutaneous and intermuscular areolar tissue. On same d. he had two papescent fetid stools, and in e., after eating a warm soup, a vaporose perspiration broke out all over body, continuing for $\frac{1}{2}$ h., and followed by diminution of pain in nape of neck; on following d., however, H— was not yet able to tie his cravat behind, or to hang the chain of his watch around his neck. On looking at r. shoulder in glass, it was found to be somewhat more elevated than l., and swollen; taste in mouth was insipid, with sensation as if stomach were disordered. 5th.—30 dr. At 8 a.m. he had a large evacuation, at first hard, afterwards papescent, clayey and fetid. The disagreeable sensation in stomach continued all d. At 7.30 p.m. painful tension in bottom of l. orbit for several m. 8th.—60 dr. After lapse of $\frac{1}{2}$ h. several painful stitches in forepart of urethra, penis being relaxed; afterwards transitory cramp-pain in r. ear, and several times fine prickings in various parts of skin as if with needles, which sometimes changed to burning; also painful burning sensation between prepuce and glans, continuing from 6 to 7 seconds, and returning several times at short intervals, without any change in parts perceptible to eye. At 10 a.m. he experienced painful drawing in l. frontal eminence (while walking in open air), and itching of anus, which induced scratching. At 4.45 p.m., while sitting, sensation in urethra

* Dr. Huber observes that he had never been affected with rheumatism of the nape of the neck.—*Mayrhofer*.

as if a drop of viscid fluid were pressing forward. At 5 drawing pains were experienced directly below r. internal malleolus (for a few seconds). On m. of following d. orifice of urethra was closed with slimy fluid, consisting of a serous liquid and a lump of mucus, which could be drawn into threads by fingers. After removing this liquid slight burning was experienced on urinating. 9th.—7 a.m. H. took 80 dr. After lapse of 15 m. l. eye began to water, r. one remaining dry; confusion of head whole a.m.; whizzing in l. ear; painful pressure in superior and posterior angle of l. parietal bone, as if a small convex button were pressed against that part (going off rapidly when touching it). At 10 a.m. painful drawing, extending from bend of r. thigh to internal surface of thigh for a few seconds (in rest). After dinner pain in r. parietal bone, as if a pointed nail had been driven in; violent vertigo when sitting and closing eyes, as if sofa upon which he was sitting were balancing to and fro (going off immediately when opening eyes). At 4.30, during siesta, he experienced a momentary darting pain in gums of r. upper jaw. (The affection of back and nape of neck had now by degrees wholly disappeared.) 10th.—100 dr. After lapse of 2 h. transitory jerking formication in fossa navicularis of urethra, accompanied with voluptuous feeling without erection; dulness of head whole a.m., with paroxysms of drawing pain in middle of forehead, which was especially violent in l. frontal eminence, and thence extended to posterior portion of l. eyeball, and at times as far as occiput, and at 3 p.m. passed into constant digging pain. This headache was as violent in open air as in room, and lasted until 10 at n. Occasional sensation in r. epigastric region as of something alive moving there; frequently painful jerking in penis, accompanied by sensation as if viscid liquid were exuding from urethra, which, however, was not the case. He fell asleep after midnight; on following m., when waking at 6.30, dull drawing pain was experienced in r. frontal eminence, extending as far as r. orbit and r. nasal bone, setting in in paroxysms and ending at 8. R. eye was dry, and in margin of lower lid there was a burning spot as if a styne were about to form. He felt, besides, whizzing in l. ear, and once a fleeting stitch in l. testicle. 11th.—At 8 a.m. H.—took 120 dr. After an h., a jerking, voluptuous formication was experienced in forepart of urethra (while walking in street), penis being relaxed. At 10 a.m. painful drawing in r. side of forehead, ceasing and returning several times. At 12.30 painful drawing in l. posterior cervical region, close to occiput, alternating with similar pain in r. frontal eminence. Afterwards creaking in both ears when swallowing, resembling turning of a wooden screw, accompanied with sticking and feeling of dryness in r. outer canthus, as if a grain of sand had got into it. At 2 p.m. he experienced frequent attacks of painless twitching in back towards l. loin, like a muscular twitch. On waking next m. scrotum, perinæum, and inner surfaces of thighs were dripping with sweat,* and, a few minutes after,

* Dr. H.—observes that this sweat of the genital organs reminded him involuntarily of the assertion of his teacher, Von Hildenbrandt: "*Amant condylomata loca uda, ut fungi.*"

paroxysms of drawing pain were experienced in bottom of r. orbit, continuing $\frac{1}{2}$ h.

The same phenomena continually recurring, H— concluded provings with tinct. by taking 140 dr. of it at 8 a.m. on 12th. After $\frac{1}{2}$ h. feeling of dryness in both eyes, with painful sticking and creaking in both ears, as when a wooden screw is turned, especially during empty deglutition. In $\frac{1}{2}$ h. after, a short painful drawing in l. side of occiput. Two h. after, clawing aching pain in l. frontal eminence becoming fixed in a small place (for a few m.), accompanied with rumbling in bowels. After $9\frac{1}{2}$ h. colicky pain in r. iliac region for a few m., while walking in room; shortly after a few shooting stitches in urethra, and drawing headache in r. forehead. These symptoms lasted with more or less intensity during subsequent days, and a few more were felt on 21st, such as feeling of soreness about hard palate, as if burnt and covered with vesicles; periodical pinching in middle of l. calf as if convex button were pressed upon part, the same sensation being experienced in mastoid process of r. side; shooting stitches from neck of bladder towards urethra. These phenomena became gradually weaker, though some of them were yet experienced on 30th Nov., more than six weeks after prover had taken his last dose of Thuja.

c. After all symptoms produced by increasing doses of tinct. had entirely disappeared, H— experimented with the 60th dil. (1:99), not, however, without a pre-formed conviction that the experiment would be wholly without result, and was therefore much astonished at again experiencing not only many of the old symptoms, but also others which he had never before felt. Jan. 16th, 1845, H— took 10 dr. of 60th dil. at 11 a.m. After $\frac{1}{4}$ h. a slight pressure in pit of stomach and in chest, impeding respiration. Sticking tearing pain in muscular parts of r. side of nape of neck, in e., extending as far as scapula (continuing only a short while, but returning several times with considerable violence). Soon after, a similar pain in l. forearm, where ulna joins carpus. On m. of d. following, H— experienced sensation in abdomen as if a child's knee were pushing against anterior abdominal walls from within. 17th and 18th.—10 dr. produced no symptoms. 19th.—Same dose occasioned following symptoms:—voluptuous itching in forepart of urethra, penis being relaxed, accompanied with sensation as if a few drops would flow out; jerking in l. hypochondrium, towards epigastrium; transitory pain in l. frontal eminence as if nail were driven in. This pain disappeared at once on touching part, returning, however, immediately at superior posterior angle of l. parietal bone, as if a convex button were pressed against part. 20th.—12 dr. at 10 a.m.; frequent lachrymation of l. eye (when walking in open air); digging headache in l. frontal eminence at 5 a.m., returning several times at short intervals, and alternating with sensation as if a convex button were pressed upon parts near vertex. This same sensation, which ceased immediately upon parts being touched, and returning again as soon as contact ceased, was experienced several times in r. mastoid process, in l. parietal bone, and under r. clavicle. In e. he perceived a painful little tubercle in middle of l. eyebrow, and, after he had gone to bed, a digging-tearing pain was experienced in muscles of

r. side of nape of neck, extending momentarily as far as r. scapula, and being relieved by touching, accompanied by roaring in l. ear and creaking when swallowing saliva. On following m., after waking, pressure and tension in l. and afterwards also in r. orbit. 21st.—Took 15 dr. P.m., the well-known pressure as with a convex button over l. parietal bone. E., H— suddenly experienced a momentary pressure, as of a nail which had been driven in, in l. frontal eminence (while walking in street), and after returning home and entering the room, a luminous disc size of a pea hovered before his eyes; it shone like a fire-fly (*Lampyrus noctiluca*). 22nd.—No medicine was taken. In e. he experienced a transitory pain in l. frontal eminence as of a nail which had been driven in. 23rd.—H— concluded his provings with 17 dr. of 60th dil. At 10 a.m. drawing-sticking pain in l. temporal muscle, increased by mastication and diminished by contact. This pain continued for 2 h., and in open air as well as in room. At same time H— experienced a beating-tearing, with sensation of heat, in r. frontal eminence, and a pinching pressure in dorsum of l. foot, occurring frequently during d. 24th.—On waking, drawing pain in l. frontal eminence (this pain had made its appearance already in e. after lying down), and profuse sweat about genital organs. A.m., while walking in open air, headache in forehead over l. eyebrow, extending as far as r. side of forehead. In e. continuous drawing and tension below mastoid process of r. side, accompanied with occasional drawing in l. frontal eminence towards temple, and with roaring in l. ear. 25th and 26th.—No symptoms observed; but on 27th, a few moments after waking, H— had a complete hemicrania* in l. side of forehead. It was a violent drawing pain, commencing directly over l. upper eyelid, extending perpendicularly upward through middle of l. eyebrow, and dividing in l. frontal eminence into a number of threads and rays which penetrated deep into brain. This symptom lasted a few m., and disappeared as rapidly as it came. Feb. 13th.—On this date, clear T. symptoms having been constantly present in intermediate period, H— discovered a painless nodule near borders of hair on l. side of nape, disappearing again on following d., except a small rough place. 16th.—A tubercle was observed on inner side of r. thigh $1\frac{1}{2}$ in. from perinæum, which felt like a wart and looked dark red, size of a hemp-seed, tip having a dingy-white appearance, and base being surrounded with a bright red areola of some 3 or 4 lines wide; it was somewhat painful when touching or moving it, and was filled with pus on d. following. A few d. afterwards it changed to brown scab, which came off spontaneously.

The most remarkable thing in the provings of Huber is the length of time during which he observed effects. Even as late as 10th March, 46 d. after he had taken any of the drug, he distinctly, although feebly, felt several of the effects of T. The symptoms of head lasted longest and were most frequent, especially sensation as if a nail had been driven in at angles of parietal bones; as this sensation ceased an itching-gnawing was experienced in same region, which induced him to scratch. The sensation as of something alive in abdomen, and seeing of a luminous disc shining like a fire-fly, lasted as long. This was sometimes per-

* H— had never had any hemicrania before.—*Mayrhofer*.

ceived in daytime, but most frequently at twilight in room. Afterwards this luminous circle, which followed movement of eyeball, and was hovering at various distances now before one, now before both eyes, assumed a more elliptic form, and had a dark violet or blackish nucleus in centre. Sometimes disc was size of millet or hemp seed only, but always luminous on edge. (*Ibid.*)

6. W. HUBER, brother of former prover, surgeon at Kleinzell, proved T. on 6 persons; on himself, on 2 females, one of whom was his own wife, and on 3 of his children. W. H. instituted 2 provings on his own person.

a. April 19th, 1845, W. H. commenced with the 30th dil., taking every m. before breakfast 100 dr., and descending scale of dils. until he had reached the 1st on 18th May, when first proving was concluded. After taking 21st dil., he for first time experienced slight pressive headache over superciliary eminence; after 20th, violent pressive headache, commencing in post. and inf. angle of l. parietal bone, and extending as far as r. frontal eminence. The pain only lasted while prover remained in state of rest; every movement diminished it, and it returned immediately after movement ceased. This pain became especially violent after 19th dil. It commenced $\frac{1}{2}$ h. after taking medicine, and lasted all d. Even on d. following he was awakened by it at 5 a.m. and was compelled to rise, after which it ceased; the head, however, remained stupid and full. This was accompanied on same d. by frequent attacks of boring pain in region of bladder, with painful drawing up of testes. From 1st until 12th May, W. H. took from the 18th to the 7th dil. Headache continued with more or less violence; on last d. it was accompanied with roughness of voice and scraping sensation in throat, which, however, continued only a few h. From 13th to 18th May he took from 6th to 1st dil. Headache gradually disappeared. In place of this, H. had almost daily attacks, and sometimes several attacks a d., of boring pain in region of bladder, with painful drawing up of testes, which was accompanied with occasional urging to stool. All these phenomena were but slightly marked during last period of proving, and disappeared in a few d. after medicine was discontinued.

b. June 18th.—W. H. took 10 dr. of tinct. before breakfast, increasing dose every d. by 10 dr. During 1st days above-described headache again made its appearance, but it was less violent, and ceased entirely after 4th d. On 5th d., an h. after taking drug, he experienced sensation in r. side of throat as though it were about to inflame; during whole of that d. he experienced stinging pains when swallowing, which disappeared again entirely in subsequent n. No symptoms made their appearance from 6th to 10th d., except nausea on taking drug; this nausea was excited even by mere sight of medicine. July 7th H. took 200 dr., and repeated that dose on 9th and 12th of same month. Every time he took dose he felt nauseated and disposed to vomit. The above-described headache appeared again immediately after taking 1st dose, but it never reached the violence it had while proving attenuations, although it continued until 15th July. The giddiness and obtuseness of head, on the contrary, were more violent. These

symptoms were accompanied with want of disposition to do anything, ill-humour and inclination to anger, pain in throat during deglutition, and sour-smelling sweat almost every n. These phenomena continued in greater or less intensity during proving, and even a few d. beyond.

c. H.'s wife made two experiments with Thuja. From the 19th April to 18th of May, Mrs. H. swallowed 100 dr. of the various dils. from 30th to 1st, at the same time and in same order as her husband, without experiencing any other symptoms except slight vertigo and some headache in forehead. The second experiment was likewise instituted simultaneously with that of her husband, from 18th to 28th June, with this difference, that, whereas he took progressively increasing doses, she took 10 dr. a d. for 10 d. in succession. The prover was but little affected by those doses. On 5th d. after commencing proving, several wart-shaped excrescences, of size of a poppy-seed, made their appearance on both hands, gradually increasing during proving, and amounting in number to 16. At conclusion of proving they varied in size according to the different periods when they had made their appearance. Their shape was that of a truncated cone; their surface was smooth, and they appeared to be seated in epidermis.* A fortnight after concluding proving, the warts ceased to grow. The largest were of size of a small pea, and their formerly smooth surface had become rough and split. The remainder were smooth and of various sizes according to their respective ages. They remained in that condition until about the middle of August, when the larger ones became depressed in centre, and resembled a little pit surrounded by an elevated ridge. This ridge disappeared gradually, together with the wart. The smaller warts disappeared without going through this process. On 10th Sept. 8 warts still remained, and on 11th Dec. (more than 5 mos. after proving had been concluded) all the warts had disappeared except a small one on 3rd joint of l. little finger.

d. Three of the children of W. H. likewise proved dils. of Thuja, from 30th down to the 1st; two boys, of 5 and 10, and a girl of 7. No symptoms were discovered in any of the children, except warts of above-described shape on hands, of which elder boy had 6, the younger 5, and the girl 3. On 14th Sept., after results of proving had been sent in, new warts continued making their appearance in elder boy, and on 11th Dec. he still had 22 of different sizes; while on that day the warts of younger boy had all disappeared but one. No further information has been received in relation to the 3 warts of the girl.

e. Prover is 40 years old, of a stout make, middle size, and sanguine temperament. Her menses appeared early, she married at age of 20, and has 5 healthy children. Except during periods of pregnancy and lactation, her menses were very profuse for 3 or 4 days; her health was constantly good. Three years ago she was attacked with horny warts, one on tip of l. ring-finger, 2 in palm of l. and one in palm of r. hand; they troubled her a good deal in her domestic affairs; while washing, either in cold or warm water, they became cracked, and

* Huber's wife had formerly been troubled with warts, and, when she commenced the proving, she had one on the dorsum of the left hand, which had been in existence for several years.—*Mayrhofer*.

exhibited deep painful rhagades on the surface. Being informed that she might possibly get rid of her warts by proving Thuja, she consented to undertake it. From 3rd May until 30th June, she took 6 dr. of tinct. every d., and from 1st to 26th July, 10 dr. a d. The prover living at a distance, H. could only see her occasionally, and he recorded following observations at those intervals:—May 11th.—Prover complained of frequent attacks of vertigo and diminished sleep. Her mood was anxious, and the menses, which appeared on 6th, were inconsiderable and lasted only one d. 19th.—Her complaints were the same. The vertigo frequently made its appearance when sitting or lying down; during d. she frequently experienced a transitory tremulousness over whole body. 26th.—The above-mentioned phenomena continued, especially the anxiety. She thought she could not continue drug, because she had almost entirely lost her appetite, and suffered constantly from a sweetish taste; even streaks of blood were occasionally seen in saliva, and warts became still more painful. She consented, however, to go on with the drug. June 3rd.—The former symptoms continue. Moreover, wart-shaped excrescences of size of poppy-seed were discovered on dorsum of either hand, 6 on the l., 4 on r. In daytime she is frequently attacked with chilliness, feels very weak, and has a slight leucorrhœal discharge, which she never had before. The old, horny warts are very painful when touched, or while she is at work, but the new ones are painless. 10th.—The chilliness has been almost constant since the 3rd, the prover has no appetite, is quite unwell, faint, debilitated as by fatigue, without being able to state what ails her. The warts look as if split up, and exhibit deep, painful rhagades, especially while washing. To her great dismay, the new, painless warts became larger every d. The leucorrhœa lasted until 8th, when the menses made their appearance, which, however, lasted only a single day, and consisted in the discharge of a small clot of black blood of size of hazel-nut. On 9th, the leucorrhœa reappeared. It is but scanty, but obliges her to wash herself frequently in daytime. It is bland, yellow-green, and leaves spots of a similar appearance on her linen. 16th.—The leucorrhœa increases. Every d. she feels a pain as if bruised, at times in shoulders, at times in thighs. When stepping she feels an ulcerative pain in soles of feet, and they sweat constantly. The horny warts become more painful every d., and the skin around them becomes slightly reddish. The new warts are painless, almost as large as the old, of shape of truncated cones, have a smooth surface, and appear to be seated in epidermis only. Besides these, traces of new warts are perceived on dorsa of hands and on fingers. 26th.—The pain in shoulders and thighs ceased 6 d. ago, the ulcerative pain in soles of feet continues, the leucorrhœa and the chilliness continue likewise. The painful old warts are still surrounded with a red areola, and the rudimentary traces above mentioned have been developed into 10 new warts of size of poppy-seeds. 30th.—The ulcerative pains in soles of feet have ceased. The other symptoms continue. July 8th.—Having taken 10 dr. of tinct. every d., she has felt worse ever since 1st dose. She complained of being faint, chilly, anxious, and that she had lost her appetite. This condition continued until 7th, when

menses appeared, after which troubles diminished. Menses lasted only one day, and consisted in the discharge of 3 clots of black blood, of size of a hazel-nut. Leucorrhœa continued after menses. 18th.—Last 10 dr. had affected prover very much. The frequent chilliness with debility was now accompanied with difficult breathing, short and hacking cough, and momentary palpitation of heart. These symptoms were especially troublesome in daytime: nights were quiet. The old warts presented same appearance as before: the new ones (first crop) have assumed an irregular shape, and exhibit a rough surface. The most recent warts (2nd crop) had become somewhat larger, and traces are even perceived of a 3rd crop. The leucorrhœa continues, and prover thinks she has become thinner during period of proving. 26th.—All symptoms continue in an increased degree. The difficulty of breathing and the feeling of anxiety attending it are especially troublesome. The appetite is almost entirely wanting; every meal causes pressure at stomach. The debility is worse. The prover looks pale and sickly. Her dresses have become loose. There are 4 sets of warts: the oldest are still surrounded with red areolæ; the next have a rough surface and an irregular shape; the smaller warts of the 2nd crop have smooth surfaces, and the shape of truncated cones; and lastly the warts of the 3rd crop, which are very small, from size of a poppy-seed to that of a millet-seed. As she not unreasonably feared that continuing the experiment would produce further trouble, and increase the number of her warts, she put an end to the proving on 26th July. All symptoms continued with diminished violence until 3rd Aug. Warts remained unchanged, except that last crop seemed to have ceased to grow. On 7th Aug. menses made their appearance; they were somewhat more copious than last time, and lasted a d. and n. On their appearance all other symptoms diminished, even the old warts became less painful, and red areolæ paler. All recent excrescences remained unchanged. 18th.—Most symptoms had disappeared; she had a good appetite, breathing had again become easy, and leucorrhœa had ceased. The old warts had become smaller and less painful, and they ceased to crack during washing. The 3 subsequent crops continued unchanged. By 30th Aug. health and good looks of prover had entirely returned. The old warts had ceased to be painful, had much diminished in size, were even scarcely raised above skin; several of the new warts had disappeared without leaving a trace, and remaining ones were much diminished. Sept. 8th.—The old warts had almost entirely disappeared, and recent warts likewise. The menses, which appeared on 5th Sept., lasted 3 d., and flowed as before the proving. By Dec. 11th, 138 days after conclusion of provings, the old horny warts had disappeared without leaving the least trace in the epidermis. Of the recent warts nothing was left at that time except a very small trace of one only. (*Ibid.*)

7. a. F. LACKNER, student of medicine, 22 years old, of melancholic-choleric temperament and robust constitution, had dysentery when a boy, also scarlet fever and measles; was frequently affected with worms and toothache; and had a violent ophthalmia when he was 16, which left a great disposition to congestion to head and eyes, continuing to present time. For last 4 years L. has enjoyed excellent health. 1844,

Oct. 10th.—He commenced proving Thuja with 6 dr. of tinct., which he took in m. They caused eructations, colic towards noon, and diarrhœa. 11th.—8 dr. had same effect. 12th.—10 dr., after which colic became exceedingly painful; it diminished gradually after a copious evacuation. In hypogastrium prover experienced a sensation as of pressure, especially directly above symphysis pubis. 13th and 14th.—L. took 12 and 14 dr., and no medicine on 15th. On all those d. colic was less, but sensation of pressure in hypogastrium from within outwards remained same. 16th and 17th.—16 and 18 dr.; the colic and diarrhœa increased. 18th.—20 dr.; had slight colic and felt drowsy whole d. 19th.—25 dr., after which he experienced constant gurgling in bowels. 20th, 21st, and 22nd.—30, 35 and 38 dr., which increased colic and diarrhœa. 23rd.—40 dr. After lapse of 2 h. colic became so violent that he was scarcely able to stand straight, and had to sit with trunk bent forward. These pains lasted upwards of an h., and diminished after a copious evacuation accompanied with emission of a quantity of flatulence. In e. pains became again more severe, without, however, reaching former degree of violence. His sleep was restless and full of dreams. 24th.—No medicine was taken, colic abated, and sleep became more quiet. 25th and 26th.—45 and 50 dr., which again brought on slight colic, which was considerably increased on 27th, after taking 55 dr. L. now discontinued proving for 3 d. On 28th the colic kept increasing, and disturbed even his sleep; it was accompanied with distension of abdomen and constipation. On 29th in m. he had eructations; towards 10 great nausea with accelerated pulse, debility of limbs as from weariness, and cold sweat over whole body. This condition improved during a walk, by raising a quantity of wind. Colic, on the contrary, increased until noon, but abated towards e. In m. and after dinner he had a copious fluid evacuation. Appetite was less, sleep restless and disturbed with dreams. On 30th, in m., he had a scanty liquid evacuation; colic was very slight and appetite diminished. On 31st Oct. and on 1st Nov. he took 60 and 65 dr., which did not produce any symptoms, but on 2nd Nov., after taking 70 dr., he had again colic and diarrhœa, which became so violent on following d., after a dose of 75 dr., that he was scarcely able to stand straight at noon. While driving home, the colic, which was now accompanied with headache and chilliness, became more intolerable. After it had lasted almost an h., it abated somewhat after a very copious liquid evacuation, which was accompanied with free emission of flatulence; but again increased towards e. Nov. 8th.—L. had continued taking the Thuja, increasing the dose by 5 dr. every d., so that at this date he took 100 dr. The most constant symptom was the colic, which increased from m. until noon, intermitted after dinner, but reappeared in e. and continued until midnight; this was accompanied with sensation of pressure in hypogastric region. 9th.—110 dr. During d. he had colic; in e. burning in eyelids, and sight was less distinct; in n. pain in head and eyes, pressure in pit of stomach, and hurried breathing. He did not sleep till towards m., after which symptoms disappeared. 10th and 11th.—120 and 130 dr., after which he experienced burning in eyelids with obscuration of sight; the sleep was interrupted and

restless. The same symptoms appeared on 12th, after taking 140 dr. In e. pupils were dilated. On 13th no medicine was taken; 150 dr., which were taken on 14th, were not followed by any new symptoms. 15th.—160 dr. After dinner he suddenly felt a shrill ringing in r. ear, which, after a few h., as suddenly changed to dull buzzing and groaning, latter sensations gradually changing to a noise as of a bubbling liquid, which continued all n. In e. and n. he emitted a large quantity of flatulence and yellowish wine-coloured urine; his sleep was disturbed by voluptuous dreams; in m. he felt excessively drowsy, and was loth to leave the bed. No alvine evacuation. 16th.—170 dr. The whole d. he emitted a quantity of flatulence without any motion of bowels; his mood was especially cheerful; he slept quietly at n. 17th.—180 dr. These caused emission of an excessive quantity of flatulence d. and n. In m. he had scanty evacuation with some colic. 18th.—190 dr., after which he had a scanty papescent stool (after dinner) and then violent burning at anus. In e. he had colic and emitted a quantity of flatulence. 19th and 20th.—200 and 210 dr., which occasioned nothing but colic and a liquid evacuation. 21st.—220 dr. These occasioned a papescent stool, a.m. In e., moderate colic, and, during n., constant desire to urinate and emission of a large quantity of light yellow urine. Every urination was followed by violent burning pain in urethra, and in fundus of bladder. In m. he had a hard stool, and soon after violent colic. 22nd.—230 dr., after which colic lasted all d., the desire to urinate likewise; the pain after urinating was, however, less. 23rd.—240 dr., after which he discontinued drug until 30th. During this period of time he observed following symptoms:—every d., after dinner, a papescent stool, with emission of a quantity of flatulence; hoarseness and secretion of mucus in fauces, obliging him to spit; obscuration of sight with dilatation of pupils and burning of eyelids. 30th.—150 dr., after which he discontinued drug until 7th Dec. The same symptoms appeared as on previous d., but in a less degree, and they disappeared, finally, altogether. Dec. 8th, 9th, 10th, and 11th.—260, 270, 280, and 290 dr. The only symptoms occasioned by these doses was slight colic. 12th.—300 dr. At noon he felt slight colic; in e. he suddenly felt violent pain in whole abdomen, as if all the bowels were pulled towards point behind umbilicus. This was accompanied with distension of abdomen, headache and accelerated pulse. This colic lasted 6 h., and abated gradually after a liquid evacuation accompanied by emission of a large amount of flatulence. 13th.—310 dr. Colic continued until e.; on 14th, after taking 320 dr., he experienced all d. occasional shooting stitches in abdomen. Took no medicine on 15th and 16th, and had no symptoms. From 17th to 24th Dec. inclusive, L. took a dose daily, increasing every dose by 10 dr., so that on the last d. he took 400 dr. The symptoms elicited were meagre and one-sided. He was attacked with colic every d., noon and e., which increased from d. to d., and became extremely violent on 23rd Dec. (as on 3rd Nov.). Colic abated considerably on the emission, during a walk, of a considerable quantity of flatulence upwards and downwards, and after a copious liquid evacuation at noon. P.m. and e. he occasionally suffered from sticking, gurgling, rumbling and

shifting of flatulence in abdomen, and he had a sleepless, restless n. 24th.—These symptoms abated; on the 2 subsequent d., when L. took no medicine, he complained of nothing but debility. 27th and 28th.—410 and 420 dr. did not occasion any new symptoms; on the following d., 430, 440 and 450 dr. occasioned no other symptoms than constant rumbling and shifting of flatulence in abdomen, accompanied with shooting stitches in all parts of body.

b. Persuaded that the Thuja had been prevented from manifesting its proper effects upon the organism by the rapid succession of large doses, L. discontinued proving for a few d., and even during first days of Jan., 1845, perceived traces of the last-named symptoms. Jan. 8th and 9th.—No symptoms being any longer observed, L. took 460 and 470 dr. without any results. 10th.—480 dr. 2 h. after taking drug, he had eructations, desire to vomit, and a peculiar feeling of qualmishness in pit of stomach; these symptoms continued until midnight, and were accompanied with constipation, restless sleep, and vivid dreams. 11th and 12th.—490 and 500 dr., which occasioned following symptoms:—drawing and tearing in pericranium, at times in vertex, at times in occiput; one scanty stool every d.; confused dreams about the most absurd things. On e. of last d. burning and stinging in both eyes and eyelids, with injection of cornea; these symptoms continued on 13th after taking 510 dr. 14th and 15th no medicine was taken. On waking on 14th he was for a long time unable to open his eyelids. They were painful and closed again involuntarily. After rising he felt debilitated all over, especially in upper arms and thighs; clouds and streaks (*muscæ volitantes*) were hovering before his eyes whole d., accompanied with indistinctness of sight, which continued next d. On 16th and 17th, 520 and 530 dr. occasioned warm feeling in region of stomach; 540 dr., which he took on 18th, occasioned feeling of qualmishness, eructations, and emission of a quantity of flatulence. No medicine was taken from 19th Jan. until 6th Feb. inclusive. On first d. region of stomach was very sensitive, even to least pressure, especially in e.; there was frequent and continuous rising of wind from stomach, and continual emissions of copious flatulence from rectum. These symptoms gradually abated on following days, and finally ceased entirely. Feb. 7th and 8th.—550 and 560 dr.; the only result obtained was eructations tasting of resin, accompanied with aversion to drug, which became so invincible that he had to conclude his provings after having taken 15,920 dr. of the undiluted tinct. in the space of 122 d. (*Ibid.*)

8. J. LANDESMANN, chief physician to a battalion of grenadiers, made two experiments upon himself with Thuja.

a. The unquestionable effects which L. had experienced from a few dr. of 1st dil. of bryonia induced him to commence the proving of Thuja with the smallest doses of the higher dils., and to descend by gentle degrees to the lower. After he had discontinued taking bryonia for 3 weeks, and had felt free from any drug-symptoms for 2, he took, from 4th to 20th Sept., 1844, regularly every m., 1 h. before a milk breakfast, 3 globules moistened with 27th dil. of Thuja (1 : 100) prepared by himself 5 years before. Sept 4th and 5th.—L. remarked no

change in his sensations. 6th.—A.m., drawing tearing in r. arm, lasting several h. 7th.—Same sensation. 8th.—Drawing, sticking pains in r. index and middle fingers. 9th.—Renewal of the drawing tearing in r. arm, in m.; later, at about 10.30, debility and lameness in r. forearm, and violent trembling of r. hand, in which the veins swelled without any apparent cause. This appearance lasted $\frac{1}{2}$ h., and disappeared while writing. 10th.—Violent itching on different parts of skin, particularly on breast, with sensation as if skin at those spots was pierced with many very fine needles, which irresistibly obliged him to scratch. On e. of same d. there came on, without cause, a heavy cold preceded by dulness of head and frequent sneezing. 11th.—At 10 a.m. sticking pain in ring-finger of l. hand; towards noon stinging itching on breast again, and on both sides of neck, and at 9 p.m. drawing pains in l. shin-bone. 12th.—A slight pain was observed in r. side of pharynx, extending to ear, somewhat aggravated by swallowing. 13th.—The morning pain in neck had entirely disappeared, but returned p.m., with feeling of dryness and increased thirst, and wholly vanished again in e. Remaining days presented no new symptoms. It is particularly to be remarked, however, that the catarrh was troublesome through the whole of this proving, and had this peculiarity, that it often completely disappeared for hours together, and then suddenly returned without cause, with renewed severity, and with much sneezing. From 20th to 28th L. took every m. 6 globules moistened with 6th dil., which had no other effect than that they seemed to sustain the still continuing catarrh. From 29th Sept. to 3rd Oct. L. took again the 27th dil. and of this 5 dr. every m., but without effect. Oct. 4th, 5th, and 6th.—He took every m. 5, and from the 7th to 17th 10 dr. of 6th dil. Whereupon, besides the still continuing catarrh, the following symptoms appeared: 5th.—P.m., cutting pains in vesica for some m. 6th.—In m., sticking cutting pains in l. side of neck, as far as l. ear, which soon disappeared again. 7th.—P.m., drawing pain in l. middle finger. 8th.—Repeated drawings in l. great toe, and at n. lascivious dreams with a pollution. From 9th to 12th, except the constant catarrh, no symptoms. 13th.—Dryness in throat; soreness of chest, with aggravated catarrh, and in n. confused lascivious dreams. 14th.—In m. and at noon feeling of stoppage in l. ear, with diminished power of hearing, each time lasting several m. 15th.—In m. distinct violent stitches from anus into region of l. iliac bone. 16th.—At various times drawings in l. little finger. From 18th to 22nd Oct., L. took, every m., 15, and from the 22nd to 29th 30 dr. of 1st dil. 18th.—The catarrh, which had remitted, became worse, with frequent sneezing. Afterward on the same d., p.m., a sharp lancinating pain in l. frontal eminence, and soon after, sharp tearings in inside of r. ankle. 19th.—There were perceived, at several times, tearings in little finger of r. hand, and in e. dulness of head in front. 20th.—Frequent quiverings of lower lid of l. eye. 21st.—Again, frequent quiverings of same eyelid; further, drawing in little finger in r. hand, and restless sleep with lascivious dreams. The following days passed without symptoms. But on 26th frequent quiverings came on p.m. and in e.—pulse-like jerks in muscles of r.

arm, especially in deltoid. L. was, also, the whole d. causelessly excited and inclined to be angry, contrary to all his previous habits. 28th.—At about 10.30 a.m., while walking, he was attacked with such deadly hunger that he came near fainting, and was obliged, at a very unwonted time, to eat something in a neighbouring tavern. This symptom made the more impression on him, as it was repeated in e. of same and of following d. He had likewise, in r. nostril, a feeling of soreness or ulceration, which was aggravated by pressure upon the ala, but disappeared on following d. 29th.—L. took 40 dr. of 1st dil., but was prevented by circumstances from pursuing experiment from that d. No further symptoms developed themselves which could be attributed to the drug. The catarrh lasted until middle of December, and prover has much less hesitation in ascribing it to power of drug, because a catarrh had never lasted him so long before.

b. Feb. 1st, L. began a new experiment with the tinct., of which he took on the 1st d. 10 dr. and increased the dose daily by 5 dr., so that on the 15th of the month he had reached 80, and had taken in the whole 675 dr. Not the slightest change in his feelings followed any dose of the tincture. (*Ibid.*)

9. Dr. and Prof. LIEDEBECK, from Upsala, aged 42, of a sanguineo-bilious temperament and narrow build, often suffering from catarrhs and hæmorrhoids, made an experiment with Thuja during his residence in Vienna.

1844, Sept. 14th, he took, at about 5 p.m., a teaspoonful of the undiluted tincture. Thereafter, eructations with the taste of the remedy and, an h. later, transient pain in forehead and in l. side of the face, a sort of twitching.—15th. After having taken 60 dr. in m., eructations tasting of the drug, then a repeated transitory stitch in l. frontal eminence, and a sensation of dryness in mouth; after another 60 dr. taken the same afternoon, a gloomy, melancholy state of mind came on, which was still apparent on waking next m. 16th.—70 dr.; followed by eructations, strong aversion to meat, which had already been perceived on preceding d., difficult swallowing, without any apparent cause in the throat, stitches in both sides of thorax under mammæ, both during respiration and when not respiring. The melancholy frame of mind continued. These symptoms disappeared in course of following d., excepting the stitches in thorax, which often returned and did not seem to be connected with the respiration. 25th.—L. took 140 dr. of tinct. Eructations followed, and a feeling as though perspiration was about to break out. 26th.—The same symptoms followed a like dose. It is to be observed, that the prover thinks that he passed more urine during the experiment than at other times. The departure of our northern brother in the faith unfortunately prevented the further prosecution of the experiment. (*Ibid.*)

10. Dr. MASCHAUER instituted two experiments upon himself with the Thuja.

a. 1844, Sept. 21st, M. began the proving with 10 dr. of tinct. taken early, fasting. He perceived no effects but an unpleasant taste. 22nd and 23rd.—Each d. 10 dr.; followed p.m. of 1st d. by rumbling in abdomen with emission of flatulence, copious limpid urine and consti-

pation ; on 2nd d., scraping in throat and inclination to cough. P.m., the uvula seemed to be lengthened, and tonsils were vividly reddened, but swallowing was not worse. 24th and 25th.—30 dr.; on 1st d. dryness of palate with inclination to cough, sidelong stitch in lower half of l. chest ; in e. aching in forehead with failure of sight ; at n. frequent urination. On following d., continued scraping in throat with frequent cough ; the headache and increased urination also persisted, and were accompanied by a stitch in l. testicle. 26th.—40 dr. ; scraping in throat much less ; at noon, a double stitch in chest ; want of appetite with great thirst and dryness of mouth ; at n. copious urine, with itchings in urethra. 27th.—When nothing had been taken, restless sleep, interrupted by straining cough ; the urine continued copious. 28th.—M. took 50 dr., and discontinued the dose for two days. Effects, nauseous taste ; eructations with smell of Thuja ; frequent hawking with sensation as if throat were sore, continuing whole 3 d. In e., headache in vertex, remaining until midnight ; itching in urethra when urinating ; restless nights. Oct. 2nd and 3rd.—M. took on each d. 60 dr. on an empty stomach. On 1st d. frequent hawking with cough ; p.m., stitches in lower part of l. breast, and debility, with feeling as if beaten in limbs. On 2nd d., soon after taking dose, dryness of tongue ; throughout d. much thirst and itching in anus ; in e. considerable headache which lasted until midnight ; constipation. On 3rd d., itching in anus passing into a severe burning after a hard evacuation ; scraping in throat compelling him to cough, accompanied by itching in urethra. During the whole 3 d. frequent and copious urine, especially at n. 4th and 5th.—M. rested. The itching in anus occurred at times in both days, and evacuations were absent. 6th.—70 dr. The itching in anus and the hawking and cough again became worse,—the latter with oppression of chest, which seemed somewhat to embarrass breathing ; also copious urine, hard stool, and restless sleep. 7th and 8th.—80 dr. each d. On e. of 1st d., a repeated, violent stitch in l. side of chest ; on both d., frequent raising of mucus with cough and reddened tonsils, without pain ; disagreeable itchings in urethra and anus. 9th.—After taking 100 dr., lasting pressing headache in forehead with burning in eyes, which were pained by light. Continuance of itching in anus and redness of tonsils ; copious urine, failure of an evacuation (M. was accustomed to have a regular passage every m.), and a restless n. On the 3 following d. he took no medicine, and the above symptoms, except occasionally itching in anus, disappeared. 13th.—M. took again 100 dr. P.m., itching through the whole urethra during urination, and headache on awaking after a restless n. 14th.—120 dr. The headache continued all d. P.m., a violent stitch in l. side of chest, increased by inspiration. Afterward, a hard evacuation with subsequent burning in anus ; urine was copious, rest good. 15th.—140 dr. Two h. after, a violent evacuation with bellyache and burning in anus ; in e., headache in forehead ; at n., another evacuation and rumbling in abdomen ; also, general debility and copious urine, with itchings in urethra. 16th.—140 dr. Shifting of flatulence with constipation ; scraping in the throat with cough ; in e., headache followed by a restless n. During

the 3 following d., no medicine being taken, evacuations became again regular, but urine remained increased, and sleep was restless. 20th.—After taking 160 dr., no evacuation, but a strong urging towards it, with itching in anus and into urethra; urine still copious; in e., headache, which lasted until about midnight; after that, quiet sleep. 21st.—Another 160 dr. (taken fasting and diluted with water, as was always done); swelling in region of stomach, diminished by emissions of flatulence; p.m., a hard stool and itching during urination; in e., return of headache. On the 2 following d. no dose was taken, and no symptoms were perceived. 24th.—180 dr. were followed by these symptoms:—uneasiness in region of stomach with eructations of the drug; scraping in throat with frequent cough; p.m., headache with burning in r. eye, which disappeared on repeatedly washing it with cold water; copious urine, especially at n. 25th.—M. closed his proving of the tinct. with 200 dr. After 2 h., a sudden debility with pain in calves; then an internal chill in whole body, with dry and hot skin, which compelled him to lie down. He could not, however, keep warm in bed, and the debility increased to such a degree that he could with difficulty move his limbs. At about 10 p.m. this chill first began to disappear, merging in a dry and burning heat, and towards m. a sweat broke out over the whole body. He had no appetite, much thirst, passed no urine during the whole d., and had during the access of heat a full, quick pulse and intolerable headache. On m. of following d. he passed a small quantity of dark red urine; the sweat continued until noon, and prover could not leave his bed on account of his extreme weakness. A chill came on again in e., followed by a sleepless n. 27th.—The debility continued; he had no appetite, his tongue was furred, and he urinated copiously. On the 28th, for the first time, M. felt better, but could not bring himself to continue taking the tinct.; for the simple smell of the drug disgusted and horrified him. 29th and 30th.—The itching in anus was again perceived and the copious urine persisted. By Nov. 8th prover considered the action of Thuja to be exhausted, as all the vital functions were then favourably reinstated.

b. Forty d. after last dose of 200 dr., M. began his second proving. Dec. 5th.—He took 10 dr. of the 3x dil., and increased the dose daily by 10 dr. until the 15th, without noting the least variation in his ordinary sensations. From 16th to 23rd, M. tried daily 10 dr., m. and e., of 2nd dil., with a similar want of result. From the 24th to the 27th, he took twice a d. 10 dr. of 1x dil. After doing this 3 d. in succession, the well-known itching in anus developed itself, and was especially troublesome a.m. 28th.—After twice taking 15 dr. of same dil., a slight stitch in urethra, increased urination at n., and dampness at anus. 30th.—M. took in m. 30, and in e. 15 dr. of 1x dil.; afterwards uneasiness in stomach, eructations of wind, bitter taste; in e. violent headache, lasting until 10; copious, limpid urine, itching and sweat at anus. Jan. 2nd, 1845.—He observed, after 30 dr., from time to time stitches in urethra, with urgent desire to urinate, loss of appetite, vertigo, and headache in forehead in e. From 3rd to 10th, M. took daily 30 dr. of 1x in m., and 20 in e. The constant symptoms

were urgency to urinate, with stitches in urethra and itchings in anus. This very promising experiment was unfortunately broken off in consequence of the death of a person nearly connected with the zealous prover. (*Ibid.*)

11. I (Dr. Mayrhofer) proved the *arbor vitæ* upon myself and on my wife.

a. I began the proving of T. with the 2nd dil., making no change in my manner of life. Sept. 8th, 1844.—At 3 p.m. I took 50 dr. without experiencing the slightest change in my sensations; 100 dr. taken early, fasting, on 9th, produced no further effect, nor did 150 more taken in e. of same d., or 200 dr. taken on 10th. I tried then, on 11th, at 6 a.m., 100, and in e. 200 dr. of 1st dil., without observing any morbid phenomena. 12th.—The want of susceptibility of my tough system to the power of the dilutions determined me to try the undiluted tincture, of which, on this d., I took 50 dr. m. and e. each, but waited yet in vain for any signs of life in the "tree of life." 13th.—After 100 dr. taken early and fasting, I first perceived, during d., swelling of hæmorrhoidal veins, with tenesmus, itching, and burning in anus. In e., on repeating the 100 dr., I had 2 slight passages, ending with discharge of mucus, itching, and burning. 14th.—In m. 100, and in e. 200 dr. The itching and burning in anus increased, and were especially troublesome in e. after a stool. During n., more frequent and copious urine than formerly, and, immediately after urinating, I felt a renewed inclination, whereby a few dr. were discharged without pain. 15th.—200 dr., taken both m. and e., produced no new symptoms. 16th.—At 6 a.m., 300 dr. Immediately afterwards, nauseous taste and confluence of much saliva in mouth. After $\frac{1}{2}$ h., dull headache over whole frontal region (lasting an h.). At 6 p.m., a stool, with subsequent burning in anus, and shortly after a reiterated discharge of mucus, attended with very violent stitches in rectum in direction of a line from anus to sacrum. As the stitches ceased, the itching and burning returned, and lasted until 10. 17th.—300 dr. Itching and burning in anus remained the prominent symptom, lasting till midnight and preventing sleep. Three stools followed, ending always with discharge of mucus; urine was plainly increased, and after urination the inclination returned, attended with the voiding of a few dr. more. 18th.—At about 6 a.m., 600 dr. were taken in a glass of water, with the following result: Eructations of the drug for some h., confluence of saliva in mouth, headache in frontal region, and in e. 3 stools, with subsequent itching and burning in anus and irritating stitches up rectum. On following d., on which I took no dose, I frequently felt flying stitches under r. shoulder-blade, and in e. had 3 stools with the accustomed accompaniments. As in course of 20th, the following d., I perceived no drug affections, I took 400 dr. at about 9 p.m. Before midnight sleep was destroyed by emission of much flatulence, by itching and burning in anus, accompanied by flying stitches in rectum and by repeated urination; sleep, however, came on after midnight, and on awaking I found myself better than I could have expected after a bad n. I took no medicine on the next 3 d.; regularly every e. the itching and burning in anus set in; every d. also I

had 2 stools ending with discharge of mucus. 23rd.—In e., 500 dr. Increased warmth in face with dull confusion in head (effect of the alcohol); unrefreshing sleep, interrupted by terrible dreams (of the dead) and by frequent urination. On following m. dull confusion in head, with general debility. Through d. flying drawing pains in various parts, especially in hands, and in e. return of itching and burning in anus. From 25th to end of month I ceased to take the drug, and made the following observations: On e. of 26th, 3 round red spots size of a lentil, which itched and obliged me to scratch, appeared on inner surface of r. forearm near wrist. The itching became burning when they were scratched. On following m. they had disappeared without leaving a trace; on 28th I remarked a painful tubercle of about the same size in neighbourhood of anus, on raphé of perinæum, which likewise disappeared in a couple of d. Flying drawing, now here, now there, and troublesome itching in anus, especially in e., developed themselves every d., gradually, however, wearing off. Oct. 1st.—At 5 p.m., 500 dr., followed by nausea, eructations of the remedy, and (after $\frac{1}{2}$ h.) itching and burning in anus. During n., discharge of much flatulence and copious urine; at 6 a.m. of following d. an evacuation with burning in anus; through d. felt well. 2nd.—On taking 500 dr., the constant burning and itching in anus reappeared, and night's rest was as usual disturbed by frequent urination and restless dreams. On following d., no other symptoms were perceived except debility and occasional flying stitches in rectum. 4th.—I took, at about 3 p.m., another 500 dr. In e. dull confusion of head and burning in anus; on following n. abundant urine, much flatulence, and dreams. On following d. I felt pretty well again; while urinating, however, I made the unpleasant discovery that the glans penis was entirely covered with a greenish-yellow, ill-smelling secretion, and after I had cleansed it, I observed on dorsum of glans, near hinder border, 4 tubercles about size of a flaxseed, with a vesicle on their summit, and in the sulcus, near attachment of foreskin, was a small eroded spot, surrounded by a red circle, about size of a lentil. 6th.—Nevertheless, I again took 500 dr., upon which the symptoms already described again appeared, and the tubercles on the glans had increased by 2. The urine, since the large doses, had become turbid, and, in cooling, deposited a flocky mucous cloud. Urination was performed without pain, but a sensation was often experienced, while seated, as if the glans had been bruised. 7th.—No new symptoms were developed by a fresh dose of 500 dr., except that the vesicles of the elevations before described were broken, and left behind little painless erosions, surrounded by a red margin, and yielding the secretion alluded to. During the 3 following d. no medicine was taken, and the protuberances became flatter, the areola paler, and at last the sore spots disappeared also. Pains, at one time drawing, at another tearing, were repeatedly felt, especially in extremities, for the most part while at rest, but in r. tibia also while walking, so as to make me limp. 11th.—At 3 p.m., 600 dr. Besides the usual phenomena, I noticed on the following d. granular, elevated red spots on the glans penis, which was uncommonly sensitive, and on 13th sebaceous glands of prepuce appeared swollen and inflamed; but, on 14th, the

inflamed spots were paler again, the clustered, prominent tubercles flatter; and on 15th appearance of prepuce and glans was again natural. 16th.—At 3 p.m. I drank 1000 dr. in a pint of water. Immediately afterwards, nausea with vomituration and confluence of saliva in mouth. After an h., headache in frontal region with heat in cheeks; and, $\frac{1}{4}$ h. later, general feeling as if beaten, with chill over whole body in so remarkable a degree, that I was obliged to go to bed, although it was only 6 p.m. The n. was disturbed by many dreams and frequent urination. On the 3 following d., no medicine being taken, I felt uncommonly debilitated. I was especially annoyed by itching and burning in anus, attended by several violent stitches in rectum (particularly in e.). I also had, at times, drawing pains in hands and feet, which still continued even after 8 d., growing, however, weaker and weaker. No change was perceptible in the glans penis, but I felt a burning pain in perinæum, raphé of which was more prominent than usual, and one inch from the anus a tubercle size of a pea appeared, which increased for 3 d., became moist, smarted in walking, and then day by day became smaller and disappeared in about 10 d.

b. Nov. 8th.—After I had desisted for three weeks, and felt myself pretty free from the effects of the drug, I began a new proving, by taking 300 dr. of the tinct. at 4 p.m.; whereupon the well-known Thuja symptoms made their appearance, as transitory drawing, perceptible now here, now there, itching and burning in anus, copious urine, sensitiveness of glans, &c. 9th.—300 dr. in e. In n., increased sexual desire, which, during the whole course of preceding proving, had been rather diminished than exalted. 10th.—On following d., soon after waking, I was annoyed by an itching, burning pain in hollow below os coccygis, lasting all d.; the same phenomenon recurred on taking 300 dr. in e. Three d. subsequently glans became sensitive, and sebaceous glands of the prepuce swollen, as on 12th Oct. On the 4th d. I remarked a red tubercle between scrotum and r. thigh; violent itching in hollow below os coccygis was again very troublesome, and the anus became as sensitive after a slimy discharge as though the skin were cracked and chapped there. 19th.—When most of the Thuja symptoms had ceased, I took at about 3 p.m. 1200 dr. of tinct. (in weight \mathfrak{zj} and $\mathfrak{z}ij$) in a pint of water. The effect of this draught was at first the drunkenness induced by alcohol; heat in the head and face, uncertain gait, reeling of surrounding objects, &c. In e., a general feeling as if beaten, which drove me to bed at 8 p.m. Sleep was interrupted, as before, by dreams and frequent occasion to urinate. On following d., besides the occasional drawing in limbs, I was annoyed by my most constant Thuja symptoms, itching and burning in anus with tenesmus, especially in e. 23rd.—Deep red spots showed themselves on glans, and inner surface of foreskin was inflamed and swollen. 24th.—The 5th d. after the large dose of Thuja, a slight burning pain was perceived in glans, which in the furrow behind the corona was entirely covered with a thin, yellowish, ill-smelling secretion, on the removal of which two deep red spots were discovered, which appeared to be eroded, and from which the fluid alluded to transuded. 25th.—The two spots had increased in size, run together, and were covered with

granular elevations; the glans was rendered uncomfortable, but urination was performed without pain. 26th.—The whole furrow as far as the frenulum was sore and covered with papillæ size of a poppy-seed. The secretion from the glans was very copious. 27th and 28th.—Secretion was diminished in quantity, but some twelve or fifteen reddish excrescences arose on the hinder border of the glans, largest of which was about the size of a flax-seed; and inner surface of the prepuce was full of granular tubercles. On next d., elevations on glans disappeared, as well as sore spots in the furrow, with a steady diminution of the purulent discharge; sebaceous glands of the prepuce remained, nevertheless, for some time swollen and prominent.

7. Dec. 1st.—At about 3 p.m. I took 3 dr. of oil of Thuja on a lump of sugar; the oil had been obtained (3j from 4 lbs. of leaves) by distillation of tender twigs of the tree; it tasted exceedingly sharp, and caused eructations for several h. In n. frequent urination, with very hasty, incessant urgency, and on following d. redness of glans at aperture of urethra. After taking 10 dr. of the oil in e., the eructations continued into n. 3rd and 4th.—A dull pain developed itself in l. testicle as though it had been bruised, and was perceptible both when seated and when walking. On 6th an eroded spot appeared again in middle of furrow of glans, which discharged a pus-like fluid. 7th and 8th.—The discharge from the glans had attained its former height. The whole furrow was covered over with pus, so that it was necessary to cleanse it often. 9th.—After moderate use of wine the condition was still worse. The inner surface of the prepuce was sore in spots, highly inflamed at frenulum, glans was sensitive and painful when walking. I was now content with the painful present thus made to me, and closed my proving of Thuja. The discharge from the glans was not entirely cured, after several alternations of better and worse, till end of 4 weeks. Itching and burning in anus lasted longest, and was still felt at times after the lapse of months. I must here repeat the observation that during the whole duration of the experiments with Thuja (*unica nocte exempta*) the sexual impulse was diminished even to indifference. (*Ibid.*)

12. 1845, June 17th. Maria Anna M—, 35 years old, sanguineo-melancholic temperament, tall and slender form, mother of six healthy children, began the proving of Thuja, 4 months after the birth of her last child, by taking 200 dr. of the 2nd dil. This was at about 3 p.m., She experienced no effect from the dose, nor from another of 200 dr. of the 1st dil. 19th.—P.m., she took 30 dr. of tinct., and on awaking next m. complained of painful tension in l. side of neck, darting upwards to occiput and downwards to the scapula, and preventing her from turning her head. On 20th (on which d. she took nothing) the tension seemed somewhat to remit, but returned in greater severity on 21st, after taking 40 dr. In e. there also came on a crushing pain in inner side of l. wrist, in head of radius, which last was plainly swollen and painful to touch. 22nd.—P.m., she took 50 dr. In e. she felt tension in both knees and heels, especially when rising after being long seated. The stiffness of nape of neck continued. 23rd.—The same symptoms continued on taking 60 dr. She compared the tension

in knees and heels to a feeling as if feet had been rendered stiff by over-exertion in walking. She took nothing on the last days of June and the tension in nape of neck and in knees and heels diminished, but did not altogether cease. July 1st.—After a pause of 8 d. she continued the proving by taking 70 dr. of tinct. The tension over patellæ and in heels (at point of attachment of tendo Achillis) immediately increased. The rest at n. was good, and no change was perceived in urine or stools. 3rd.—80 dr. were taken in afternoon as usual, upon which a dull stunning headache, in frontal region and vertex, came on, which, however, did not last long. 5th and 8th.—Nothing new was produced by 90 and 100 dr. The tension in knees and heels continued, but was only troublesome while walking, not while sitting; the tension in nape was still occasionally sensible, especially in m. 9th and 10th.—120 and 140 dr. of tinct. having been taken, no new developments occurred, and the prover, stiffened in neck and legs, concluded her experiment. 12th.—The menses appeared at their regular period, but were weaker than ordinarily. The stiffness of l. side of neck, and the tension over knees and in heels, diminished only very slowly, often disappeared and then suddenly set in again, and first completely vanished at the expiration of 3 months. (*Ibid.*)

13. Dr. REISINGER instituted on himself three experiments with Thuja.

a. 1844, Nov. 5th.—R. took in m. 10 dr. of tinct., and increased dose daily until he arrived at 100 dr., which he then repeated every other d. until 10th Dec., without experiencing the slightest influence. Various hindrances prevented the prosecution of this experiment.

b. 1845, March 1st.—R. recommenced proving Thuja with 100 dr. of tinct., and added 100 dr. every other day, so that on 15th dose was 800 dr. The sole symptom which he ascribed to the drug was a tolerably strong, jumping, sticking pain in a hollow tooth of l. under jaw, which had never ached before. This pain appeared only upon d. of taking drug, and about 3—4 h. after its administration. But this very probable symptom of Thuja disappeared again under the subsequent remarkably large doses. 15th.—After taking 800 dr., R. perceived in e. slight oppression of chest, with inclination to cough. 17th, 19th, and 21st.—1000, 1200 and 1500 dr. produced no effect whatever. R. now discontinued the doses for 8 d., and waited, but in vain, for the after effect of the remedy. 29th, 30th, and 31st.—He took, each d., 1500 dr. of tinct., and remarked afterwards slight vertigo (effect of the alcohol), continual eructations, dryness of pharynx, frequent hawking up of mucus, and pressing, tensive feeling in the lungs, that became more perceptible and sticking on taking a deep inspiration. The other functions remained normal. April 1st.—Encouraged by this impunity, R. took from 1st to 5th April, in daily increasing doses, 1600 to 2000 dr. of the tinct., without perceiving the slightest change in his sensations, except a feeling of dulness and confusion in head. 9th.—R. drank at one draught ʒij of tinct. Of the subsequent symptoms, the increased warmth in the stomach and whole frame, the vertigo, the headache in whole frontal region, and the violent

thirst, are rather to be set to the account of the alcohol. Thuja will have the credit of the following: Swelling of the veins, especially of the arm; eructations of wind, smelling of the drug; oppression of the chest with some pain on inspiring; frequent hawking up of a tough mucus; restless sleep with confused dreams and excited sexual impulse.

c. As was to have been expected, no results followed an experiment instituted by R. with the first twelve dilutions (1:99). He began with 100 dr. of the first dilution, and took daily the same quantity of the succeeding dilutions in regular order, closing his resultless experiment with 100 dr. of the twelfth. He had now taken some 25,000 dr. of the Thuja tinct., and was well weary of it, but not ill. (*Ibid.*)

14. Dr. STERZ made two short experiments with Thuja.

a. 1844, Oct. 13th.—He took tinct. every forenoon between 10 and 11, upon a lump of sugar. He began on 13th Oct., 1844, with 5 dr., took 10 on 14th, and increased dose each d. by 10 dr., until, on 19th, he took 60 dr., but perceived not the slightest effects. 20th.—An h. after taking 80 dr., a sensation of roughness in throat came on and lasted until midnight. 21st.—100 dr. Immediately after dose, feeling of roughness on tongue, hard palate, and in throat; at noon sensitiveness of gums of molares; at 7 p.m., colic-like pain in hypogastrium and movings in the bowels as if preceding a diarrhoea, which, indeed, came on very violently at 8.30 with severe bellyache: the pains then remitted, but the hypogastrium remained tender for several h. His sleep was quiet after midnight, and towards m. much flatulence was discharged; the throat was still rough and fauces dry. He was frequently obliged to hawk and throw off white, tough mucus. After 10 a.m. he took a fresh 100 dr., upon which, frequent eructations with nausea; at noon, dull confusion in forehead, which disappeared at midnight; in e. a copious evacuation, with discharge of much flatulence. All the morbid sensations had vanished on next d. after a quiet night's sleep.

b. Dec. 7th, 8th, 9th, and 10th.—No effects were perceived from 200 dr. of the 15th dil.* (the dilutions were prepared with one part of alcohol and four of distilled water) taken daily, nor from the same quantity of 12th dil. taken on 11th. 12th.—S. took m. and e. 200 dr. of 12th. At noon feeling of dryness on palate, and next d. drawing in both thumbs on awaking. 13th.—400 dr. of 12th. Thereupon roughness of palate and drawing in r. thumb, which last continued all d. 14th.—Nothing new was developed by 400 dr. of 8th dil. The drawing in r. thumb extended into the wrist-joint. On 15th no dose was taken, and except dryness of the throat no symptoms appeared. 16th.—400 dr. of 6th dil., which were repeated on 19th; after which, scraping and roughness in throat, and drawing in r. knee. After a pause of 28 d., S. also experimented with the 4th and 2nd dil. 1845, Jan. 16th, 18th, 19th, and 21st, he took 400 dr. each d. of 4th; and on 5th, 6th, 7th, and 8th Feb. 200 dr. of 2nd. The following slight symptoms appeared: Feeling of dryness in throat, with frequent hawking and spitting of a tough white mucus and confluence of much saliva

* The dilutions were all decimal.

into mouth ; the taste was injured by it, and food tasted as if it had not salt enough. (*Ibid.*)

15. WACHTEL proved Thuja in the dilutions only.

a. 1844, Dec. 10th.—Our associate, so remarkably sensitive to the effects of this drug, began his proving by taking 30 dr. of the 3x dil. about an h. before breakfast. He observed, in forenoon, a sudden thrust from before backwards in r. half of chest ; at noon, complete loss of appetite ; in afternoon, itching and biting in prepuce ; afterwards, tearing pressing in upper part of r. thigh and l. arm, which greatly resembled the effects of bryonia, with this difference, that the pain produced by Thuja seized the middle of the affected member, was confined to a small spot, and was mostly in the muscles, while that produced by bryonia seemed to prefer the joints and tendons. In e. he felt maddening twitching in r. frontal eminence. An h. later this pain attacked the r. eyeball much more violently, but shortly disappeared, leaving behind a sensibility of the eye to touch of hand, which remained a long while. Sleep of following n. was good ; but immediately on waking the same pain re-established itself in r. eye. 11th.—10 dr. of same dil., producing return of chest-pain of d. before, but this time in l. half. Afterwards, an unsatisfactory, hard stool, with subsequent itching and biting in anus. P.m., drawing through whole length of the outer surface of thigh ; in e., pressing pain in frontal and occipital regions ; itching in corona glandis when walking (for $\frac{1}{2}$ h.). His sleep was good and comfortable, with lively and pleasant dreams. Feeling of health on awaking, except weariness and lameness in legs. On 12th, no striking symptoms followed repetition of dose ; W. only remarked in middle of l. parietal bone a spot, size of a sixpence, sensitive to touch, and a drawing from crest of r. iliac bone to upper part of thigh. 13th.—Pressing in occiput was only symptom after taking 10 dr. On 14th, after a similar dose, pressing in forehead, lasting all d. W. now discontinued the Thuja from the 15th Dec., 1844, until 7th Jan., 1845, in order to see how long the effects of the drug would continue ; and acknowledges his astonishment at the duration of its action. During this time he observed the following symptoms : 15th.—Violent drawing and pressing in sacral region for 2 h. in forenoon. On 16th, while writing, drawing pressing in r. thumb (for 5 or 6 m.) ; then in index ; later in middle, and finally in little finger. In afternoon same sort of pain appeared in l. arm, shifted then to upper part of thigh of same side, soon after appeared in both mastoid processes, then in frontal eminences, where the pain took more of a digging-twitching character, and finally reappeared in extremities. This wandering about of the pains continued through following d. On 18th, for several h. in forenoon, the pain remained in neighbourhood of l. wrist ; and, during whole afternoon, in upper part of l. thigh. 19th.—While lying down, the pressing in sacrum was fixed in same spot for a whole h. It diminished and disappeared on motion ; but afterwards appeared while lying in bed in lower part of l. thigh, in the same spot where it had already appeared once before. The prover remarked this d., on edge of upper lip, two small, dark red, burning spots, size of a lentil ; on which, during the 3 following d.,

little elevations were developed, which dried up and fell off. Later, two new spots appeared, which ran same course. He observed, in addition, feeling of stiffness on side of the nape of the neck, which had been already perceived during the first days of the experiment, but had been attributed from the beginning, by the prover, to an uncomfortable position in bed. 24th and 25th.—W. was often tormented by a very painful tearing drawing in l. chest, in neighbourhood of fifth and sixth ribs. This pain appeared when standing and sitting, disappeared when moving, and was rather diminished than increased by a deep inspiration. 26th.—Crawling drawing in l. zygoma, which left behind for a long time a feeling of deadness. This symptom appeared again on 27th, on same, and afterwards on r. side. In e., drawing tearing in mastoid process of l. temporal bone, and then in both eyeballs, where the pain ceased. 28th.—Prover was annoyed through whole d. with a crawling pressing pain in l. side of sternum, which was confined to a spot about size of a thaler, remained the same in rest or motion, and finally left the feeling as though spot was sore. After 3 weeks isolated symptoms were still perceived. The pains were, for the most part, drawing, tearing, or crawling, seldom pressing, and least of all sticking. They were mostly confined to a small spot, seldom continued long, frequently changed their location, and came on distinctly when at rest as well as during motion.

b. 1845, Jan. 8th.—After W. had almost ceased to perceive the symptoms produced by the proving of the 3rd dil., he took, at 7 a.m. this d., 3 oz. of the 12x dil. In 1½ h. afterwards appeared (weakly marked) the characteristic tearing drawing pains, sometimes in frontal eminences and occipital protuberances, sometimes in middle of l. arm and thigh (only when at rest). The crawling and drawing in both zygomata, and in l. upper maxillary bone, came on instantaneously, and disappeared again as rapidly as it had appeared. 9th.—Rather violent drawing in r. shoulder, and later, without the slightest cause, cutting and gripping in l. side of abdomen. 10th.—No abnormal sensation was perceived, but on 11th extraordinarily violent tearing in l. concha, and soon after in l. eye, which ended with a darting stitch through middle of eyeball. Copious urination also came on. 12th.—Prover remarked in region of heart a small spot, sensitive to touch, with pain as if it were sore, and on following d. a similar spot upon vertex, on which skin was somewhat reddened. At 10 o'clock he went to bed in good health, but after ¼ h. was suddenly seized with anxiety, after which a slight perspiration broke out; whereupon he fell asleep, but continually started up again. Finally, drawing pains in arms and legs, and especially in sacrum, came on. These having ceased, he had quiet sleep till m. 14th.—W. found himself tolerably well; only general weakness and frequent accesses of drawing pain in different parts of body annoyed him. In e. the general debility increased, and he was obliged to go to bed at 7 o'clock. After some m. his feet became as cold as ice, whereupon he became again anxious. It was a very striking symptom that in no position of the body, whether sitting or lying, could he feel the pulsation of his heart. Slight shiverings, which spread themselves by little and little over whole body, came on.

At last, after $\frac{1}{4}$ h., he experienced a trembling of the heart, after which a general sweat broke out, so that in the course of a m. whole body was wet. This was followed by dozing for an h., unrefreshing, and disturbed by frequent starting and horrible images. When he awoke from this he was tormented with drawing and tearing pains in hands and feet, and when these last suddenly disappeared, the anxiety and heart-trembling returned. It was only after $\frac{1}{4}$ h. that his heart again beat regularly; but then drawing tearing pains in epigastrium, in hypochondria, on chest, but worst in sacrum, came on, ending in a slight perspiration, and finally in sleep. On awaking, W. was very weak, and every part of his body felt as though it had been bruised; head, however, was free from pain; the weariness, too, nearly disappeared in course of d. 15th.—He went to bed later than usual. After he had lain quietly for a $\frac{1}{4}$ h. his feet began again to grow cold, anxiety again came on, and in an instant, in place of the regular beat, he felt a trembling of the heart. The sweat that then broke out was interrupted by the prover's being called to a patient: on his return, at the expiration of an h., he slept tolerably well until m. 16th.—During d. drawing pains, now here, now there; weariness, with apparent loss of sensation in limbs; in e., after lying down, cold feet again, with anxiety and palpitation, but less in amount and of shorter duration. Isolated symptoms were still remarked by the observant prover six weeks after the 3 ounces of the 12th dil. had been taken. The following were daily visitors,—the drawing pains in hands and feet, in sacral region, and between the shoulders. The crawling drawing in zygomata and the tearing in occipital protuberances and in petrous portion of temporal bone were among the oftenest perceived. No chest or abdominal symptoms appeared, but wart-like excrescences frequently appeared on back of r. hand, on chin, and other places. A furunculus behind r. ear especially continued a long while, and formed a scab, from which exuded a glutinous moisture. This soon dried and fell off, when another formed; it was sensitive to touch, and lasted 4 whole weeks.

Finally, W. repeats the observation that the symptoms of Thuja came on almost exclusively during rest, remained but a little while, and were either rendered worse or caused to break out afresh by the use of spirituous liquors, except the customary beer. (*Ibid.*)

16. WATZKE instituted four experiments with Thuja; and of all the drugs which he has assisted in proving, Thuja seems to have found the least sensibility to its specific effects in him. He experienced no regular drug sickness, although isolated Thuja symptoms were clearly developed.

a. 1844, Nov. 26th and 27th.—“I took,” says W., “on these days, twice in the forenoon, 6 dr. of the 12th dil., and during the two following d. the same dose in like manner of the 9th, and observed a strict diet. Whether the symptoms which then appeared were certainly produced by the Thuja or not, I do not know; but of this I am confident, that they were such as I had never before experienced, and such as almost constantly returned when I subsequently experimented with larger doses of the drug. There appeared, especially during the time of proving, repeated, short, dry cough without throat

symptoms or pain in the chest. The hypogastrium appeared the whole time somewhat inflated and sensitive to pressure, and even to the jar of the foot on the ground. It seemed to me as if I perceived the vesica to be larger, and I was obliged to urinate oftener than usual; but neither had I pains in the urethra, nor was the urine at all changed. From 2nd to 14th Dec. I took nearly every d. a dose of Thuja; until the 6th, 6 dr. of the 9th; until the 10th, 6 dr. of the 6th; and on the 13th and 14th, 6 dr. of the 3rd dil. Although during this time I did not altogether observe a strict diet, still some certain symptoms of Thuja manifested the working of the drug; certain because they were renewed with renewed intensity under the larger doses. These symptoms were dry cough; pain in the patellæ, frequently returning whether sitting or walking, a twitching as if a tendon were slowly drawn out and then suffered to return; a similar pain in temples; outer malleolus of r. foot was painful while walking, as if after a false step; circumscribed pain in inner side of the thigh, as if after a long walk; swelling in region of hypogastrium, with frequent urgency to urinate.

"*b.* From 19th Dec., 1844, to 2nd Jan., 1845, without changing my ordinary mode of life, which was not confined to a very severe diet, I took, at about noon of every other d., a dose of the tinct., beginning with 10 dr., and increasing it each time by 10, until, on the last-named d., I arrived at 80 dr. The abnormal sensations which I experienced during the duration of this experiment were the following: Contractive pain in r. temple, pretty severe, often returning and always lasting several seconds; pressure in r. eyeball; biting in corner of r. eye. Once at about 5 p.m. (without any cause affecting the eyes) the surrounding objects, which I wished to regard, suddenly swam before my eyes; I could not see clearly, much less read. This lasted nearly $\frac{1}{2}$ h. Sensitiveness of isolated spots on thorax; feeling of weight, and frequent cramp-like constriction in chest; dry cough, increasing in direct ratio with duration of experiment, becoming constantly more troublesome, and finally obliging me to lay aside the proving for a while; sensitiveness and feeling of inflation in region of vesica with frequent urgency to urinate; violent itching in distinct points on inner side of thigh and on parts of genitals covered with hair; sensibility of glans and darting stitches through it; remarkable indifference to the opposite sex; several times, on awaking, drawing pain in great toe; feeling in little toe as if skin were lacerated in spots; weariness of lower limbs, especially remarked in the lower part of the thigh.

"*c.* From the 16th to and including the 20th January, I took daily 100 drops of the tincture without noticing any new symptoms; those developed under the previous proving again appeared with less violence, except the dry, frequently returning cough, which rendered me so anxious about my health that I was induced to discontinue the experiment.

"*d.* Feb 5th.—I took 150 dr. of tinct.; on 6th, 300; on 7th, 450; on 8th, 600; on 9th, 700; on 10th, 900: each time between 10 and 11 a.m. These doses produced nothing new; they simply caused most of the symptoms developed by the second experiment to

return more markedly, and with greater force. The last dose of 900 dr. was followed, during whole afternoon, by frequent eructations of food with taste of drug, and several times by violent, nearly watery, but painless diarrhœa.

“*z.* On Feb. 25th I took in the forenoon two, and on the 27th three table-spoonfuls (about 1350 dr.) of the tinct., at the same time observing a strict diet. The somewhat numerous symptoms that constitute my last proving began to appear for the most part some hours after the doses, and confined themselves principally to the first 24 or 48 h. ; but, nevertheless, they did not run an acute course, nor vanish, like meteors, after a single appearance, but returned separately during a period of from 8 to 14 d. They seemed to have a chronic character, and a marked though irregular periodicity. It was more especially upon the thoracic organs, as in the former provings, on the muscles, head, especially occiput, and upon the organs of generation, that Thuja exerted its influence. The peculiarity of the muscular pains was that they generally affected the middle instead of the tendinous portions of the muscle. Most of the symptoms came on during rest, many of them on waking in m. To prevent a tedious and unnecessary repetition, I confine myself to a description of one d., the 27th of Feb., which was one of the richest in symptoms. At 11 a.m. I had taken 3 table-spoonfuls of tinct. Immediately after dose, head felt cloudy, I felt my spirits excited and became lively and loquacious (effect of the alcohol?). Soon I perceived a slow-drawing, sometimes darting pain in r. half of face, from temple to teeth ; then the whole became sensitive, and increased in sensitiveness with the subsequent symptoms in course of afternoon. Occiput was externally warmer to touch in a particular spot, corresponding with which I felt heat and pressure in brain. At times dull stitches ran through brain, generally in direction of eyebrows, and from eyeball to occiput. Chest smarted internally, as if sore, especially during the dry cough which appeared from time to time. In some spots I had a feeling as if thorax from without, and corresponding portions of lungs from within, were strongly and continuously constricted ; a feeling which returned frequently and strongly on the following days, especially during rest, induced frequent deep sighing, and annoyed me not a little. There were spots here and there on thorax and extremities painful as if from a thrust, especially during movement. In other spots I perceived a stitch, leaving behind an itching, as if they had been bitten by fleas or ants ; in forearm several times a coursing and gurgling, as of single drops of blood rolling one after another. I had frequently, for a m. at a time, a pain which in axilla, in dorsum of foot, and on various points of external chest, was pinching and pressing, in patellæ and heels was stinging, and in external ear compressing. Violent twitching came on in isolated muscular parts, which was strongest in the middle of upper part of r. thigh and of l. arm. In ends of fingers and toes, twitching was finer and more transient. This muscular twitching was frequently repeated on the following days in different parts, and was one of the most troublesome symptoms : for example, it still came on on 13th March, and lasted for almost 10 m. in chin. The stinging pain in heel often returned,

and was especially troublesome in walking (for $\frac{1}{2}$ h.). Inner side of upper thigh and parts of genital organs covered with hair were very unpleasantly affected with itching and scraping, frequently lasting from 5 to 10 m. Frequent stitches darted through glans, and whole member, especially glans, was constantly sensitive. An uncomfortable sensation of fulness in region of bladder forced me to frequent urination; quantity of urine did not seem increased, and quality was perfectly normal. My digestion and evacuations seem to have been left nearly or quite undisturbed. The most lasting and most troublesome symptoms in my case, as may be gathered from foregoing account, were those which affected muscles and chest. The dry cough, the constriction in spots on thorax and in corresponding parts of lungs (frequently returning, very irritating and annoying, compelling frequent deep inspirations, and ameliorated by wine and beer), only entirely disappeared in course of about 8 weeks. The striking indifference to sexual intercourse, by no means customary to me, continued during the whole experiment, and, in fact, still longer." (*Ibid.*)

17. Dr. WURMB instituted 5 experiments with Thuja, 4 with the tinct. and 1 with dils.

a. 1844, Sept., W. took, from 17th until and including 21st, at about 5 p.m. of each d., a coffee-spoonful of the tinct. of Thuja; omitted it on 22nd; took same dose at same hour on the two following d.; omitted it on 25th; and from 26th to and including 30th again repeated it. The following were the results. 18th.—In m., after urinating, burning in urethra; very painful stitches from urethra to anus; pressing in region of neck of bladder, with urgency to urinate. These feelings, which prover thought similar to those usually perceived at the beginning of a clap, or after drinking new beer, lasted about 20 m. 19th.—Soon after dose, tearing in outside of r. ankle; then in l. elbow; then drawing in inner side of upper thigh, and finally tearing in 2nd joint of r. thumb. On 20th, soon after dinner, violent pressing in l. temple, which continued all e., but in less degree. During proving the stools were softened, more copious, and took place from 2 to 3 times a d. After a cessation of 8 d. W. took from 8th Oct. to and including 14th, at 5 p.m. each d., 2 coffee-spoonfuls of tinct., with following result: 11th.—Soon after dose, feeling of roughness in throat, lasting some h.; pressing in r. chest, particularly noticeable when breathing deeply, and when bending body; at 7 p.m. drawing in 1st joint of r. thumb, especially during rest, instantly disappearing on moving finger, and returning as quickly on cessation of motion. This symptom continued nearly 1 h.; several times drawing in 3rd joint of r. ring finger, and pressing to the l. under short ribs. 12th.—The pressing pain appeared at lower extremity of r. chest, after getting up; it was somewhat violent at first, but decreased very much during the d., without, however, entirely disappearing. In m. a very copious soft stool. In e., on going out, after taking drug, vertigo, drawing in inner surface of r. thigh, in r. knee, in r. calf, in bend of elbow, in both popliteal spaces, especially l. The feeling of roughness in throat was less than d. before. 13th and 14th.—The sexual impulse was exceedingly importunate (without any known cause).

He thinks he passed more urine than usual. 15th.—Frequent, and on every occasion copious urination. 16th.—The prominences of r. elbow were painful, as if after a severe knock, and this feeling did not entirely disappear until 18th. From 20th to 30th W. took daily, at 9 a.m. and 5 p.m., 2 coffee-spoonfuls of the tinct., and observed as follows: On 22nd, in m., after getting up, painful drawing in 2nd joint of l. thumb (only during rest) for about 2 h. The same feeling, but not lasting, and much weaker, appeared in course of forenoon in almost all finger-joints (but only during rest). For an instant this drawing appeared in inner side of l. foot, as far as sole. In m. he had the usual, and at 11 a.m. a papescient stool. At 6 p.m. sudden drawing on inner side of l. foot in metatarsus. 23rd.—No evacuation. In e., before going to sleep, drawing in l. side of neck. Restless night; he awoke at 2 a.m., and for 1 h. could not go to sleep; then fell into a sleep which was interrupted by frequent waking. He had besides a feeling of stoppage in r. nostril, with frequent sneezing and chilly feeling in feet, which were externally warm to touch. 24th.—Immediately after getting up, a very troublesome drawing in l. side of neck and in l. shoulder, which only disappeared p.m. At 10 a.m. drawing in r. heel, and, $\frac{1}{2}$ h. later, in r. index finger (disappearing instantly on movement). Symptoms of nose continued, with dull confusion in head. As W., according to his own observations, is but little sensible to changes of temperature, and can trace no cause for this cold, he thinks that these symptoms must be ascribed to Thuja. 25th.—The cold, with its accompaniments, sneezing, dull confusion in head, &c., continued. At about 11 a.m. transient drawing in index finger. In 2 h. subsequently a similar drawing in l. sup. maxillary bone. At 8 p.m. troublesome drawing in l. side of hypogastrium (for 2 m.), which spot was also painful to touch. 26th.—The catarrh is still present, only somewhat diminished in degree. In forenoon, sudden drawing in l. thumb and r. little finger (immediately disappearing on movement and as quickly returning in rest). At about 10 a.m. drawing in hypogastrium on l. side, and tenderness on pressure. At about 2 p.m. troublesome clawing in sternum, frequent short dry cough and increased discharge of urine. Frequent waking at n.; towards m. a pollution. 27th.—On rising, drawing in r. thumb; at 10 a.m. drawing and pressing in hypogastrium on l. side, particularly when touching it; during d., drawing, now here, now there, and frequent hacking cough; p.m., drawing in r. arm and forearm; towards e. painful drawing in r. great toe; at 6 p.m. pressing in middle of sternum. 28th.—Perfect health. 29th.—Immediately after dose, drawing in lower incisors; about 11, drawing in r. thumb; at 5 p.m. drawing in l. sup. maxillary bone; in e. feeling of roughness in throat, and frequent short dry cough. 30th.—In forenoon, drawing in r. sup. maxillary bone, in inner side of l. forearm, and in fingers of r. hand; feeling of roughness in throat, and frequent dry hacking cough. The catarrh, which had vanished, showed itself anew by an increased secretion of mucus from nose. Copious urine. 31st.—Increased urination; catarrh worse. Nov. 1st.—In m. a loose stool, and after it a troublesome pressing in anus, which remained whole d. Catarrh became very severe, and one or the other

nostril was almost constantly obstructed. At 3 p.m., sneezing, succeeded by very violent sticking in lower part of r. lung, which lasted until 11 p.m., when, although very severe before, it disappeared at once. This sticking was greatly aggravated by sneezing, deep breathing, and coughing (but not by movement). Pain, as if parts were sore, in region of ribs on touching them. At 4 p.m. drawing in fingers of r. hand, and afterwards in r. elbow. 2nd.—Drawing in r. calf whole d. Catarrh reduced to a minimum. At 4 p.m. a hard scanty stool, and pressing and itching in anus for almost whole e. 3rd.—The running from nose is again pretty copious; frequent sneezing; at about 4 p.m. sneezing, and then some painful stitches in side of chest, within. 4th.—At 6 a.m. very severe stitches in lower part of r. chest; about 5 p.m., drawing tearing in r. knee.

b. Dec. From 7th to 14th W. took every d. at about 9 a.m. a table-spoonful of the tinct. Effects: 7th.—A pollution in n., and after, a troublesome burning in urethra. 9th.—Want of appetite, especially in e. On 10th a pollution in n. 11th.—Feeling of roughness in throat, which soon went off; then for 1 h. feeling in throat as if there were a painless tumour there. At 4 p.m. a papescient stool, and transient drawings often flitted about, now here, now there, especially in upper part of thigh. Urine increased. 12th.—Pressing in l. breast, as if towards lower lobes of lung, especially when breathing deeply; frequent urination; no evacuation. 13th.—Chills, even in warm room; in e. felt well; no evacuation. 14th.—On waking in m. drawing in l. side of neck; then drawing in upper part of l. thigh (lasting 2 m. and rendering walking painful). Two stools followed, one hard and unsatisfactory, afterwards another, papescient, which left behind a long continuing burning in anus. 15th.—In forenoon 3 papescient stools (at 6, 9, and 11). Dinner nauseated him. Chills even in warm room, and apprehension of becoming ill. At 6 p.m. these symptoms vanished, and the feeling of health was restored. 16th.—Sudden drawing here and there, especially in fingers of r. hand; no evacuation; at 4 a.m. a pollution. 17th.—Sudden drawing in limbs. 18th.—In m. a hard unsatisfactory evacuation; drawing in limbs. At 1, feeling of dryness and sense of constriction in throat. It was the same sensation that is perceived when one is for a long time exposed to heat of sun without drinking. In n. a pollution. 19th.—After rising, burning in external canthi and in urethra. Drawing pain in inner side of l. forearm during whole forenoon, particularly when arm was at rest. The feeling of dryness and constriction in throat appeared again in a slight degree. Drawing in inner side of l. upper thigh, in r. knee and r. hip. At 6 p.m. a very unsatisfactory stool after much straining. 20th.—Feeling as if eyelids were swollen and a foreign body were in eye; drawing now here, now there, in extremities; in e. pressing towards back in chest, with oppressed breathing; no stool. 21st.—In forenoon an unsatisfactory stool; drawing in extremities, especially on inner surface of upper part of l. thigh and forearm (only while at rest). 22nd.—P.m., another unsatisfactory stool; drawing in different parts of extremities, not lasting long, but frequently quite troublesome.

c. 1845, Jan.—After a pause of 5 weeks, W. on 27th, 29th, and

30th, took each d., about 6 p.m., 2 table-spoonfuls of 12th dil. of Thuja, and on 10th Feb., at about 5 p.m., he took \mathfrak{z} ij of same dil. The dils. were prepared with distilled water. 30th.—He first perceived, soon after taking drug, feeling of dryness in throat, lasting 2 h.; in e., drawing in r. thumb and forearm, then in l. thumb and in upper teeth of r. jaw. The increased secretion of mucus obliged him frequently to blow his nose. 31st.—In m., frequent sneezing, stoppage of r. nostril, alternating with running. This catarrh lasted 2 h., then suddenly vanished; it appeared again for a little while in e., and ceased suddenly as if cut off. Feb. 1st.—The same symptoms. 10th.—Immediately after dose, feeling of dryness in throat, which lasted all d. 11th.—Feeling of dryness in throat whole e.; pressing in l. side of chest, particularly troublesome in region of ribs; several times, drawing in lower incisors, and in 1st joint of r. index finger; violent itching in lower part of sacral region; at n., sticking from r. velum palati into internal ear; secretion from Schneiderian membrane increased. 27th.—As a closing experiment, W. drank \mathfrak{z} ij of 30th dil. (prepared with distilled water) at a draught. This was at about 5 p.m.; he perceived no result whatever.

18. Dr. F. ZEINER, 42 years old, of delicate constitution and phlegmatico-sanguineous temperament, healthy from childhood (except the usual diseases of that period), for the last two years frequently troubled with hæmorrhoidal affections, instituted four experiments upon himself with Thuja. (It was his first essay with drugs.)

a. 1844, Nov. 7th.—Without making any alteration in his ordinary mode of life, Z. took, at 9 a.m. (2 h. after *café au lait*), 1 dr. of the tinct. in water. Immediately after dose he experienced vertigo, soon disappearing, scraping in throat, slight griping above navel, sticking in r. temple, numbness of l. foot, and feeling of weakness in it in walking up and down room; feeling of coldness over whole body. 1 h. after, the griping drew from umbilical region towards r. groin, and occasioned there transient, often-returning pressing. The vertigo, scraping in throat, and lame feeling in l. foot still continued. 2 h. after having taken dose the vertigo and griping in abdomen disappeared in open air, but single stitches were repeatedly felt in r. groin and between sacrum and anus. Frequent urination in course of d. At 6 p.m., inflation of abdomen for 1 h., which disappeared by eructations. 1 h. afterwards (10 h. after taking drug) single stitches were perceived in anus, alternating with burning in prepuce. At about 9 p.m., the prover's odour was exceedingly, almost intolerably, increased, so as to become perceptible to those about him. The night's rest was good; but soon after waking the stitches in anus came on, and the biting in prepuce also was troublesome for 1 h. 8th.—At 9 a.m. Z. took another dr. in water; some m. after, griping above navel, and during 1st h. single stitches in r. frontal eminence, scraping in chest forcing him to cough, quivering in upper eyelid, pressing pain in r. side of forehead, biting on upper surface of glans and in prepuce, feeling of weariness in l. leg when seated. At 10 a.m. another dr. Soon after, he felt shivering in back; the feeling of weariness in l. leg, the sticking in r. side of forehead, and the griping

in abdomen continued. Towards 11, drawing in l. testicle and frequent eructations of wind. At 2 p.m. (4 h. after dose) the itching on prepuce became almost intolerable. Z. also observed during d. frequent urgency to urinate, with passage of copious urine. Stools regular on both d. 9th.—At 9 a.m. Z. took 4 dr. on sugar; soon after, slight vertigo, griping about navel, itchings on prepuce, scraping in trachea, obliging him to cough; with quivering of r. upper eyelid, burning in l. eye near internal canthus, compelling him to rub it, weakness of eyes, single fine stitches in temples, feeling of weakness in l. leg when seated, pressing in small of back. At 2 p.m. increased secretion of sweet saliva (lasting 5 h.), drawing in l. testicle, urgency to urinate, with copious urine, swelling of cervical glands, pains in sacrum. On following d., on which nothing was taken, he felt in forenoon the pains in sacrum, quivering in r. eyelid, and feeling of weakness in l. leg; in e., burning in orifice of urethra and frequent stitches in anus. 11th.—8 dr. of tinct. Soon after taking dose, quivering again in r. upper eyelid, feeling of coldness with numbness of l. foot, solitary stitches in shoulders, and frequent chills over whole body. At 3 p.m. a general chill; drawing in l. testicle, in l. thumb, in occiput; sticking in temples, in r. side of forehead, and in l. knee; pressing in sacral region. 12th.—Z. took nothing. In e., sticking now in l. knee, now in head, and now in elbow and finger-joints; then general debility, with such weakness in legs that he thought he should fall. On following d. he observed a red spot on inner surface of prepuce, which itched violently and disappeared after 24 h.

b. Nov. 25th.—After omitting drug for 14 d., Z. commenced again at 9 a.m. by taking 4 dr. of 3rd dil. on sugar. Soon after, he perceived griping about navel, itching on r. knee, on l. shoulder, scrotum, and divers other places, and burning on inner surface of prepuce. After 1 h. violent drawing in testicles; vertigo; greatly increased secretion of saliva (of metallic taste), lasting 2 h., with swelling of salivary glands. At 4—5 p.m., sticking pains in glands of groin. During whole d. slight chills in warm room; increased urgency to urinate. 27th.—At 9 a.m., 8 dr. of 3rd. After $\frac{1}{4}$ h., itchings on prepuce, griping about navel, sticking in l. side of forehead, pressure on r. shoulder; weakness of eyes, particularly observable when writing. After $1\frac{1}{2}$ h., renewed increase of saliva (of acid taste) during 2 h.; sticking in anus and violent stitches in l. side of chest, which frequently returned throughout d.; continual slight chills and increased secretion of urine. 28th.—The symptoms of preceding d. were repeated after taking 12 dr. of same dil.

c. Dec. 17.—Z. ceased taking drug for 18 d., and commenced again by taking 15 dr. of the undiluted tinct., whereupon, in course of d., he observed following symptoms: Pressing in forehead, frequent stitches in frontal eminences, sticking, at one time in r., at another in l. side of chest, griping about navel; scraping in throat, intolerable biting in anus, drawing in l. testicle, obscuration of eyes while writing. 18th.—20 dr. Soon after dose: staggering while walking in air; pressing in middle of forehead; sticking in both frontal eminences (lasting whole d. and continually increasing); general debility and

weakness in legs; sticking in shoulders and in r. knee; stitches in region of groins, often repeated during d., with feeling as if inguinal glands were swollen; intolerable itching in anus, lasting almost entire d.; hasty urgency to urinate, with copious urine. 19th.—No medicine. On awaking, sticking pain in l. frontal eminence, as well as violent pressing between shoulders, which feeling had entirely disappeared 8 d. before; frequent twitching in middle finger of r. hand. The itching in anus appeared but seldom. 20th.—After 25 dr., dull confusion in head, weakness in legs when walking; stitching in forehead and in different parts of body, especially in shoulders, arms, and legs; in e., spitting of much saliva. The itching in anus is almost gone, tongue and palate are very sore. On the following 3 d. no dose. 21st.—On awaking, sticking in l. shoulder, and in course of d. flying stitches in glans; there was also an increased secretion of saliva. 22nd and 23rd.—The whole of the symptoms gradually disappeared, and prover no longer perceived the troublesome itching in the anus which had so much annoyed him during whole continuance of experiment.* 24th.—Z. took 30 dr. During the two succeeding h. burning and itching in anus, griping about navel, painful constriction in hypogastrium, weakness in legs, cracking in knee-joints, drawing in r. groin, and pressing in renal region. At 6 p.m. pressing in forehead, sticking in l. frontal eminence, acid taste with increased secretion of saliva, swelling of one of the cervical glands.

d. 1844, Jan. 4th.—After having rested 10 d., Z. took 10 dr. of 12th dil. During first 2 h. he observed during rest: transient griping about navel, repeated stitches about anus, which continued to increase in violence during d., eructations of wind, sticking in l. side of chest, on l. scapula and r. temple, failure of eyes when reading, transitory chill over whole body with cold hands in a heated room, pressing, at one time in r., at another in l. arm, drawing in fingers, pain in nape of neck, stitches in l. side of forehead, numbness of l. foot while sitting, crawling in toes, extraordinary weakness in l. leg when going out, slight reeling, pains in small of back, and increased secretion of saliva. At 4 p.m. drawing in l. testicle with feeling of weight in it, urgency to urinate with copious passing of water. During the 3 following d., no medicine being taken, frequent pressing in forehead, sticking pains in frontal eminences and temples, pressing between shoulders. 8th.—15 dr. of 12th. During first 2 h. pressing and sticking in forehead, sticking in shoulders, stitches in anus, numbness of l. leg, drawing in l. testicle, feeling in testicles as if they moved, drawing in fingers and pressing in l. upper arm. All these symptoms disappeared while walking in the open air. 9th.—No dose. Frequent itching on glans and prepuce, alternating with stitches in anus, and the urgency to urinate was frequent and hasty. 12th.—The proving was concluded by taking 25 dr. Thereupon he observed pressing in middle of forehead, sticking pain in r. axilla, increased salivary secretion, which lasted all d., stitches in inguinal glands, itching in anus, flying stitches in

* In my case this itching in the anus was the most durable symptom, and disappeared only after the lapse of several weeks.—*Mayrhofer*.

glans, weakness of eyes when reading, pressing between shoulders and crawling in toes of l. foot, which were painful in treading. In afternoon, while seated, feeling of lameness in l. leg. At 7 p.m., when walking, uncommonly violent stitch between coccyx and anus. 13th.—After waking, sticking in l. side of chest, lasting all d. On discontinuing drug, all abnormal manifestations disappeared.

Dr. Zeiner accompanies his beautiful and instructive proving with the remark, that during its whole period the sexual desire was completely asleep; and he further made the observation, in accordance with the experience of other provers, that the greater part of the drug-symptoms were most clearly developed during rest. (*Ibid.*)

19. The boldest and most indefatigable prover of Thuja was Prof. von ZLATAROVICH, who took, in 155 d., 42,260 dr. of tinct. in large doses.

a. 1844, Sept. 6th.—Z. began his proving with 6 dr. of tinct., which, as also the succeeding doses, he took in the m. fasting. On the 3 following d. he took 8, 10, 12 dr., and experienced no effect. On 10th, after taking 14 dr., he first perceived, in e., a transient pain in vertex, as though bone were repeatedly pierced with a needle near sagittal suture. 11th.—No effect after 16 dr. 12th.—After 18 dr., in e., pressing and burning in hæmorrhoidal vessels and frequent violent sneezing, which returned on m. of 13th after 20 dr. From 14th Sept. to 5th Oct. Z. increased dose daily by 2 dr., and observed the following results: Sept. 14th.—After dinner, frequent violent sneezing without catarrh (a thing very unusual with him). 15th.—In m., several times, short, dry, barking cough. 16th.—In afternoon and e., pressing in a small spot under sternum, which gradually extended to scrobiculus. 17th.—At n., and on waking, several times short, interrupted, convulsive cough, excited by an irritation in larynx, and leaving an unpleasant dryness in it. At noon, moderate appetite, head somewhat confused, especially in forehead, throat dry and rough, and some difficulty in swallowing. In e. he felt very weak and unwell, with heaviness and tension in legs, so that walking was painful; head ached in that part of anterior half which was covered with hair, as though compressed; nevertheless a very good n. succeeded. 18th.—Of the catarrhal symptoms, nothing is left except a little roughness in throat. This also disappeared by noon, and he felt well again. Until this point in the experiment the sexual impulse had been much exalted. 19th.—A good night's rest was followed by a d. destitute of symptoms. 20th.—On rising, inconsiderable cough and roughness in throat, disappearing by noon. In its place appeared troublesome dryness and sensitiveness of nose, as at commencement of catarrh. This sensation extended by degrees into frontal sinuses, and eyes also became sensitive. These catarrhal symptoms disappeared again during afternoon. At commencement of dinner a jerking constrictive pain was felt in hairy portion of head, and in afternoon painful tension in r. popliteal space. 21st.—In forenoon dull confusion of head; slight burning in stomach, and in l. external canthus. At 2 p.m., violent burning in eyes and eyelids; frequent sneezing. Roots of hair of l. eyebrow are sensitive when passing hand over them. At dinner, burning tear-

ing in whole l. side of the face, apparently in periosteum. After dinner, general uneasiness for 2 h. In e. burning pressing pains in l. eye, on whole upper surface of globe, aggravated by touch; sensitiveness of l. temple; slight drawing in nape, and repeated sticking from nape to r. ear and axilla. After supper, dull confusion in head for an h. On lying down, r. leg was so painful that he was obliged to place himself on l. side, contrary to his usual habit, and so to lie during whole n. For several d. the skin on vertex has been sensitive to touch, and shines so clearly through the hair that the prover was afraid he was becoming bald. 22nd.—On awaking, some headache in forehead; after rising, same feeling in l. nostril and r. frontal sinus came on that had been experienced 2 d. before; but now r. nostril was entirely free from it. At noon, frequent blowing of thick mucus from nose. Whole r. leg was painful. Repeated urgency to urinate, even when there was but little water in bladder. In e., all morbid symptoms had vanished, except that a little spot upon the vertex still remained sensitive to the touch. 23rd.—No symptoms; two liquid stools which were evacuated soon after taking the dose seem to have prevented their appearance. 24th.—He had no other symptoms to-day than slight burning in hæmorrhoidal vessels, and copious secretion of mucus from nose. 25th.—In m., oppression in head, especially in region of forehead and temples, which an h. after began to increase and extended over vertex, but subsequently entirely disappeared; slight burning in canthi. After dinner, general weariness with slight headache in forehead. In e., tension in extensor muscles of extremities and trunk, now here, now there; subsequently heat. 26th.—Normal feelings during d. In e., drawing and sensation of weariness in limbs, especially in upper arm, and forearm near wrist; oppression in the head, especially in forehead. Intellectual exertion soon fatigues; tobacco smoke is not as agreeable as at other times; frequent yawning. 27th.—P.m., slight dulness in head; no other symptom. 28th.—In n., frequent cough with raising of thick mucus. After dinner, general uneasiness, restlessness, swelling of abdomen, feeling as if beaten in upper arms. In e., good health. The cough ceased in d. 29th.—On awaking, glans is very sensitive, drawing back prepuce causes pain; frequent dry hacking cough. Soon after dose, general uneasiness and stretching of limbs. In e., frequent violent sneezing and tickling in the nose. 30th.—In m. frequent sneezing again, with increased secretion of mucus, accompanied by frequent dry hacking cough. Oct. 1st.—During d., frequent dry hacking cough; in forenoon, when walking, some itching in hæmorrhoidal vessels; after dinner, strong inflation of abdomen. 2nd.—In forenoon, violent itching and pressing in the hæmorrhoids. 3rd.—In forenoon, on upper lip, an elevated, red, violently itching spot, which compelled him to scratch, but was gone without a trace at expiration of an h. 4th.—In m., frequent violent sneezing, which in a short time ends with dulness of head; after dinner, extraordinary distension of the abdomen, which seriously embarrassed respiration. 5th.—No symptoms after taking 64 dr. 6th.—70 dr. At night, much flatulence was discharged. In m., sneezing; burning in skin of r. lower leg. After breakfast, frequent eructations

with the taste of Thuja ; frequent short, dry, interrupted cough ; slight chill. In e., sudden, cramp-like twitching of under lip, and here and there in circumscribed spots on skin. From the 7th to the last of Oct. he increased dose daily by 5 dr., so that on the first day he took 75, and on the last 195 dr. The following were the results : 7th.—No symptoms. 8th.—An h. after dose, squeezing in the hæmorrhoids. 9th.—No symptoms. 10th.—Discharge of bloody slime from anus, as well by d. as at n. ; frequent discharges of flatulence, which were always accompanied by some moisture. Towards e., uncommonly strong appetite, which must be appeased ; subsequently, pressing in the hæmorrhoids when seated. 11th.—No symptom worthy of mention appeared during whole d., but in e., after much conversation in company, a pressing headache began in forehead, extended gradually towards the vertex, and slowly disappeared. 12th.—100 dr. Slight drawing behind r. ear, and some constriction in ear ; ache in forehead, which, after an h., merged in sensation as if a wedge were driven into temple. Sneezing did not aggravate headache, but motion of head and swallowing had that effect. At same time, cheerful disposition and inclination to intellectual exertion. In n. very good sleep. 13th.—Uncommonly comfortable and easy. 14th.—In m., transitory burning in anus. At noon, tension in whole r. leg while walking. After dinner, slight sensitiveness in skin under hair on forehead, where the cool air at the open window was exclusively felt. 15th.—At noon, frequent violent sneezing. 16th and 17th.—No symptoms. 18th.—P.m., burning and pressing in stomach, lasting several h. 19th.—Several small, painless tubercles appeared upon head. The hair comes off on the vertex. 20th.—In m., raising of tough mucus ; in forenoon, itching in perinæum when seated ; slight drawing over l. eyebrow. 21st.—At noon, great dulness of head ; drawing in both thighs. In e., pressing in forehead and in r. temple. 22nd.—On waking, ache in forehead, which disappeared again after $\frac{1}{2}$ h. After a normal evacuation, burning and drawing in of anus. At noon, drawing in lumbar muscles while walking. 23rd.—At noon, drawing again in loins. Lumbar vertebræ are somewhat painful when leaning forward in sitting ; feeling of soreness in perinæum. 24th.—No symptom during whole d. 25th.—In m., on rising, drawing from loins towards nates. After dinner, very violent itching in anus. 26th.—At n., increased secretion of mucus in larynx and trachea. 27th.—Slight pressure in the hæmorrhoids ; in e., slight drawing in l. upper arm. 28th.—Drawing, now here, now there, but worst on l. side of body ; burning in external canthi. 29th.—In m., slight heat and redness, with burning, on upper lip ; drawing in l. arm. 30th.—On awaking, frequent violent sneezing with tickling in nose and burning in eyes, as though a catarrh were coming on ; drawing in r. forearm. 31st.—In forenoon, itching and burning in hæmorrhoidal vessels when walking ; internal shuddering and feeling of cold whole afternoon, with dull confusion in head. In sulcus inter nates, clammy moisture is secreted. Nov. 1st.—Dose was omitted ; drawing in limbs, particularly in r. forearm, aggravated by movement of limb ; coldness in hands and feet ; drawing in whole r. leg ; pressing in l. side of chest. 2nd.—200 dr. In m., roughness in throat with con-

tinual inclination to hawk, and with deeper tone of voice, which disappeared again after breakfast. At noon, burning and feeling of soreness in anus. 3rd.—205 dr. In forenoon, drawing in r. elbow-joint, and squeezing in hæmorrhoidal vessels. 4th.—No dose. At noon, violent itching and squeezing in hæmorrhoids; tension in the extensors of r. arm when writing. P.m., normal state. In e. renewal of violent squeezing and pressing in anus; very earnest frame of mind, in spite of the cheerfulness of those around him; a small suppurating boil on back. 5th.—210 dr. At noon, drawing in r. lower leg, especially on outside towards ankle, and in r. hand, particularly in thumb. From 4 to 6 p.m. severe burning and pressing in stomach. 6th.—210 dr. A.m., burning in the stomach for an h. At noon, flying stitches on r. side near sternum for $\frac{1}{4}$ h. These stitches had the peculiarity that instead of being aggravated they disappeared on taking a deep inspiration, and returned again only on the succeeding expiration. In addition, slight tension in extensors of r. hand, and drawing in dorsum of r. ring finger. 7th.—225 dr.; and he daily increased dose by 5 dr. until 16th Nov., when he took 270 dr. In m., discharge of copious, inodorous flatulence, and hard unsatisfactory stool; tension in bend of r. elbow when writing. 8th.—In forenoon, pressing and burning in stomach for an h. At noon he perceived a sensation as if lower part of thorax were surrounded with a bandage, which sensation disappeared p.m. In e., very disagreeable pressing in region of heart, confined to a small spot. 9th.—Immediately after dose, rolling and rumbling in intestines; afterwards, frequent dry hacking cough; tension in r. hand, especially in thumb; the same in outside of r. thigh, extending into knee, particularly when walking and bending. In forenoon, r. knee-joint was painful when seated, but pain soon disappeared, and was succeeded by feeling of cold in knee. A transitory pressing and tension in heart then came on, and on its ceasing, the coldness in knee was again perceived, but in less degree. All these symptoms were gone at noon. At 1.30, on closing eyes, a feeling of vertigo. The power of thought was increased, but rather for analytical than synthetical reasoning. 10th.—In $\frac{1}{2}$ h. after dose, rumbling in intestines, with slight griping; frequent coughing up of mucus. 11th.—In m. roughness in throat, and frequent hacking cough. Upper lip somewhat swollen, and burns. After a loose stool, burning in anus. After dinner, dull confusion of head; afterwards heartburn. These symptoms disappeared in open air. In e. slight burning in eyes. 12th.—In m. he felt well. At noon, dull confusion of head; burning and dryness in r. nostril, up as high as frontal sinuses; slight burning in r. eye; oppression in lower part of thorax; frequent, short, dry, hacking cough. He feels much better in open air than in room; the indefinite feeling of uneasiness, however, cannot be exactly described. In e. knees were painful while walking, as though bruised; weight of body seems to him to be too great for legs. 13th.—At n. he urinated more than usual. In m., after rising, frequent raising of mucus, leaving behind feeling of sensitiveness in larynx; discharge of copious inodorous flatulence. After dinner, drawing behind r. ear, with single stitches in mastoid process of temporal bone. When this symptom had disappeared, as it soon

did, short accesses of crawling and creeping on l. side of occipital bone came on; also, burning and pressing in both eyes. 14th.—On waking, aching in forehead, which disappeared by degrees after rising, but returned at about 9.30, became heavy and pressing, and only vanished after 4 h., after which, pressure on vertex, as if a weight lay there. To these were added, weariness and uneasiness in whole body, coolness and flying shudderings over back. At noon his food had a disagreeable bitter-sharp after-taste, which was salt, especially at root of tongue and in fauces. The uneasiness became less after dinner, but even black coffee left behind an unpleasant after-taste. 15th.—Soon after dose, constriction about navel and slight pressing in lower border of r. orbit, soon going off; but orbital edge remained sensitive to touch and to closing of eye for $\frac{1}{4}$ h. Afterwards, tension in r. ankle while walking. Respiration is not altogether free; thorax is raised during inspiration with somewhat more difficulty than usual, and a short, dry hacking cough frequently comes on; a violently itching tubercle makes its appearance upon upper lip, near r. corner of mouth. 16th.—An h. after dose, oppression of chest, troublesome breathing, drawing between shoulders, burning and pressing in stomach increased by movement and by speaking. Constriction of anus after two papaceous stools. Also heaviness and lameness in r. arm, and slight drawing in r. masseter, with confluence of saliva in mouth. From the 17th to the 29th he ceased to take the Thuja, and observed the following symptoms: 17th.—In n., drawing in r. upper arm, axilla, and shoulder, preventing his lying on that side. In m. these pains became intolerable, but by warmly wrapping up painful parts, they gradually diminished, and finally entirely disappeared, leaving behind feeling of lameness in arm. At about 9.30, tearing in shoulders and upper arm returned in frequent short attacks. After dinner, general weariness and universal feeling of discomfort. In e. he feels generally better, but pain in shoulder is again very violent, and in r. arm, especially in forearm, there is a condition bordering upon paralysis, with feeling of coldness. Before going to sleep, very gloomy frame of mind. 18th.—At 10 a.m. pain in arm came on in short accesses, was sensibly felt until noon, but was milder than the d. before, and ceased entirely p.m. Mind became more cheerful again. 19th.—The pain in arm is entirely gone, and Z. felt well all d. 20th.—At noon, slight drawing in sacrum, drawing in l. groin, and frequently dry hacking cough. No trace of pain in arm. 21st.—Burning in whole nose, which seems to feel as if swollen, with increased sensitiveness on septum, on which several vesicles are to be seen. Upper lip is likewise sensitive. P.m. these symptoms have disappeared again, and vesicles on nose are dried up. On the two following d. no drug symptoms were observed. 24th.—In e. of 24th and whole forenoon of 25th an exceedingly troublesome headache came on, which was seated in upper surface of the vertex, was heavy and pressing, and from time to time came in single stitches and thrusts. Brain was apparently unaffected, but head externally was somewhat sensitive to touch, as were also eyes. Cool air diminished the pain; when it was at the worst he supported his face in the concavity of his hand, and for some time rubbed his

forehead, eyes and face, whereupon the pain entirely disappeared, and in e. his head was wholly free, except a slight crawling and creeping on the places before indicated. On the 4 following d., no symptoms.

b. Nov. 30th.—300 dr. of tinct. Two h. after, slight tearing in nape, and distension of abdomen by flatulence. Dec. 1st.—No medicine. In m. he remarked on forehead over root of nose a red streak, which did not itch or present any appearance of roughness, and was visible until noon. He had feeling over crest of r. ilium, on touching it, as if it had been bruised. At noon, transient drawing came on in first joint of r. thumb, which was, in consequence, somewhat less easily moved. 2nd.—300 dr. In forenoon the red streak was again visible on forehead, but no other special symptom manifested itself the whole d. 3rd and 4th.—300 and 310 dr. produced no effect. 5th.—320 dr. There appeared in sulcus between nates, not far from anus, a painful spot, which felt sore for an h. 6th.—No drug and no symptoms. 7th.—330 dr. Immediately after dose, flying stitches in different parts of body; frequent dry hacking cough; afterwards, raising of mucus; p.m., pressing and burning in stomach for an h.; then transient feeling of pressure in heart and single stitches in lower half of r. side of chest. (Not the slightest trace is perceptible of the hæmorrhoidal congestion, which was usual during the earlier days of the experiment, and this the prover considers as a curative effect of the drug.) 8th.—No dose and no symptoms. 9th.—340 dr. P.m., slight burning and pressing in stomach during an h. In e. general weariness and uneasiness, with dull confusion of head; drawing in joints of hands and feet. The abdomen was incommoded by a supper which was eaten with appetite. 10th and 11th.—350 and 370 dr. produced no symptoms. 12th.—380 dr. In m., a small, painless, non-itching tubercle near raphé of the perinæum; eyes on waking were glued with mucus. P.m., relaxation and sleepiness. In e., inclination for work; frequent slight drawing from mastoid process of r. temporal bone downwards. Afterwards single, flying, very painful stitches from depth of r. ear through external ear. An h. after, when earache had disappeared, a violent stitch drove suddenly through l. temple as if an awl had been forcibly thrust into the brain. The pain lasted but a few seconds, but the spot remained for some time sensitive. 13th.—400 dr. In m., feeling of fulness with stoppage in r. ear without pain, and frequent sneezing, which returned in e., soon after which pretty violent itching in both nostrils towards point of the nose, after a short continuance of which a secretion of a thin mucus followed. Also sticking drawing on inner surface of l. forearm towards wrist; nausea mounting from abdomen, with slight inclination to vomit. (Z. makes the observation that the morbid feelings produced by Thuja are aggravated during rest; and by remaining quiet, symptoms are developed which disappear on motion in the open air.) 14th.—No dose and no further symptoms except tension in flexor surface of r. leg and inflation of abdomen. 15th.—410 dr. P.m., a couple of transient tearings in tendinous expansion on r. side of neck. 16th.—420 dr. During whole forenoon a very unpleasant sensation of cold, the external temperature being + 1 R. (34° F.). Hands and feet are icy cold, and skin of hands is

purple. At noon, before dinner, for a little while oppression of chest with difficult respiration and slight pain in anterior surface of stomach on taking a deep inspiration, as though from external pressure. In afternoon and e. these symptoms were gone. 17th.—No drug and no symptoms. 18th.—430 dr. Soon after dose tenesmus and a hard, very unsatisfactory stool; also transitory pressure on chest; burning in urethra towards the bulbus for several m.; in e. some headache; at n. quiet sleep. 19th.—No dose. On awaking, violent pressing headache in vertex, which went off by degrees while he was still in bed, and disappeared entirely after he had arisen. Breakfast did not relish; while at table, slight vomituration; to which were added general weariness and faintness, with pressure and sensitiveness in eyes. 20th.—450 dr. Not a trace of a symptom appeared in forenoon; even the eructations with the taste of Thuja, which formerly were sure to come soon after taking the drug, did not once manifest themselves. In afternoon, general malaise, with sensation as if a chill were about to come on. Dull confusion of head for $\frac{1}{2}$ h. 21st.—No dose. In m., burning in skin of r. lower leg; slight sensitiveness in vertex and r. eye; feeling of soreness at anus. Towards noon, throbbings in r. temple when rising from a seat. Dinner was devoured with a veritable canine appetite. Two h. afterwards, general malaise, frequent dry hacking cough, and slight dulness of head. In e., pressure in hæmorrhoidal vessels when sitting. A painful inflamed tubercle makes its appearance on r. side of forehead, and neck feels as if swelled, so that the loose neckcloth is troublesome. Serenity of mind. 22nd.—No dose and no symptoms. 23rd.—500 dr. In m. before dose, short dry troublesome cough, without the former catarrhal symptoms. After it had gradually become quieted by taking sugar moistened with water, violent burning in stomach came on, which lasted until he got up. In forenoon, uneasiness and sensitiveness to cold air; at noon, troublesome drawing in r. radius along forearm, as well as in hand into little finger. In afternoon, heartburn. 24th.—In afternoon, when passing water, slight burning in urethra. 25th.—In m., on waking, he had a violent erection, with strong desire for coition; but notwithstanding the existing voluptuous feeling, there was no emission, which does not usually fail with him. He felt, besides, weight and tension in r. leg, and in e. burning in eyes, especially in internal canthi. On 26th he felt perfectly well, and so on the 27th again took 500 dr. On awaking (before the dose), the sexual impulse was again active, and on this occasion with normal results. After dose, in forenoon, violent tension in r. lower leg, on which skin was painful as though sore and ulcerated, which sensation was lessened after dinner. In the afternoon again a very violent erection. Afterwards, a delightful feeling of corporeal well-being and inclination to intellectual labour. In e. his leg was entirely without pain, and a short, dry, interrupted cough was excited by tobacco smoke. 28th.—500 dr. again. In forenoon, when walking in open air, slight transient colic. As he came in at n. from the cold air into a room he felt a very violent stitch in r. ear, from external part inwards to internal, which compelled him to hold his breath, and left ear sensitive for a while. 29th.—No dose. In m. another but less severe attack of

the pain in ear came on. He had a sensation in ear as if free access of air were prevented, but without the slightest diminution of hearing. In forenoon ear was well again; but after dinner he had the feeling it as if the external organ were filled with water, similar to the sensation felt when one dips his head under water. Drawing and tension in occiput. R. lower leg was twice painful during d. 30th.—500 dr. Immediately after rising, the pain in r. lower leg again established itself. A spot next to the tibia, near a varicose dilatation smarted as though it was sore, was very sensitive to touch, and skin over it was slightly reddened. In forenoon burning and pressing in stomach. At noon but little appetite. P.m., strong inflation of abdomen; burning in stomach; dry, short, hacking cough, and peevish humour. In e. r. lower leg was again painful upon its upper surface as if sore. 31st.—No dose. On rising, after a very good night's rest the pain in leg again made its appearance. The spot noticed yesterday is still sensitive, but not more reddened. The ear, which for some days has not felt altogether right, is now entirely recovered. In afternoon heartburn. In e. he felt well. 1845, Jan. 1st.—After a good night's sleep he awoke with a very severe pressing headache, which, at commencement, was confined to vertex, after a while extended to frontal eminences and eyes, and again returned to vertex and disappeared. In m. he hawked up thick tenacious mucus from larynx. Although no Thuja had been taken, still the burning in r. lower leg developed itself in forenoon, as did also, for a little while, reminiscence of earache of 29th Dec. In afternoon, severe burning on inner side of r. lower leg was again troublesome. In forenoon head and ear were entirely relieved. But when he especially directed his attention that way, head- and ear-ache threaten to come on again which is not the case when he intentionally fixes his mind upon other suffering parts. 2nd.—500 dr. In forenoon, frequent eructations of wind, preceded each time by painful constriction of stomach. Instead of r., l. ear has, to-day, a touch of the sticking pain. R. lower leg still sensitive in the spot upon tibia heretofore indicated. 3rd.—500 dr. Heaviness in r. leg, with burning on whole inner surface of lower leg. At 2 p.m., slight searching and griping about navel. In forenoon great drowsiness. 4th.—No dose. In m., after much straining, very hard evacuation, followed by pain in anus. At same time by borygmus, and, 3 h. after, a couple of liquid stools, with subsequent burning in anus (for over an h.). Pressing and burning in stomach, 2 h. after dinner. R. leg is less painful than yesterday. Several inflamed tubercles are visible on face. 5th.—500 dr. In m., frequent hawking up of thick mucus. The burning in r. lower leg is drawn nearer to ankle. After breakfast a very unpleasant sweetish-salt taste especially in back part of mouth and on root of tongue. At 10 a.m. pressing and burning in stomach for $\frac{1}{4}$ h.; afterwards repeated coughing up of mucus. In e., heaviness and burning again in r. lower leg. Hinges of under jaw crack when he yawns, a wholly unusual occurrence. In n., whole r. leg up to hip-joint was painful, heavy, and less moveable. Pain was drawing and tensile. 6th.—500 dr., after which dose was omitted for 6 d. Soon after the dose

burning in throat, obliging him to hawk; then slight raising of thick mucus; frequent sneezing, with obstructed nose and roughness in throat. These catarrhal symptoms became more severe in e., and were accompanied by aching in forehead, with weight and pressure in eyes, and were followed by a very restless n. 7th.—According to the report of his wife, he has slept very uneasily, has constantly rolled about in bed and moaned. On waking, his throat is entirely coated with phlegm, and after hawking, larynx and trachea are painful. Then, general malaise, both of body and mind; head aches in forehead, eyes burn, nose is obstructed, and voice is hoarse. At noon he felt better when walking in open air, but when at rest aggravation again returned. There was much flowing from nose, feet were cold, and the general feeling of illness sent him to bed early in e. It was, however, a long time before he could get warm, and dulness of the head, frequent cough, stoppage of nose, and, in short, all the symptoms of a slight catarrhal fever set in. 8th.—This m. he felt very uneasy and weak, and lay in bed until 10. Afterwards he felt better. At noon, buzzing in head, which feels dull, frequent dry cough, pressure in hæmorrhoidal vessels; for the rest, good appetite. After dinner, burning in stomach lasting until e., when a short, jerking, dry cough took its place. Nevertheless he was incomparably better in e. than on previous d. The febrile symptoms came on again at n., but ceased after midnight, whereupon quiet sleep succeeded, and towards m. perspiration broke out. 9th.—During n. burning in stomach. On awaking, frequent dry hacking cough, and somewhat deeper and hoarser voice. At noon, buzzing and roaring in head, and feeling in extremities as though they had been bruised. In e., troublesome dryness in nose up into frontal sinuses. 10th.—In n., grumbling and rumbling in intestines. In m., frequent coughing up of thick mucus. On rising, burning in eyes. At noon, a great improvement over preceding d.; at 1 p.m., while sitting, single, flying, very painful stitches in anus, as if from a fine needle. These stitches returned from time to time, but not in so frequent a succession as at first. Troublesome dryness in nose. After dinner, great inflation of abdomen, to which was added roaring in head. On movement in open air these symptoms disappeared. 11th.—On awaking, frequent coughing up and blowing from nose of thick mucus; subsequently, return of the troublesome dryness of nose with sensitiveness of eyes. At 11 p.m., violent pressure in hæmorrhoidal vessels. In e., the former catarrhal symptoms returned, accompanied by sensitiveness of eyes and frequent dry cough. 12th.—No symptoms to-day, except frequent dry cough. 13th.—500 dr. In forenoon, squeezing and pressing at anus; in afternoon he felt well. No cough came on, notwithstanding he smoked and spoke much. After supper, flying tearing in separate jerks from angle of under jaw to os hyoides, pretty deep in integuments. 14th.—500 dr. Again troublesome dryness in nose with tickling; then gripping in intestines, burning in r. lower leg, and after a very well-relished breakfast a bitter sharp-salt taste in the mouth, particularly about root of tongue. In forenoon, dryness and pressure in nose and frontal sinuses so increased, that he was very much incommoded by it in

his lecture. At noon a catarrhal flowing came on, and disappeared again entirely in an h. after. Soon after, pressure on root of nose and copious secretion of mucus returned. The pressure on root of nose afterwards drew off towards ears, where it produced tension in auditory passages and stoppage of ears. This symptom vanished again after some time, and in place of it transitory pressure in hæmorrhoidal vessels was perceived. After supper, pressing and burning with occasional painful constriction of stomach. 15th.—500 dr. Immediately after dose dryness and tension in nose, with feeling as if whole mucous membrane were swollen; the taste in mouth alluded to yesterday also appeared. These symptoms disappeared after an h. At 2 p.m. emission of scanty and exceedingly dark-coloured urine, causing burning in urethra. 16th.—A mucous cough set in in m.; no dose was taken, and with this exception no symptoms were perceived. 17th.—500 dr. In m. frequent coughing up of thick mucus. At noon, while sitting quietly in room, the familiar troublesome dry feeling in nose appeared, which was much ameliorated in the open air, but returned, though less violently, on coming into house again. The nose first became moist after he had smoked a cigar. He noticed, in addition, two painless tubercles about size of a hemp-seed in sulcus between nates not far from anus. In e. he perceived some painful spots on head, at most the size of a penny. The pain seemed to be seated in the bone itself. 18th.—550 dr. On awaking he felt his head all over, but could not detect yesterday's sensitive spots; the tubercles near the anus were also missing. In forenoon, frequent cough, with raising of thick mucus; in afternoon and e. short dry cough. 19th.—575 dr. Discharge of much loud inodorous flatulence, and frequent raising of thick mucus with slight cough. 20th.—600 dr. In m. frequent violent sneezing, with cough and raising of mucus, and slight burning of eyes. He remarked, on accidentally touching raphé of perinæum, that on r. side it was sharply prominent, and felt thickened as if skin were indurated, without being in the least painful. Violent heartburn an h. after dinner, lasting two m., then lulling for several m., then returning, and so coming on in frequent accesses. Through whole d. the nasal secretion was tolerably copious, and thick mucus was thrown off by frequent coughing. Pressure in stomach was occasioned by roast meat eaten in e. He also perceived, here and there, a slight drawing under skin in tendinous expansions, and on making certain movements with his head a creaking in cervical vertebræ. This symptom had already been frequently observed by the prover without any particular attention being paid to it, but to-day it was troublesome in a much greater degree. 21st.—No dose. He slept remarkably well during n. In m. he coughed up mucus once or twice. Towards noon a very unpleasant pressing headache came on in vertex, which diminished p.m., and disappeared in e. At 6 p.m. slight burning in stomach and frequent coughing up of mucus. 22nd.—600 dr. Thereafter frequent slight coughing up of mucus. At noon, burning in lower border of r. nostril, which was sensitive to touch (for $\frac{1}{2}$ h.). 23rd.—620 dr. During whole forenoon he could not get warm, and twice, while walking, spat blood, the origin of which he supposed to be in the

cavity of the mouth, but could not trace it with certainty. In afternoon burning and pressing in stomach (for an h.); in the air tearfulness of eyes. 24th.—650 dr. In m. slight coughing up of mucus; otherwise he felt well all forenoon. Afterwards, in the room, a watery catarrhal flow came on, and, after dinner, frequent short dry cough. For a long time the urine, on emptying the chamber, has been found thick and turbid, with a sediment at the bottom of the vessel. 25th.—No dose. In forenoon an especial feeling of malaise with general discomfort. He frequently coughed up thick mucus, and had pain in stomach and heaviness in r. leg. 26th.—700 dr. During n. excellent sleep. In m., immediately after dose, emission of flatulence both upward and downward. He subsequently observed slight burning on inner side of r. lower leg. After breakfast, weakness in stomach with confluence of saliva into mouth. While seated at his writing-table he felt influence of drug spreading through his system, and had no doubt that if he remained quiet manifold symptoms would soon make their appearance, but he was obliged to go out, and the development of the effects of Thuja was always hindered by bodily movement. At 10 a.m. slight burning in stomach and in eyes, slight squeezing about anus, and short accesses of drawing in r. arm and leg. In open air he felt well. After eating ices scraping sensation in throat, unpleasant taste in mouth, and constriction in region of os hyoides. In e. tobacco smoke or reading and writing by candle-light produced either burning in the eyes or cough, an intimation that the catarrhal symptoms were the effect of the operation of the drug. 27th.—On waking, eyelids were slightly agglutinated. Some thick mucus was thrown off by slight coughing, and after a papescient stool, slight burning in anus was felt. The dose of 725 dr. produced, after breakfast, an unpleasant, resinous, constrictive taste in mouth. As he was much in open air no other symptom was developed except frequent sneezing. 28th.—In m. coughing up of thick mucus again. Immediately after taking 750 dr., tearing in tendinous aponeurosis on the skull (for some m.); in forenoon frequent slight cough with raising of thick mucus; at noon, great excitement in genital organs, especially tickling in the prepuce and glans. (Z. remarks, "In my case Thuja operated in a striking manner upon the hæmorrhoidal vessels; for I felt in them, at times, congestion, and then again such an emptiness, that it attracted my observation even when I was not paying attention to that quarter; and this alternation of sensations frequently took place twice or 3 times a d.") 29th.—775 dr. No symptoms the whole forenoon. After dinner, sleepiness; feeling of coldness, especially in legs; a boring stitch on r. side of under jaw; a couple of erections, and on the emission of some very dark-coloured urine, burning in urethra; late in e., 2 flying, very painful stitches low down in l. side of chest. 30th.—In m. he several times coughed up thick mucus. After taking 800 dr., burning in isolated spots under skin, particularly on r. side of chest. Towards noon, while walking in open air, a sudden flying stitch darted through urethra, came out from the bulbus, pressed almost to the middle of the urethra, and was so violent that he was unconsciously obliged to bend

over. At 5 p.m., a laming drawing of short duration in r. shoulder and thumb; soon after, tearing in palm of r. hand near wrist (for $\frac{1}{2}$ h.). At 8.30 he was seized in the street with general malaise and such universal debility, with sinking in stomach, that he took a small glass of cordial at a coffee-house. After a while he felt better again, but about 10 he felt an indisposition by no means easy to describe in words; his mind was at the same time wholly undisturbed. It was a long time before he could go to sleep, and he awoke in m. earlier than usual. On 31st and the 2 following d. he took no medicine. 31st.—In forenoon, burning in anus; at 7 p.m., violent heartburn. Notwithstanding shortness of preceding night's rest, he felt, all d., no tendency to somnolency. The urine was voided very seldom. On following n., a good sleep. Feb. 1st.—In m., frequent hawking up of mucus, sneezing, slight agglutination of eyes, and burning in r. lower leg. 2nd.—After rising, drawing tearing in r. arm, especially along course of ulnar nerve, in r. thigh, in r. zygoma, and in r. side of chest. After a little while these symptoms passed off, and appeared, but weaker, in l. side of body. 3rd.—In m., coughing up of mucus and a single sneeze. An h. after 850 dr., dulness in head, on r. side of forehead, continuing an h., and dryness of nose. After dinner, slight burning in stomach, heaviness and weariness of legs with dulness of head and indisposition to any kind of intellectual labour. The eyes secrete much gum; face is wan and appearance bad all d. 4th.—No dose. In m., slight dulness of head; short drawing tearing, now here, now there, but always on l. side of body. In e., burning of eyes, as if room were smoky (for an h.). Subsequently debility of legs, and, on writing, return of burning of eyes. The secretion of urine is very sparing; and the urine itself soon becomes thick and turbid by standing, and deposits a copious, clayey sediment. 5th.—875 dr. Thereupon emission of much flatulence; slight pressing on inner side of r. knee; transient drawing in l. ankle, afterwards in r. thumb, and finally on radial side of r. upper arm, where pain disappeared after $\frac{1}{2}$ h.; slight griping in intestines, with feeling as though they were pinched with the fingers in a circumscribed spot, now here, now there; on smoking a cigar, the dryness of nose, which had been already often remarked, came on, and the mucus hawked up had an unpleasant, sharp, resinous taste. These symptoms vanished in the open air; but in walking against the wind his eyes continually watered, a thing which had already been frequently remarked, but had not been specially attended to by the prover. After dinner, great inflation of abdomen (for an h.) and a couple of gripes in intestines. In e., slight itching and pressing in anus. 6th.—900 dr. Immediately after dose, 2 sneezings, which seemed to be excited by a vapour rising from stomach into nose; then a couple of short, dry coughs, and slight burning on dorsum of r. foot. The eyes were somewhat agglutinated and watery in open air. During lecture his voice was hoarse, with frequent inclination to hawk. On coming into the room from open air in afternoon, he had, for some time, painful thumping and roaring in both ears. An evacuation, followed by violent pressing, was unsatisfactory. 7th.—925 dr. Immediately afterwards, discharge of flatu-

lence upward and downward; burning externally over lower ribs of r. side; then burning in the stomach, with eructations having taste of T. during whole forenoon. Burning in stomach again at dinner, which was eaten with appetite (for an h.). For several days past he has noticed that while he is smoking a cigar, seated at the writing-table, he is obliged to cough, dry and interrupted, which was not usually the case. In e., on eating fish, pressing and burning in stomach. 8th.—950 dr. Soon after, inclination to cough, and burning in throat on l. side near larynx, which afterwards extended towards l. ear, with more of a feeling of soreness, and soon after disappeared. Slight constriction and compression of lower half of chest, and transient stitchy pains on both sides of thorax extending to armpits. Towards noon, burning at anus and in r. leg. He felt well in the air. After dinner, slight burning in urethra when urinating. In e., burning and stinging in edges of eyelids (even the smoke of tobacco burns in the nose), with sticking in nape over joint of atlas (for $\frac{1}{2}$ h.). The following n. he slept well, and perspired, on awaking, so strongly on the inner side of thighs and legs, that skin was completely wet, while rest of body was dry. 9th.—Z. concluded his second experiment by taking 1000 dr. After dose, burning in stomach (for $\frac{1}{2}$ h.); then feeling of coldness over whole body in a warm room, especially in hands; rumbling and slight griping in intestines; somewhat later, creeping shudderings, particularly in back, with hot face; heaviness of eyelids, with slight burning of eyes and heat in r. ear. Breathing at same time was easy, and passage of air through nose free. The temperature of the open air, 3° R. (39° F.), affected him so unpleasantly that he trembled from head to foot with cold. After dinner, transient pressing headache in vertex; lamina drawing in r. armpit, coming on by fits; occasional drawing in r. thumb. 10th.—His voice was hoarse during his lecture, and his throat so choked with mucus that he was frequently obliged to hawk. After dinner, burning of eyes again, and somnolency also; slight compression and crawling externally on occiput. After a short and very refreshing nap, burning in stomach, eructations of wind, discharge of flatulence, frequent dry cough. 11th.—In m., after a hard scanty stool, pressing and burning at anus; also soreness in bend of r. arm when extending it (the whole forenoon); pressing headache on vertex and in temples (whole e.); feeling of coldness, especially in hands and feet, and on anterior surface of thigh down to knee, when seated in warm room. 12th.—In m., coughing, with raising of mucus. In forenoon there was a return of the soreness in bend of arm, but in a less degree than yesterday.

c. Z. now instituted an experiment with the diluted Thuja. On 12th Feb. he tasted the 10th dil., in order to ascertain if he could discover the taste of Thuja in it, which was not the case. Thereafter, in the course of scarce 2 m., the same troublesome dryness in nose came on which had been perceived on 3rd of month, and remained for $\frac{1}{2}$ h. P.m., he perceived burning and pressing in stomach (for an h.). 13th.—10 dr. of 10th dil., which had been previously shaken for 5 m. with two oz. of distilled water. In afternoon, burning in stomach (for an h.), and in e., pressing in hæmorrhoidal vessels. 14th.—Same

dose. After dinner, sleepiness, but on lying down on the couch, instead of the expected slumber, painful cold runnings from nape, over back, down to sacral region, which were increased by every movement of body, and soon disappeared after rising. 15th.—For the last time, Z. took 10 dr. of the 10th dil. immediately before breakfast (*café au lait*). Shortly after he perceived a sharp taste in mouth, and had eructations with taste of Thuja. He remarks at this point:—"I must confess that I am not in a situation to account for this symptom. How should it be possible for 10 dr. of the 10th dil. of Thuja, drunk in two oz. of water, followed by a breakfast of bread and coffee and the smoking of cigars, to affect the gustatory nerves?"* The drawing in r. shoulder also came on for a little while. After dinner he was again annoyed by dryness in nose already often described, and burning on tongue; in e., burning in stomach. 16th.—An entirely new symptom made its appearance. As he was going to dinner, there was a sudden sparkling before his eyes, and a multitude of black shining points swam before them, so that he could not clearly make out surrounding objects. After a while this symptom disappeared, first from r. eye. 26th.—In e., tearing and laming drawing in l. axilla, which on following d. extended to r. shoulder, where it remained an h. On same d. he perceived, for a short time, a constrictive feeling in back between scapulæ, which somewhat hindered respiration and also motion of the arms. Afterwards he had a feeling in internal canthus of r. eye, as if a grain of sand had fallen into the eye; this continued until bedtime, and rendered movement of eyelids somewhat painful, though no objective alteration in the appearance of the organ could be detected. 28th.—The eye had entirely recovered; but in m. a pressing headache in region of vertex came on for a short time, and returned in e., accompanied by burning in stomach. No further effects of the Thuja were remarked by Professor von Zlatarovich. (*Ibid.*)

20. C. R.—, æt. 23, unmarried, thin, of a nervous excitable constitution, suffered when a child from scaldhead, and from worms. She was chlorotic from 12 to 19. The catamenia first appeared in her 15th year; but during the first year they appeared very irregularly, and even at the present time are sometimes absent for two or three months, especially on any violent mental excitement. They appeared last on 23rd Sept., and continued for 6 d., which has been their usual duration for some time past. She has suffered for a year with cramps in abdomen at the time. She has had for some years a flat, dry tetter on chin and lips. 1844, Oct. 17th.—She began the proving of Thuja with 10 dr. of tinct., taken fasting in water in m. Two h. after she perceived heat and vertigo (for $\frac{1}{2}$ h.). 18th.—15 dr. In forenoon, pressing in stomach. 19th.—20 dr. After dinner, transitory coldness over whole body. 20th.—30 dr. She felt well during d. In e. chilliness for several h., passing into heat on lying down. 21st.—

* In our opinion, this taste of T. is to be attributed, not to the 10 dr. of the 10th dilution, but to the 40,000 dr. of the mother tincture which had been previously taken, which had penetrated and, so to speak, *thujacised* the whole body. A new reaction followed the new and almost immaterial dose, and that might disengage a perceptible portion of the previously taken mass.—*Mayrhofer.*

35 dr. No symptoms. 22nd.—40 dr. In following n. pain in stomach, with nausea and vomituration (for an h.). 23rd.—45 dr. Pressing headache through d., beginning on r. side, afterwards extending over whole head. 24th.—50 dr. In forenoon eructations with taste of the drug and slight headache for a couple of h. 25th, 26th, and 27th.—55, 60, and 65 dr. No symptoms. 28th.—70 dr. Coldness all d.; cutting above navel, extending into sacral region; before bedtime, difficult respiration with pressure on chest, by reason of which she could not get to sleep for a long while. 29th.—80 dr. In m., on waking, very violent pressing aching in forehead, lasting all d. The menses, which should have appeared on 25th, came on for the first time to-day, but unattended with colic. The following 6 d. passed without taking any of the drug. During the first two, she had continued headache, copious eructations of wind, and wandering, drawing pains in hollow teeth. On 1st Nov. she was well. On 2nd she had, in m., a three hours' headache, at one time in r., at another in l. temple, and then in vertex. On 3rd, catamenial flow ceased; it had been less than usual. 4th.—85 dr. After breakfast, exceedingly violent colic, and transient cutting and rumbling in intestines. 5th.—90 dr. A return of yesterday's colic, but less violent; accompanied by weariness and general weakness, with heaviness in legs and general feeling of discomfort. She felt as if she were threatened with a severe attack of illness. 6th.—She awoke with a very violent headache, and took 95 dr. During dinner, very severe, but very transitory colicky pains came on suddenly, and also frequent creeping coldness, as during a fever. On the following 2 d. 100 and 105 dr. produced no symptoms. 9th.—110 dr. A.m., feeling of coldness; p.m., frequent feverish alternations of cold and heat. 10th.—115 dr. Slight headache all d. On the next 2 d. 120 and 125 dr. produced no symptoms. 13th.—130 dr. She felt all d. weak and debilitated. 14th.—135 dr. Violent tearing on l. side of head, and in teeth of that side. 15th.—140 dr. For 4 h. after dose she was as if stupefied, sleepy and weak; rest of d. well. 16th.—145 dr. She then ceased taking the remedy for 16 d. During this time the results were as follows:—On d. of dose, stupefaction again and sleepiness, which did not last so long, however, as on previous d. P.m., frequent eructations of wind and pressing in stomach, which extended through throat into fauces. Late in e., on going to bed, tearing on r. side of the head, and itching over whole skin, especially on abdomen, as if she were covered with an eruption. Painful inflamed tubercles appeared on various spots on body. 17th.—In forenoon stomach-ache and melancholy state of mind; in afternoon more cheerful humour. This alternation of humours has already manifested itself for some d. past. 18th.—In forenoon, pains in stomach, hawking up of mucus; stoppage of nose, with nasal sound of voice; biting on whole body; in e. sticking in head and transient tearing in l. hand. 19th.—P.m., tearing in teeth of l. side, and afterwards a very restless night. 20th.—Very severe catarrh with increased secretion in air-passages, painful swallowing, and sticking in head. These symptoms disappeared by degrees on following days, and she continued the proving on 2nd Dec. by taking 150 dr. Soon after dose, stupefaction

(effect of alcohol?—M.) and extreme drowsiness during whole d. Dec. 3rd.—155 dr. Stupefaction, sleepiness, and frequent eructations of wind. 4th.—160 dr. After dinner she was very thirsty, and so inflated that she could not bear the pressure of the strings about her body. 5th.—165 dr. Same symptoms. 6th.—No dose. Extreme melancholy. 7th.—165 dr. After awaking, very violent headache, lasting all d., and disappearing on next d., on which dose was omitted. On next 3 d. 170, 175 and 180 drops produced no symptoms. 12th.—185 dr. After dinner extreme thirst; in e. colic. 13th.—190 dr. Colic with two fluid evacuations, great thirst and cold over whole body, with drowsiness. 14th.—No dose. She awoke with sticking in l. side of head, which soon went off; but head was dull all d. She had also drawing from head over nape and back to sacral region, and complained of general weakness with heaviness and coldness of feet, and in e. of general burning heat, whereupon restless sleep followed. 15th.—She awoke with headache, and took 195 dr. In e. coldness in back with alternations of heat. She has made the observation for several d. past, that on bowing she has sticking in l. side of the head, even if she were not just then suffering from headache. 16th.—She closed proving with 200 dr. The headache with which she awoke lasted 3 h., and after it had ceased sticking pain came on when bowing, but on r. side of head. After dinner, pressing in r. side of the chest during whole afternoon, accompanied in e. by sticking, which extended into sacral region. During whole d. coldness, especially in back, with general weakness and sensation of weariness. In e. manifest fever symptoms developed themselves, as headache, heat of the skin, full, accelerated pulse, besides sticking in r. hypochondrium (especially during respiration), which extended into sacral region. She went to bed on this account, and general heat came on, succeeded by quiet sleep. 17th.—There was no fever, but she felt weak. She has had no evacuation for 2 d. past, and no appetite; bitter mucous taste in mouth. The pains in chest are completely gone; borborygmus is frequent in intestines; in e. sticking in head and pressing in l. side of chest. These symptoms are diminished by an evacuation. Sleep was disturbed during n. by heavy harassing dreams. 18th.—In m. headache and cough, with copious excretion of mucus; catarrh and bitter taste whole d., thirst with alternations of heat and cold, latter especially in the dorsal and sacral region, with hot head and face. On going to bed pressing on chest, with difficult breathing and sticking in side. Before midnight, coldness; towards m., warmth; finally perspiration. 19th.—On rising, violent sticking in head, especially on moving; great accumulation of mucus. In forenoon alternations of heat and cold. Towards noon headache became very severe, and remained so for $\frac{1}{2}$ h.; there came on then drawing in sacrum (aggravated while seated), stoppage of nose, burning of eyes, frequent eructations of wind, difficult, almost panting respiration, violent cough with raising of mucus. In afternoon, slight colic, with borborygmus and inflation of abdomen. In e. general chilliness without thirst. Pulse was 100, full and hard. Several inflamed tubercles appeared in face. Her food tasted insipid. 20th.—During n., in which she continually suffered from severe coldness, the

catamenia appeared, 10 d. earlier than usual. In m. she felt very ill; her head was dizzy as if stupefied, her mouth tasted very bitter; all her teeth seemed to be loose; she frequently coughed up mucus as thick as lard. In forenoon she felt pretty well. Towards noon, alternations of heat and cold came on, with weakness to the extent of falling. In afternoon she felt well again except a slight headache. Catamenia very scanty. She has observed for several d. past that she becomes hot at dinner, and her body is covered with perspiration.

21st.—During n. she slept extremely restlessly. So bitter was the taste in her mouth that she was obliged to get up and rinse out her mouth with water. She awoke at about 3 a.m., and could sleep no more on account of heat. Afterwards a chill came on, and in m. a very violent headache, lasting all d. Before dinner she felt weak and sleepy, and was cool over whole body. She felt better in e. 22nd.—In m., headache, but less than yesterday; frequent spitting of saliva and mucus, with hollowness at stomach and insipid taste. General feeling of discomfort; she looks very ill, is weak, depressed in body and mind, and is somewhat bloated in face. Towards noon, an attack of coughing, with raising of tenacious mucus, vomituration and strangling; after this she felt ill and weak for $\frac{1}{2}$ h., and had a return of more violent headache. At noon everything tasted insipid. In afternoon, when walking, great heat, weight upon chest, breathlessness, and occasional dry cough, with sticking in head. In e., coldness in the back, accompanying heat in head, with great drowsiness and thirst; at n. quiet sleep. 23rd.—In m. bad taste in mouth; less sticking in head than yesterday; she feels very hot and weak, and is frequently obliged to sit down to rest, although she insists upon it that she is better to-day than for some days past. She coughs very little; has shorter breath than usual, with weight on chest; urine is copious, she has had no evacuation for 2 d. In e. chill again, followed by heat, thirst, and sleepiness. Pulse 120, full and hard; she is very low-spirited. 24th.—The same symptoms appeared, accompanied by tearing in hands; in e. feverish pulse with headache; a good night's rest. 25th.—In m. headache; also violent tearing in nape, which extended into axilla, and there remained during whole d. Upper arms are painful, and so weak that the patient can with difficulty hold them up long enough to arrange her hair; she trembles in hand and foot, looks pale and earthy, is exceedingly out of tune, sad and disposed to weep; respiration very short on walking, cough dry, abdomen very much inflated, taste bitter, increased thirst; alternations of heat and cold; pulse not so much accelerated, nor so full as yesterday. A hard evacuation. 26th.—Patient feels so weak and powerless that she cannot leave her bed. Her head is very dull; she is as if stupefied and dozes much; her tongue is somewhat furred and half dry; pulse moderately accelerated, full and hard. To these symptoms were added cough and tearing in l. shoulder. This state of things, in connection with a very sickly countenance and extreme prostration and depression of spirits, gave Z. reason to apprehend the development of a nervous fever, and he gave her a drop of puls. 30. She continued the same for the rest of d.; she had occasional naps during n., but they were disturbed by tearing

in l. axilla and slight colic. 27th.—In m., same state of things, but in somewhat diminished degree. Tongue dry at point. In afternoon, bitter taste, redness of face with cool extremities, irritable humour. She had cocc. 30, one dr. In e., copious general perspiration, with diminution of all the morbid symptoms, and tolerably good sleep at n. 28th.—In m., striking abatement of all symptoms. Skin is agreeably moist, pulse less accelerated, feelings less gloomy; tongue is still somewhat furred, and tearing in l. shoulder is still present, but at times it goes to r. shoulder and nape. She begins to feel a little appetite, and has had two stools; but she still feels very weak, dozes much, and speaks very slowly and monosyllabically. She had cocc. 30, one drop in a tumbler of water, with directions to take a tablespoonful every 2 h. The improvement continued during d., and she had a good n. 29th.—The pains are considerably diminished; the fever is slight, tongue moist, taste natural, mind cheerful. At n., sleep and copious perspiration. Cocc. continued. 30th.—In m., patient is exceedingly ill-humoured, speaks but little, and keeps her eyes continually closed. For the rest, she complains of no pain, pulse is but slightly accelerated, and there is nothing further worthy of remark. Z. gave her rhus 24. She sleeps much during d. and has no appetite; tongue is moist and a little furred; urine copious and yellow. She slept and perspired at n. 31st.—With the exception of great weakness and prostration, no morbid symptoms appeared to-day. In afternoon, nose bled, after which head was much relieved. “It must be observed,” remarks Z. in his relation, “that both those about the patient and she herself had noticed that she was better and worse on alternate d., indications of a tertian type. I must confess,” pursues he, “that I have no hesitation whatever in considering this whole attack as caused by the Thuja. Had it been a natural idiopathic affection, there would have been a greater harmony in the symptoms. The febrile symptoms, however, stood in no relation to the extraordinary debility; there were no abdominal pains, no diarrhoea, no delirium, no meteorismus, nor any of those symptoms which usually indicate the existence of a typhoid disease.”* 1845, Jan. 1st. After a good night’s rest, the patient, with the exception of general weakness, which was still present, felt well. Her appetite returned; she was not so depressed in mind as on the preceding days: but her speech is still very slow and drawling. She took ignat. 24. At noon she was for a short time out of bed, and remained well during the afternoon. 2nd.—The catamenia appeared without any morbid symptoms, but lasted only one d. 15th.—For the first time the convalescent went into the open air, which seems, nevertheless, to have been too soon; for on 16th chills, want of appetite, peevishness and a small weak pulse again made their appearance. She now took nux vom. An h. after, a shaking chill, lasting $\frac{1}{2}$ h.; heat came on over whole body, preceded by a gradually increasing warmth. She was so weak that she was obliged to remain in bed all d. She had a thickly

* We do not for an instant doubt but that the above-described attack was the result of the doses of T.; we recognise in the instability of the symptoms, in their evident discordance, and in the irregularity of the course of the disease, the fundamental characteristics of the drug.—*Mayrhofer*.

coated tongue with bitter taste, but little appetite, and for 2 d. past no evacuation. The febrile symptoms were slight. The nux was continued. Next d. she was better throughout, tongue cleaner, appetite returned, had a stool, increase of strength. The convalescence now steadily proceeded without any further medication, but it was a full month before she regained her former health. (*Ibid.*)

21. FRANZ ZOTH, medical student, æt. 24, choleric-phlegmatic temperament and apoplectic build; at 15 had typhus; a year ago was treated for 10 d. at the medical clinique for an inflammation of the lymphatic glands of the r. arm, which had come on in consequence of intoxication with cyanide of potassium; in other respects was entirely well. Zoth's proving produced very few results, notwithstanding he took 5000 dr. of the tinct. within three months. 1844, Oct. 15th, 16th, 17th and 18th. No effects were perceived from 5, 8, 11 and 14 dr. 19th.—17 dr. He perceived single stitches in r. frontal region. On following 2 d. 20 and 23 dr. produced no symptoms. 22nd.—26 dr. A cough came on, which he regards as having been possibly caused by an exposure to cold. The cough continued on the following 2 d., on which 29 and 32 dr. were taken. 25th.—40 dr. To the cough was added swelling of throat, which continued during the following 3 d., on which 50, 60, and 65 dr. were taken. From 29th Oct. to 6th Nov. Z. increased his dose 10 dr. each d., so that commencing with 70 on the 1st d., he took 150 on the last. The prover's diary contains nothing remarkable for these 10 d., except that the excretions were increased in quantity, and were less consistent; which remark will also apply to the previous days. From 7th to 22nd Nov. he continued the Thuja in a similar ascending scale of doses (by 10 dr. a d.), and took on last-named d. 300 dr. The results were as follows: 7th.—Painful throbbing in base of glans (for 4 m.); afterwards, pains in lower half of spinal column and in the sacrum, continuous, aggravated by bending body; also in both knees. These pains continued also during following d., and were attended by great general weariness. 9th.—Having taken much exercise this d. the pains became less; on 10th, however, they became more violent, decreased by degrees on following days, and finally ceased on 16th, on which d. he took no dose. 17th.—These pains returned again, and were especially violent in both hips, weaker in sacral region and knees. 18th.—They ceased in sacral region, but continued in hips and knees. 19th.—An eruption upon an inflamed surface appeared on l. side of chin. 22nd.—Violent buzzing in ears, lasting several h. From 23rd Nov. to 5th Dec. the Thuja was omitted, and all the previously described symptoms vanished. From 6th to 20th Dec. he again continued the experiment, taking on first d. 310 dr., and daily increasing dose by 5, until he arrived at 380 dr. on the last d. He observed no effects. From 22nd Jan. to 2nd Feb. he made a short experiment with dilutions, and likewise perceived no alteration in his sensations. (*Ibid.*)

22. Dr. ZWÉRINA, æt. 36, perfectly healthy, and of a sanguineo-choleric temperament, proved the Thuja as follows: 1845, Jan. 23rd.—He began with 40 dr. of tinct., which he took at 9 a.m., an h. after breakfast, and observed no other result than that during the

following n. he was obliged, contrary to his usual habit, to rise three times for the purpose of urinating. The urine passed was straw-yellow, and amounted to a full measure. On following d. he took nothing, and observed no symptoms which he could ascribe with confidence to the drug. 25th.—30 dr. taken at about 9 a.m. At noon, slight burning in urethra, leaving behind a voluptuous feeling, especially after urinating. The quantity of water passed was again increased during n.; it was clear and straw-yellow. Sensation of great fatigue in groins. His appetite was small, and his customary morning evacuation did not take place. 26th.—To quicken the action of the drug the impatient prover took 50 dr. m. and e. Immediately hereafter, burning in urethra and copious urine; the customary daily evacuation absent. Disquieting dreams, frequent urination and four pollutions disturbed an unrefreshing night's rest. Sleep came on late, an unusual occurrence with him. 27th.—These symptoms did not deter prover from taking 100 dr. this d., fasting. Thereupon he experienced headache in region of forehead and eyebrows, such as usually precedes a catarrh; ill-humour, lasting all d.; want of appetite, with frequent eructations; repeated shuddering, beginning at head; slight burning in region of kidneys, ceasing after an h., and followed by still more copious urine, accompanied by burning. The feeling of fatigue in region of groins passed into a drawing pain extending into glans penis, and inguinal glands were perceptibly swollen. A general feeling of malaise, with internal chills, came on, and instead of his usual cheerfulness, peevishness. For 3 d. he has had no stool. 28th.—Notwithstanding this, he again took 100 dr. early, fasting, "and now," says he, "for the first time the drug fairly mastered the health that had so far defied it." An h. after the dose, the burning in renal region increased, and was accompanied by drawing along ureters to vesica; the urine diminished in proportion as burning in ureters increased. The glans began to grow moist and to secrete a thin mucus. In e. he had a slight chill, attended by dryness of throat, with painful deglutition, vomituration, and such a feeling of illness that he was obliged to go to bed before the time. His interrupted sleep was full of anxious dreams, and he continued the fourth d. costive. He was now so well satisfied with the pathogenetic effects of Thuja that he dropped the experiment. By degrees his abnormal symptoms disappeared; first the headache, then the dryness of the throat, and lastly the renal affection; on Feb. 1st, after a constipation of 8 d., he had a copious, hard evacuation. (*Ibid.*)

23. The following physiological proving of T. by our colleague, Dr. HOLLECZEK, practising physician in Klagenfurt, has only reached us while these sheets are going through the press. It contains, for the most part, only subjective symptoms, and adds scarcely any new lines to the portrait of the T. sickness depicted by the experiments already detailed. Dr. Holleczek has a strong constitution; had an intermittent fever at twelve years old, but was otherwise well until his 22nd year. He then had a slight attack of pneumonia, and was perfectly restored in a few days by homœopathic treatment. He has had no other sickness. At the time of his first experiment he was 25 years old. The symptoms below follow in chronological order.

a. Sept. 2nd, 1838.—He drank at one draught $\frac{3}{5}$ ss of the strong tincture of Thuja prepared according to Hahnemann's directions, having first well mixed it with 8

of water. Violent pressing headache in region of vertex ; sensation as though something were squeezed out at both ears ; heat in face (immediately) ; feeling of heat in whole chest ; stitches in temporal region, in elbow and heels. Pressing pain in occiput ; head pains as though it were stuck through from one temple to the other ; slight eructations (all d.). Stitches in metacarpal bone of little finger. Stitches in scrob. cordis ; sticking beating in middle of r. side of chest ; stitches in cardiac region ; pressure under sternum ; sticking in pit of throat. Drowsiness ; violent pressing pain in occiput ; feeling, when turning head to one side, as though a piece of lead lay in brain. Stitches from spine through epigastric region, forward to pit of stomach ; frequent sticking pains in r. shoulder-joint ; repeatedly during d. a cutting pain perpendicularly through middle of chest from below upward as far as pit of throat ; sticking pains in forehead ; extremely violent sticking pain in metatarsal bone of middle toe of both feet ; pressure on r. side near scrob. cordis, as if from a foreign body, with frequent stitches, worst in m. Itching on inner surface of prepuce ; extremely violent pain in middle toe of r. foot ; several stitches in interior of r. ear ; painful, frequently repeated stitches in r. testicle ; dreadful tearing pains, which darted like lightning hither and thither through urethra, with simultaneous violent stitches in anus (p.m. when seated). Quivering twitching from ear to l. corner of mouth ; sticking pains in l. shoulder-joint ; tearing pains in metatarsal bones of r. foot ; dull sticking pain in metacarpal bone of middle finger of l. hand ; sticking in great, fourth, and little toe of l. foot. Pressure in larynx ; sensation of burning and constriction of larynx ; tearing pains in under jaw, which began on both sides, in region of joint, ran forward together in a line to chin, united, and instantaneously disappeared. Painless twitching of middle finger of r. hand ; very painful stitch through upper part of l. breast from before backwards, which immediately disappeared, and left a feeling of twitching in spot ; tearing pains in bones of l. forearm and wrist ; stitches in point of third finger of r. hand ; sticking in sole of r. foot, from within outwards ; feeling of dislocation in middle of spine, increased on r. side by strong bending of body.

5. Sept. 4th.—Same dose as on 2nd. Pressing headache on vertex and occiput, with sensation as though there were lead there, aggravated by moving head and by a false step, with feeling as though brain were loosely moving about ; when lying on back, beating in chest under sternum, extending to sacrum ; while lying on r. side, many stitches in same side of abdomen, which disappeared on pressure, and returned on walking in open air ; in e., when walking in open air, feeling of fulness and pressure in occiput ; on moving head sideways, vertigo. Constant painful pressure inwards at nipples ; painful pressure in r. abdominal region, which disappeared on making pressure there with hand, but became sensible again (during whole d.) on taking a deep inspiration, or on forcibly expiring ; constant tearing pain in metatarsal bone of r. middle toe ; stitches in both knees when walking. Cough, with expectoration of mucus, when eating ; after eating, cough with raising of a tough mucus ; sticking headache in region of vertex ; painful tension in occiput from one ear to the other. Little thirst ; urine with a penetrating odour. Stitches in r. wrist-joint ; boring from without inwards in region of r. iliac bone ; sticking in middle of sole of l. foot, from within outwards ; a quick drawing, boring pain through forearm and metacarpal bone of index finger ; painful tension of hypogastric region with occasional sticking pains, aggravated by deep inspiration (in forenoon with an empty stomach) ; painful stitches in skin of l. elbow. Pressing in middle of chest upwards into neck, inducing difficult respiration ; sticking pains in region of heart ; constant pressure in middle of chest, with sticking pains during attempts to inspire deeply ; frequent creeping chills ; pressing pains in whole upper part of chest, becoming much more violent by pressure ; cutting pain from spine to pit of stomach. Sensation as though r. side of scrotum had been bruised ; cutting pain deep in l. side of abdomen ; sensation when bending forwards as if brain were pressed out at vertex ; sticking in r. thumb ; tearing in r. tarsus and great toe ; cutting in l. side of upper lip ; dull pain anteriorly in lower third of r. thigh ; sticking in bones of lower leg from tarsus up to knee ; tearing in scrobiculus ; on bending body to r. side, tearing in r. popliteal space. Fine sticking in 3rd joint of index finger, from within outwards ; violent stitches in anterior extremity of urethra without urinating ; sticking in external malleolus, hip-joint, metacarpal bone of middle finger, on inner edge of foot, in heel ; dull sticking pain in joint where

thumb and index are articulated with metacarpus; dull sticking in interior of r. ear. Twitching of muscles on r. forearm; feeling, when seated, as though the chest were compressed from before backwards, aggravated by stretching body; painful stitches in interior of l. chest; dull cutting under l. shoulder-blade; cutting pain on l. side near scrobiculus. Stitches in l. testicle (for 8 d.); when coughing, dull sticking pains in r. inguinal region; violent sticking in region of spleen, during a meal; very violent stitches in toes, noon and e., on bending body to l. side (7th d.). Sticking pain in liver, when walking; sticking pains in r. elbow; sticking in metacarpal bones of l. hand; oppression of chest; necessity of frequent deep breathing; dull sticking pain in l. parietal bone; sticking pain in brain from neck up to vertex; stitches through brain from below upwards, especially when coughing; stitches in l. ala of nose; vague stitches in l. lung; burning in forepart of urethra, without any discharge; drawing sticking pains in liver; cutting pains in rectum.

c. Oct. 31st.—8 dr. of the tinct. in a tablespoonful of water. Sticking in scrobiculus; sticking beating in fossa navicularis of urethra (coming on daily for 2 weeks at irregular intervals, and frequently repeated in an h.); sticking in region of spleen at indeterminate times, but particularly during dinner and supper (at intervals of 4 d.); an evacuation early every d., with urging, although only a small quantity of thin fæces was quickly passed, afterwards feeling of inactivity in rectum. Vertigo, coming on of a sudden after dinner (while looking up); headache in occiput; pressing with stupefaction when moving head to one side. Corroding aching of r. half of scrotum. All the diameters of the chest seem to have become shorter; painful tension in whole chest when inspiring deeply; sensation of want of pliability of thorax and of insufficiency in inspired air; at n. short breath; necessity to assist by breathing deeply. Violent cutting in point of tongue and on its under surface; cutting in upper eyelid; quivering of muscles of l. thigh just above knee; violent pressing pains in l. elbow, as if in bone.

d. Nov. 15th.—15 dr. of tinct. at a dose in a tablespoonful of water. Sticking in middle of r. side of chest near sternum (in $\frac{1}{2}$ h.); stitches like lightning transversely through chest. Tearing pain in tendo Achillis on r. side; strong extension of r. knee impossible on account of a sensitive, painful obstacle in popliteal space; same symptom in l. knee; cutting pains through chest in different directions; stitches in r. tendo Achillis. Twitching pains under heart; tearing and sticking pain in all joints; stitches through whole brain from below upward. Burning when urinating; burning and sticking in forepart of urethra. Cutting in r. iliac region; tearing in r. hip-joint; tearing in l. little toe; violent sticking on outside of l. knee; violent sticking under r. knee; stitches in sole and palm; itching in rectum after stool; boring, as of a worm, in rectum, from within outwards, after an evacuation.

e. 1840, Jan. 6th.—Ten dr. of 4th dil. (5:95) in an ounce of water. Vertigo, when seated, returning as though in poussées every m. (after $\frac{1}{2}$ h.); sensation as though brain were raised several times in succession; very painful stitch on r. side near sternum on fourth true rib, repeated in only one spot; dull sticking pain in l. forearm, near elbow: tearing pain in r. shin-bone from knee down, and from tarsus up to knee (subsequently repeated); sticking pain in r. knee coming from popliteal space; sticking in l. elbow. Excessive rumbling in abdomen; dull sticking from r. ear and under lobule outward; twitching in muscles under l. scapula; very painful tearing in r. tibia downwards (whole d.); cutting from below upward on r. side near sternum. Frequent eructations; tearing in l. leg downward; pressure on sternum not affecting respiration; pressing feeling in pelvic region on r. side near linea alba, as if from a foreign body. 7th.—Fine superficial sticking in points of fourth and little toe; continual dull sticking pain in l. shoulder-joint; tearing pain from ischium through posterior part of r. thigh, as far as popliteal space; cutting through the l. half of under lip, from below upward; twitching in integument of occiput, on r. side; violent ringing in both ears; in e., sticking in l. palm; tearing in outer border of r. sole.

f. Jan. 8th.—Fifteen dr. of 2nd dil. (5:95). Dull confusion of occiput, ending in pressing headache which lasted $\frac{1}{2}$ h.; sticking on r. side, near the middle portion of sternum; several stitches coming from interior of chest; twitching in r. ear with sticking pains; both ears stopped; tearing in leg; stitches in brain, from occipital foramen upwards; tearing in r. eyeball; sticking pain in l. elbow several times during d.; tearing in r. eyeball, coming from brain; sticking on l. side, near

scrobiculus, from within outwards; sticking and ringing in r. ear; sticking pain in r. forearm near elbow; tearing in metacarpal bone of little finger; frequent tearing in great toe of r. foot; dull sticking near middle portion of sternum on l. side; tearing pain in metacarpal bone of index finger; dull sticking in l. frontal region; cutting in r. shoulder-joint; stitches in r. metacarpus and in l. eyeball; cutting from point of l. scapula through chest to edge of middle portion of sternum; stitches in fourth toe of l. foot, in l. sole, and in r. thigh. 9th.—Early, after rising, ringing in ears; sensation of heaviness in occiput; cutting under sternum, which embarrasses respiration; cutting in r. side of chest, extending from sternum to r. elbow; very sparing stool, half fluid, with sensation as if rectum were very inactive; feeling in vertex as if a nail were driven in there; very violent cutting in both loins when walking; ringing in ears, frequently during d. 10th.—Cutting in urethra from perineum forward; very violent, dull sticking pain in r. testicle; tearing in l. knee; ringing in ears; evacuation slight, not satisfactory; sticking pain in pelvic region on r. side near linea alba; sticking in splenic region. 11th.—Sticking pains in l. testicle, several times during d.; tearing in r. carpus; severe cutting pains in urethra (perineal region); dull stitches in rectum upwards; stitch from foramen magnum through brain to vertex; dull sticking pain near lower part of middle portion of sternum, on r. side; tearing in r. leg; no evacuation; cutting in epigastrium, from spine outward; feeling, when laughing moderately, as though thorax were strongly compressed, with shortness of breath; dull sticking in popliteal space impeding extension of leg. 12th.—Tearing in r. lower leg; sticking in l. knee, m. in bed; several dull stitches near scrobiculus on l. side; tearing in metacarpal bones of r. hand; sticking pain on l. side from sacrum to testicle; tearing in l. lower leg. 13th.—In open air, tearing pains in region of heart, and from there into l. scapula; sticking in l. knee; tearing in l. lower leg; roaring in ears. 14th.—Tearing in both legs and in r. thigh. 15th.—Tearing in r. thigh; ringing in ears several times during d. 16th.—Tearing in r. foot.

7. 17th.—Ten dr. of 1st dil. in an ounce of water produced no new symptom. The almost exclusively subjective symptoms which prover noted from 17th to 20th were summarily as follows: Sticking in and on almost every part of body—on vertex, through brain, in eyeball, in sternum, under nipples, in ribs, through chest, from scapula through heart, in groins, maxillary bones, shoulder, elbow, and knee-joints, in ankle and wrist, os ilium, thigh, calf, arm and forearm, metacarpal and metatarsal bones, tendo Achillis, final joint of thumb and great toe, at root of nails of thumb and index finger. Tearing in concha, eyeball, scrob. cordis, shoulder-blade, shoulder and hip-joints, thigh, from ischia to knee, in leg, in arm and forearm; cutting in perineal portion of urethra; twitching in flexor of l. thumb, in r. cheek, under scapula; sensation of dislocation in knee and hip-joints (aggravated by walking in open air); painful oppression under sternum (increased by deep inspiration) and in inguinal region; ringing in ears for several h.; roaring in ear (early in bed); increased urgency to urinate; feeling of compression in testicle; scanty, papaceous stool. (*Ibid.*)

14. Dr. HOLLECZEK also caused three experiments to be made by his sister Josepha, a healthy, active girl, æt. 17. Like those of her brother, they produced for the most part only subjective symptoms.

a. 1840, Jan. 6th.—Ten dr. of 4th dil. of Thuja in an ounce of water. During same d., sensation as though skin on temples and forehead were shrunken and hard, continuing 2 h.; drowsiness; fine sticking in inner malleolus of r. foot; sticking in region of spleen, twice in succession, with consequent soreness there; pressing and fine sticking under sternum; sensation of weakness in both knees (disappearing in r. in 10 m., in l. after an h.); sticking in region of fifth true rib on r. side; great lassitude and weakness in both arms, with frequent tearing in them; vertigo; superficial headache, as if skin were rendered tense on all sides; frequent yawning; chills over whole body; sticking in l. palm, r. axilla, and near pit of chin; headache in forehead, pressive, the whole d.; pressing in eyes; chills in e. in bed; several stitches in r. axilla and temple. On following d. repeated tearing in forehead and sticking in different parts of body (elbow, tibia, mammæ, chin, scrobiculus, scapula, shoulder-joints).

b. Jan. 8th.—Fifteen dr. of 2nd dil. The same d. tearing (in sacrum, in nape, over temple, in knee-joint, in tarsi and some of the finger-joints); sticking (in ear,

under jaw, in splenic region, hip-joint, iliac region, in middle of thigh and tarsus, shoulder-joint, arm and forearm, wrist); both these feelings, tearing sticking, most on r. side; ringing in ears; heaviness and tension in back; sense of soreness in scrob. cordis. The symptoms developed from 9th to 16th at more than a repetition of those already given. She had stickings and tears sometimes in the same parts, sometimes in others (ear, ear-cartilage, ala of near sternum, in epigastrium, between shoulder-blades), and sometimes in the limbs (on 9th, in e. in bed). She also complained on 9th of stoppage of bowels and on 10th of painful soreness in middle of back, and pain as if bruised in shin-bone.

c. Jan. 17th.—Ten dr. of 1st dil. in an ounce of water. The 66 symptoms the prover perceived and noted during the experiment, from 17th to 21st Jan., mostly also of sticking and tearing, now in this and now in that part of the body scarcely a spot was intact. The pain seems for the most part to have been tearing. I only find recorded on 18th a sticking in the left iliac region "lasting all d. On 19th she had a tearing in l. forearm, shooting from elbow to fingers so that she suddenly flexed. On 18th she had beside sticking and tearing, "feeling as if buzzing in back and buzzing in ears." There is only one objective symptom in addition the sudden flexion of the fingers just mentioned, "increased secretion of urine d. of dose. (*Ibid.*)

25. On 10th July, when taking a walk, I happened to pass through a garden where the arbor vitæ laden with green cones. I plucked one, chewed it a little, and thought no more about it. That same evening I observed a very disagreeable scalding on making water, which continued all next day. I was horrified to observe on undressing that my shirt was spotted all over in a manner extremely repugnant to one's notions of respectability. I found a considerable gleety discharge from the urethra, which was evidently swollen and inflamed, as the stream of urine was scanty and split, and the burning had increased. I had quite forgotten the circumstance of having chewed the Thuja cone, and could not imagine what could have produced in me, a decent paterfamilias, such a very incongruous complaint. The following day the discharge had become yellow, while the other symptoms remained as before. I now remembered the cone-chewing, and regarded the malady with more compunction. I resolved to take no medicine to interfere with its course. The discharge still continued, though in diminishing degree, till the 15th, when the scalding and interrupted stream of urine were by that time almost gone, and on the 16th I was again quite well. The symptoms which had lasted were precisely those of an ordinary attack of gonorrhœa, but their medicinal origin was evidenced by the short duration of the attack. I should add that two colleagues, who, at my suggestion, chewed a Thuja cone as I had done, were unaffected by it. (*DUDGEON, Brit. Jour. Med. Hom., xxix, 185.*)

TRIMETHYLAMINUM.

An alkaloid found in several plants, as *Chenopodium vulvaria* and *Arnica montana*, also in such fluids as herring-brine, from which the commercial T. (known as "propylamine") is most frequently obtained. Its formula is C_3H_9N .

I. *Proving.*—I. DUJARDIN-BEAUMETZ took 50 centigr. of the chloride of T. in water. Pulse before experiment was 78; after 1½ h. 76; after 2 h. 74; after 4 h. 78 again. T.

37.4 (centigrade) before experiment, fell to 37.2 after 1 h., 37 after 1½ h., 36.8° after 2 h. (ALLEN's *Encyclopædia*, x, 25.)

2. Another person in perfect health took 75 centigr. of same. Pulse, 88 before experiment, was 84 after 1 h., 82 after 1½ h., 76 after 2 h. Diminished force of heart's action was also shown in tracing taken. Temp., 37° before experiment, was 36.8° after 1 h., 36.4° after 1½ h., 36° after 2 h. (*Ibid.*)

3. I took 10 dr. in water. In ½ h. I experienced a smarting sensation of tongue and fauces, with much thirst; there was also a tingling of the fingers, a sensation of numbness to such an extent that in attempting to pick up anything it felt heavy, and I had to use great effort to retain the article within my grasp. This group of symptoms passed off after 3 h. I then took another 10 dr., and experienced the above symptoms intensified, with the addition of great pain in wrist-joints, also great restlessness, yet inability to stand upon my feet from the pain produced in the ankle-joints. I took no more of the medicine, but the tongue became broad and flabby, the mucous membrane of the buccal cavity was pale, appetite gone, no desire for anything; I became morose, with great desire to be let alone. The pain in the joints was made worse by the slightest movement. In 24 h. after taking the drug I was attacked with diarrhœa; stools were thin, watery, and white. (CHAFFEE, *U. States Med. Invest.*, June 15th, 1880.)

URANIUM.

The metal so named, generally used as a nitrate— $(\text{UO}_2)''(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$.

1. *Proving.*—I. a. A young man of 25, in average health, proved 2nd dec. dil. of a saturated solution of the nitrate. On June 6th, 1867, he took 1 dr., on 7th 2 dr., on 11th 5 dr., on 12th 6 dr. On latter d. head heavy on waking; general languor; aching at occipital protuberance. Dry coryza; l. nostril stuffed (itching in nose*). Stye in l. upper lid. Constipation. In e., occipital and frontal headache. 13th.—7 dr. No appetite; urine acid, a trace of albumen. 14th.—8 dr. Urine flocculent; very slightly acid. 15th.—9 dr. Woke with occipital headache; vertigo twice in e. 16th.—10 dr. (Prover continued increasing dose by 1 dr. every d. or two till July 5th, when he took 22 dr.) Ill temper, he is cross with everybody; stiffness in loins; urine quite normal. 17th.—Woke at 2 a.m. with urgent desire to evacuate bladder and rectum, and much borborygmus. A small soft stool. 18th.—A small painless ulcer, with one elevated side, in buccal aspect of l. cheek, opposite l. anterior upper molar. 19th.—Ulcer more tender, worse in e. 20th.—Inside of cheek very sore. 21st.—Ill humour; acne on forehead; cheek better. 23rd.—10 micturitions in 24 h. In e., pain shooting from r. orbit to occipital protuberance. 25th.—9 micturitions in 24 h. 26th.—Frontal headache. 27th.—Small quantity of phosphates in urine. 28th.—Languid. 30th.—Saliva and urine highly acid; sore pain in vesical region in e.;

* Prover had ascarides.

burning in urethra. July 1st.—Desire to urinate again immediately after voiding bladder. 2nd.—Extreme languor on rising from bed; fishy odour of urine. 3rd.—Hawking of very tenacious mucus. 4th.—Urine highly acid, but otherwise normal. 6th.—(Nothing was now taken till 11th inclusive.) On this d. urine very cloudy; deep amber colour; slightly acid. 8th.—Much mucus in urine. On 12th took 24 dr.; no results observed. On 16th took 30 dr., and thereafter increased dose by 10 dr. daily, till on 24th he took 110 dr. Nothing is noted save dull aching in r. temple immediately after last dose.

b. On 25th he took 5 dr. of the saturated solution. 26th.—M., urine was high-coloured and turbid; chlorides more abundant than normally; no lithates. At 11.45 p.m. took 30 dr. In 5 m. slight pain over l. eye; tasteless eructations. 27th.—At 11 p.m. took 60 dr. At 12 p.m. pain over r. eye; at 1 a.m. contracted feeling in throat, eructations. He micturated 12 times in the 21½ h. after taking the dose, but only passed 31 oz. of urine in the 24 h.

c. Aug. 3rd, at 10.30 p.m., a bolus containing ¼ oz. was injected into rectum. It was forcibly returned in 20 m., causing sharp colic and tenesmus, with raw feeling in rectum, followed during sleep by an unconscious seminal emission. 4th.—20 oz. of urine have been passed between 10.30 p.m. and 6 a.m.; sp. gr., 1015; copious chlorides, diminished phosphates. Urine was examined daily by Moore's and Fehling's test, for sugar; but none was found at any time. Sp. gr., whose normal average was 1026 and maximum 1032, had these numbers raised while taking drug to 1028 and 1038 respectively. Normal quantity of urine was 29 oz., maximum 37, minimum 24. While taking drug average was 32 oz., maximum 50 oz.; minimum was unchanged. (Dr. EDW. BLAKE'S provings, *Hahnemann Materia Medica*, Part II.)

2. A young woman, having chronic albuminuria, but otherwise in fair health, began 2x dil. July 21st, when she took 50 dr.; on 22nd she took 60, on 23rd 100, and on 24th 110 dr. On 22nd she notes "A few small white vesicles, with red areolæ, on hands and legs, which burn and itch; tight feeling round waist." On 24th, "Debility, cold feeling, vertigo; red spots on hard palate, which feels raw; breasts turgid, tender, with burning pain; pain in nape of neck, and all over abdomen." On 25th and 26th she took 10 dr. of sat. sol. On 29th catamenia occurred. Before them, on 28th, she had heavy burning pain on r. side of vertex; clothes felt very tight; fulness in head, with sense of blood flowing to it; cold feet; restless n.; diarrhœa. Menses themselves were more copious than usual, with dark clots; there was giddiness, faintness, great prostration, and drowsiness; shivering; vomiting, with much nausea; no appetite; diarrhœa, followed by perspiration and flushing of upper body; borborygmi, with violent pains in abdomen. (As far as appears, albumen was diminished in amount while taking drug; average quantity of urine in 24 h. was reduced from 46 to 40 oz., and sp. gr. raised from 1013 to 1015.8.—The figures given at the end of the proving are quite inconsistent with the statements made therein, and must be ignored.) (*Ibid.*)

3. G. C.—, male, æt. 31, in good health. Urine was tested for d. before beginning experiment, and found normal. From Oct. 1st, 1870, took 5 dr. of 15th dil. every m. fasting for another 14 d. no appreciable effects ensued. From Nov. 24th to Dec. 4th inclusive took 3rd dil. in same manner. On 28th he notes "Urine cloudy; more mucus than usual; here and there a cast ($\frac{1}{4}$ in. glass); uric acid crystals; in 2 specimens out of 5 uncertain pus or blood cells. Feeling of having taken cold (no exposure); headache in l. temple; radiating pain from l. side of ensiform cartilage, coming and going for last d., worse when fasting; no appetite; flatus; slight constipation." On 29th there was no action of bowels, and only a slight movement on 29th, but there was no stomach pain. This, however, returned on 30th, with occasional twisting, screwing feeling rather lower down, relieved by food. On the 4th he caught a violent cold, and omitted medicine till 16th, when (being quite well again) he began, and continued till 24th, a similar course of 1st dil. On 17th he notes "Urine deposits a thick mucous sediment; acid in passing, soon becomes alkaline and offensive; sediment contains a large quantity of uric acid and lithate of ammonia, with pavement epithelium. No sugar or albumen. Return of indigestion 15 m. before dinner, with aching sinking at cardiac end of stomach, not hungry or faint. Very restless at n. with shivering and heat." 18th.—Urine much as above. Had some slight pain in head, similar to an old neuralgia from which he had been free for 4 years, but on l. side, instead of r., as then; it was seated at post. border of temporal bone, and lasted from 2 to 4 p.m., relieved by dull aching. 19th.—Awoke about 1 a.m. with return of pain in head, which lasted an h. and prevented sleep. Was ill from morning during d. 20th.—Cross and disagreeable; not feeling well all d., no particular symptoms. 21st.—Thick muco-purulent sediment in urine after standing all n.; deposit consists of urates and mucus, no pus-corpuscles; phosphates more abundant than usual; no sugar. Headache in old place (r. side), severe till after dinner; came on gradually, soon relieved by food. Putrid eructation between 11 and 3 p.m. 22nd.—Still muco-purulent sediment in urine after standing all n., it dissolves on boiling; phosphates more abundant; no albumen or sugar. No headache for 2 d.; appetite good; bowels regular. Sp. gr. of urine showed a higher average (1028 to 1023) while taking drug as compared with normal state. (*Ibid.*)

4. Dr. Köck proved U. nit. on himself. After he had taken from 10 to 2 gr. his chief symptoms were vomiting, copious micturition, later scanty urine, stool only every 8 d., firm and dry. Bad appetite, dislike of cold food. Increased thirst, but could not take his accustomed beer, and his favourite beverage—punch—tasted sour and caused nausea, indigestion of head and constant inclination to vomit. He felt very weak and weary, and every evening a feeling in the heel causing him to move constantly, rest was intolerable. When smoking a cigar felt like a fire in fauces, making him hawk constantly, which brought up mucus; some dryness in throat, so that he had to swallow his saliva constantly. (BUCHNER, *N. Z. f. h. Kl.*, xviii, 170.)*

* Dr. MAGDEBURG writes, "I have satisfied myself by my own experiments

III. *Experiments on animals.*—1. Dr. BLAKE introduced $\frac{3}{58}$ solid form into stomach of a full-sized doe rabbit, Sept. 28th and 29th 1867. On latter d. coat looked rough. 30th.—At 9.30 a.m. $\frac{3}{58}$ of sat. sol. was introduced into stomach. In $\frac{1}{4}$ h. urinated freely, sp. g. 1033. Urinated again p.m. and at n. No sugar at any time. The $\frac{3}{58}$ of sat. sol. was repeated Oct. 1st and 2nd, and on n. of latter rabbit died. It was found lying on r. side, with clear fluid flowing from mouth. P.M., 3rd, 10.30 a.m.—Rigor marked. Stomach largely distended with food; mucous membrane near cardiac orifice friable, with one hæmorrhagic spot; increased vascularity of greater curvature. All other organs perfectly healthy; kidneys microscopically so proved. (*Loc. cit.*)

2. Same gave to 2 young buck rabbits 5 dr. of $\frac{1}{2}$ dil. on 9th, 10th, 11th, and 12th Oct. In first, latest dose (given 11.15 a.m.) caused retching. After pressing lumbar vertebræ laterally between finger and thumb, rabbit turned on l. side as if moribund, and passed a stool. L. eyelids inflamed and agglutinated. Hepatic region seemed tender, but there was no soreness on pinching kidneys sharply. It died in middle of d. P.M., 14th, 10 a.m.—Stomach contained food, and was thickly coated with viscid white mucus. An ulcer as large as a hemp-seed, surrounded by a red areola, on great curvature $\frac{1}{2}$ in. from pylorus. R. kidney very pale, l. dark. Second rabbit died during n. of 12th P.M. at same time as first. Stomach was same as first in every particular, but ulcer was 1 in. from pylorus. Spleen was very small and pale in both, and medullary layer of kidneys of much deeper colour than cortical. All else healthy. (*Ibid.*)

3. Oct. 17th, 11.30 a.m., 10 dr. of sat. sol. were injected into cellular tissue of a rabbit's r. thigh. 18th.—Has taken no food; lies on l. side, making ineffectual efforts to rise. Died in n. 19th.—P.M., 10.30 a.m. Bladder filled with pale urine of alkaline reaction, with copious flocculent deposit, but containing no sugar; fundus extends nearly to umbilicus. Stomach full of food; same excess of mucus as in No. 2; pylorus congested; about 1 in. from pyloric end, and at anterior surface, a yellow patch measuring $\frac{1}{2}$ in., surrounded by a pink congested areola. Liver: lobules very distinctly seen on surface, on which appear a few pale vermiform markings, which prove to be tubes traversing substance of gland. All other organs perfectly healthy. (*Ibid.*)

4. a. October 22nd, 10.30 a.m., injected 1 dr. of $\frac{1}{2}$ dil. under skin of thigh of a full-grown tom-cat. 24th.—Dose repeated. 25th.—Copious salivation. L. eye, which was slightly inflamed before experiment, now weeps much; lids are closed, when forced open purulent acrid matter flows from them; marked photophobia. 26th.—Less salivation; eye better. 27th.—Salivation slight; eye well. 30th.—5 dr. were injected. Nov. 1st.—1 dr. of sat. sol. injected. Copious flow of clear, extremely viscid, alkaline saliva. 2nd.—Rectal temp.

that after several weeks' ingestion of small doses of Uran. mur. or nit. by healthy persons, sugar can be found in the urine" (see *Brit. Journ. of Hom.*, xxxiv, 70). On application being made to the author for the details of his experiments, it was found that he had passed away; so his statement must stand for what it is worth.—EDS.

101.2°; slight salivation. On 4th 5 dr., and on 8th 20 dr. were injected. On latter d. urine is reported "natural in quantity, acid, pale, turbid, contains sugar,* with copious albumen and chlorides;" does not slaver, except under influence of terror; is now much emaciated. 10th.—Coat is rough; purulent discharge from l. nostril; no appetite; ineffectual tenesmus; cough; trembles and totters when attempting to walk. Died that n., lying prone.

b. P.M., 11th, 9.30 a.m.—Stomach and duodenum full of dark blood. Former contains no food; surface covered with pin's-head ecchymosis. In latter are two large ulcers, with well-defined margins, surrounded by congestive areolæ, and with black coagula adhering; one has nearly perforated. Rectum full of very hard dung, and bladder of faintly acid urine, which is albuminous, but contains no sugar. Lungs can be inflated, save in lower lobes, and these float in water; grey miliary spots are scattered over surface, and on cutting through lower lobes similar spots are seen, which, when placed under microscope, look like grey tubercles. (*Ibid.*)

5. Two young rabbits were taken from same litter, and into thigh of one a dr. of sat. sol. was injected. It died 3 d. after, when its fellow was killed, and both examined together. Organs of latter were found perfectly healthy; but in former, on great *cul-de-sac* of stomach, an ulcer was found size of a pea, surrounded by a florid raised border. There were ʒij of pale yellow fluid in abdominal cavity, which coagulated on boiling. (*Ibid.*)

6. Besides the preceding seven experiments, the drug was administered, under the skin usually, to 12 animals—3 rabbits, 7 cats, 2 dogs. With the exception of the eye-symptoms, the results were in the main coincident with preceding observations.

RABBITS.—Of the 3 rabbits, which died in 3, 4 and 5 d. respectively, 2 had congestion near pylorus. 1 had albuminuria (normal in rabbit), 1 had ascites, hydropericardium and pleuritic effusion.

CATS.—Of the 7 cats experimented on, 1st had vomiting, thirst, odenitis, ascites, albuminuria. 2nd, vomiting, thirst, emaciation and hydropericardium. 3rd, vomiting, pyloric congestion, peritonitis and ascites, perinephritis. 4th, pyloric congestion and ulceration. 5th, purulent peritonitis. 6th, highly albuminous urine. 7th, slight albuminuria. All had marked anorexia. The vomiting in the cats is valuable because in each case the drug was introduced into cellular tissue of hind leg.

DOGS.—1. Hydropericardium and pneumonia. 2. Anorexia; no organic change.

Five of this group of 12 animals had vascular changes noted in the neighbourhood of the pylorus. Ulceration was found in one. (*Ibid.*)

* LECONTE affirms that within the first 3 or 4 d. that follow the ingestion of Uran. mur., sugar is found in abundance in the urine when it is possible to procure it, for secretion of urine and action of bowels are suspended on 2nd and 3rd d. (*Arch. gén. de Méd.*, 1854, p. 728.—Leconte's observations are contained in a thesis presented to the Paris Faculty of Medicine in 1853, which we have not been able to obtain. Dr. Curie states that he has verified Leconte's results.—EDS.)

URTICA.

Urtica urens, L., small stinging-nettle; and other species of Nat. Ord. *Urticaceæ*.

I. *Provings*.—1. Dr. REDMAN COXE, jun., proved 1_x dil. of *U. urens*, taking 3 times daily 12 dr. on June 1st and 2nd, 15 on 3rd, and 20 on 4th. 2nd.—Considerable burning in throat, with frequent hawking up of frothy mucus; slight pain in r. deltoid. 3rd.—Pain in deltoid increased, especially in e.; could not put on coat without assistance. 4th.—No stool yesterday or to-day (remarkably unusual); pulse 6 beats faster; itching swelling all over fingers and hands; stinging pain in r. eye and r. parietal bone, compelling him to rub and press. 5th.—Still no stool; throat still burns, and causes him to cough, bringing up some frothy mucus; a large number of bumps on fingers and hands, itching at times very severely; pains in both arms, r. worst, and in both ankles, of rheumatic character; pain in r. eye and r. side of sinciput. 6th.—No stool; took nux vom. 3. In 6 h. a natural stool, followed in 4 h. by several of whitish slime, with pain about umbilicus. For 5 following d. had 2—4 stools a d., white and yellow, with slimy mucus intermixed; with these pains of colicky character and tenesmus. Pain in arms, and also “hives,” continued till 14th, when they disappeared. (HALE'S *New Remedies*, 2nd ed., p. 1107.)

2. Dr. A. R. SHAW, during week ending Dec. 9th, took 10 dr. of 1_x 3 times a d. 4th.—For a short time nausea and burning in throat; during and after m. stool raw burning in anus; p.m. and e. a small hæmorrhoidal protrusion, itching and burning at times quite severe. 5th.—No stool in m. At 2 p.m. a small dysenteric motion—greenish-brown slime, with urging and tenesmus, but no itching or burning. At 3, pressing pain in l. eye. At 7, cramp-like pain in r. deltoid, which feels tender; pain worse on rotating arm inwards; it continued all e., and l. arm felt slightly rheumatic. 6th.—On getting into bed last n., felt heat all over, with soreness of abdomen; pain in arm was increased by lying on it, and became very severe on moving it—a kind of sharp stitch darting through limb. To-day pressing pain over r. eye and in eyeball; pain in arm very severe all d., extending all down front of humerus, muscles feeling very sore, as if bruised; at times pain of similar character in l. arm. At 10 p.m. pain in l. hypochondriac region, and stiff soreness inside l. knee-joint; cannot stretch r. arm from severity of pain, and is unable to raise it. 7th.—Pain in r. arm all d. Dull aching in r. sinciput, extending to malar bone. At 10 a.m. sensation of soreness in bowels while lying down, and on pressure a sound as if they were full of water. At times during d. soreness in r. side of chest. 8th.—Pain in arm gone; eyes feel weak and sore, with pressing pain over them; drowsiness when reading. At 9 p.m. a neuralgic pain in r. face and forehead. A small stool with much straining; has been constipated for several d. (very unusual). 9th.—During d. slight pressure in head, especially over eyes, and slight pain in both arms, with rheumatic pain and stiffness in r. wrist. At 10 p.m. a number of lumps and red spots on hands, and fever-blisters

on lips, itching a good deal. 10th.—Sore feeling, as from a blow, in l. side of chest; all d. fulness of head and giddiness, like a rush of blood to head; for an h. dull aching in head, with stitches in region of spleen. 11th.—Dull aching in occiput and over eyes; pain in eye-balls as if from a blow, with feeling as of sand in eyes. During d. rheumatic pain in r. wrist, slight, and not lasting. 13th.—Rheumatic pain in l. arm, wrist, and fingers. (On 19th there was recurrence of fullness of head of 10th; and from 22nd to 30th he had itching blotches on his hands, as on 9th. These, however, he had had on l. hand before commencing proving. On July 1st an attack of dysentery came on, which lasted a week; on 13th it is noted that hands are still blotchy, but without itching.) (*Ibid.*)

II. *Poisonings*.—1. The *U. gigas* of N. Australia causes by its sting a most acute pain, which is felt for months afterwards—a dull gnawing pain, accompanied by a burning sensation, particularly in shoulder and under arm, where small lumps often arise. Even when the sting has quite died away, the unwary bushman is forcibly reminded of his indiscretion each time the affected part is brought in contact with water. A scientific man, who had broken off a branch and carried it some distance as a curiosity, was wondering what caused the pain and numbness in his arm. (*ALLEN'S Encyclopædia*, x, 47.)

2. A man touched, with first 3 fingers of l. hand, one of the leaves of *U. crenulata* (an Indian species). At the time he only perceived a slight pricking, to which he paid no attention. This was at 7 a.m. The pain continued to increase. In an h. it had become intolerable; it seemed as if someone was rubbing his fingers with a hot iron; nevertheless there was no remarkable appearance, neither swelling, nor pustule, nor inflammation. The pain rapidly spread along arm as far as armpit. He was then seized with frequent sneezing and copious running at nose, as if he had caught a violent cold in head. About noon he experienced painful contraction of back of jaws, which made him fear an attack of lockjaw. He then went to bed, hoping that repose would alleviate his sufferings, but it did not; on the contrary, they continued nearly the whole of the following n., but he lost the contraction of the jaws about 7 p.m. Next m. the pain began to leave him, and he fell asleep. He continued to suffer for 2 d., and the pain returned in full force when he put his hand into water. He did not finally get rid of it for 9 d. (*Ibid.*, p. 46.)

3. A woman of 38 drank by mistake two cups of a strong decoction of *U. urens* at bedtime. At 4 a.m. she was wakened by formication, heat, numbness, and smarting on skin of face, arms, shoulders and chest; lips, nose and ears swelled, and eyelids became œdematous, as if full of water, and closed. This increased up to noon, when upper part of body down to umbilicus, including breasts, was swollen but pale, and œdematous rather than inflamed; it was also covered with confluent small vesicles, like sudamina, from which serum oozed when broken. A sense of intolerable stinging (“urtication”) threw patient into a terror and anguish difficult to describe. In other respects she was free from suffering; breathing and circulation were undisturbed. She was bled, foot-baths and sinapisms were ordered, and the affected parts were

pricked, a quantity of serum being discharged with diminution of swelling. On 3rd d. face became free, but chest and arms remained affected with the eruption, which itched so that patient scratched off the blisters, which exuded a large amount of serum. On 6th d. desquamation set in. Although patient had had no children for 3½ years, and had nursed none of the twelve to which she had given birth, her nipples discharged at first serum, and then a fluid having all the characters of milk. This lacteal secretion lasted 8 d. after the chief troubles had subsided. In spite of nitre, and other diuretic medicines and measures, not a drop of urine was secreted for 12 d., although she began to eat on the 4th d., and had alvine discharges. At last a mixture of asparagus and parsley restored the renal function. (FIARD, *Journ. de Pharm.*, 1835, p. 290.)

VALERIANA.

Valeriana officinalis, L. Wild valerian, heal-all. Nat. Ord., *Valerianaceae*.

I. *Proving*s.—1. (No information.) Coldness; nausea and inclination to vomit, as from a thread hanging in throat,—sensation seems to mount from umbilicus, and causes copious flow of saliva; toothache; wandering pricking pains in teeth and external neck, over orbits, in scrob. cordis, and in umbilicus; sparks before eyes; palpitation; vomiting and purging; fever (“synochus” in type); pressing pain in abdomen; cutting pain in abdomen; strong feeling of expansion in abdomen, as if almost to bursting; abdomen hard (observed at 4th h.); paralytic torpor in limbs; contusive pain in limbs; shooting headache; shooting-pressive headache for 8 h.; rheumatic pains in shoulder-blades and in limbs; drawing pain in back; tearing pain in chest; increased heat; sleeplessness; tossing about. (HAHNEMANN, *Fragm. de Viribus*.)

2. Dr. PIPER took, Feb. 11th, 1838, m., fasting, ʒiv tinct. Taste not disagreeable, cooling like peppermint. After a few m. slight nausea and constriction on tongue like what occurs before vomiting. After ½ h. rumbling and increased heat in stomach, occasional tasteless eructation for 1½ h., relieved by breakfast. All d. great gaiety and sparkling eyes. Towards noon full feeling in stomach, with moderate distension of bowels. Restless n. These symptoms, which did not recur next d., were probably due rather to the unaccustomed dose of spirit than to the drug. 13th, m., fasting, took a knife-pointful of the powder of V. Nausea for ½ h., then warm feeling in stomach. Little appetite at noon, none e. At n. distension of abdomen, causing restlessness.—14th. M., after rising nausea and inclination to vomit, better after eating, when he went into open air. At noon constant rumbling in upper part of abdomen, appetite improved. P.m., some pain in sciatic region from r. trochanter to knee, making walking difficult. Chilliness off and on till e., when he had 2 loose motions with tickling in anus. 11 p.m., when half asleep, feeling as if beaten with a hammer

from within in occiput, must throw his head from one side to the other, which woke him up completely. Soon fell asleep, and passed a good n.—15th, m., great diarrhœa and unusual thirst till noon. (*Allg. h. Ztg.*, xix, 201.)

3. FRANZ.*—After $\frac{1}{2}$ h., pupils somewhat dilated (9 a.m.). After $\frac{3}{4}$ h., in m., dryness for $\frac{1}{4}$ h. of tip of tongue, without thirst; in region of soft palate stitches gradually increasing, finally with bitter taste in mouth and salivation causing cough (from fumes); when putting l. arm on table (writing), drawing pain from deltoid muscle downwards, also in bend of elbow,—on letting arm hang down drawing through whole of it, finally heaviness in fingers as if gorged with blood; pulse 78, with weak almost imperceptible beat of heart (86 beats). After 1 h., pressure (almost twitching) at r. side of lower lip and in gums of r. canine tooth; drawing pressure below r. inguinal ring (in glands) with tenderness on separating thighs, and pain on touching spot; stitch in rectum, standing. For first 3 h. frequent urination. After $1\frac{1}{4}$ h., tremulous, restless, as from anticipating some great joy; stitches on vertex (10 p.m.). After 2 h., penetrating pressive drawing from nape of neck to occiput; on bending head backwards (11 a.m.), pressing and drawing into side of occiput (from fumes); tearing in r. eyeball (do.); eructations before dinner; drawing downwards on outer side of thighs in m., only when stretching lower limbs outwards; sudden stitch in region of heart when sitting upright or standing, lessened from stooping, only when inspiring; pulse 90, during first $\frac{1}{4}$ h. full and strong, in second $\frac{1}{4}$ h. diastole shortened, with pleasant warmth all over body and a tremulous anxious feeling as if from abdomen; pulse irregular, 60 to 90 in successive minutes, weak and small (forenoon); tremulousness and transient chilliness (11 a.m.); pleasantly increased internal and external warmth of body. After $2\frac{1}{2}$ h. stitches in region of kidneys, sitting down. After 3 h., midday, pressive feeling in r. eye, as if from a sty; cheeks become red and hot in open air, without sweat, $\frac{1}{4}$ h. after sweat over whole body, especially face (noon); $\frac{1}{4}$ h. after dinner (meat and vegetables) bitter taste in tip of tongue when licking lips; violent ravenous hunger at midday, causing a sort of nausea,—though thoughts of food are indifferent to him, still he eats with relish and a great deal; during dinner heat in whole body and face, with sweat in hair of forehead. After 4 h., headache 1 h. after dinner, pressure over eyes as if eyes were forced out, especially when moving them. After 6 h., biting in eyes as from smoke (3 p.m.). After 6—8 h., pain while driving in middle of thigh down to below knee along outer side, as if bruised, also in l. ankle-joint, especially when carriage jolts. After 7 h., eructation of a rancid fluid (heartburn), not reaching mouth. After 13 h., shining before eyes in the dark (10 p.m.), the dark room appeared to him as if lit up by dawn, so that he fancied he could discern the objects in it,—therewith a sort of fineness of touch, by which he could feel proximity of objects without looking at them. After 14 h., 11 p.m. in bed, ringing in ears and hallucinations of hearing, thought he heard striking of bell. First d.,

* No information as to this and 3 following provings, save that experiments were mostly instituted on themselves and other healthy persons.—EDS.

stool regular; after 24 h., greenish pappy stool with some blood. Pain in heel, especially r., sitting; bellyache, with pinching (e. in bed) drawing across sacrum (do.); after walking, stiffness and painful fatigue in bends of arms and knees (5 p.m.); eruption, at first red and confluent, then abundant small white hard nodules on arm and over chest; increased warmth all d., especially when moving, with breaking out of sweat on face and forehead, and frequent strong pulse of 80—90; when walking all at once heat and sweat of whole body, especially face; apprehensive, e., in dark (fearing somebody might hurt him) mood more cheerful than before, could perceive and understand everything better, a sort of hilarity, as after coffee. On first n. sleep with confused dreams and great exhaustion in m. On 2nd d., at 9 a.m. oppression and anxiety on chest, after usual breakfast, and bubbling pressure above anus, about and on coccyx. At 10 a.m. burning smarting in eyes. Forenoon, morbid irritability of nerves; though he seems cheerful, and stronger than before, still exhausted feeling in eyes, arms and knee-joints. At noon taste and smell as of stinking tallow (before dinner). Sweat at forehead, and, after eating, exhaustion of eyes as after a debauch. At 1 p.m. tensive pain from bend of knee through calf, sitting; boring pain in l. side of rectum as if in sphincter, standing. At 2 p.m. drawing bruised pain in l. hypogastrium, sitting, extending to middle of abdomen, and soon after rumbling in bowels. At 4 p.m., when beginning to walk, especially on making a false step, pinching pain above bend of r. knee; when putting r. leg over l. tearing in l. calf; drawing in ankle-joint, sitting; heaviness with drawing pain in tips of 3 middle toes, with chilled feeling as if wind was blowing through soles into calves. At 5 p.m. a draught causes immediately drawing pain in r. side of head; tensive pain in r. testicle, sitting; pinching pain in external side of calf, sitting. At 6 p.m., stitches below point of elbow. At 7 p.m., pain in l. hypogastrium, sitting, as from over-stretching. At 9 p.m., dry heat in face and body, sitting. After 10 p.m., violent bellyache in l. hypogastrium. From 10 to 11, painful pressing drawing in hypogastrium. At 10 p.m., pinching pain in front of thigh, extending upwards. At 11 p.m., pressive headache, chiefly over orbits; gastric region and region of liver tender to touch; pressing crampy pain in l. hypogastrium; painful stitches in outer border of deltoid muscle. From 11 to 12 p.m. tearing in bends of knees, sitting and standing; tearing on back of toes, especially of big toes. On 2nd d. simply, pain here and there in abdomen the whole e., once for 1 h. pressing in umbilical region; great exhaustion and sleepiness in e.; increased heat all d. with quick and frequent pulse; in e. repeated flushes of heat over cheeks for 2 h., pulse being only 60, with dry feeling of tongue but without thirst, and not preceded by chilliness,—with this drawing pressive pain in r. side of head, extending into r. orbit, and 1—2 h. afterwards bellyache; sleep full of anxious (partly voluptuous) dreams on 2nd n., e.g. of riding in a carriage in deep water; transient pinching in region of bladder. On 3rd d., crawling and drawing, as if gone to sleep, in penis (m. in bed), on previous d. frequent erections; on rising great lassitude in knees and ankles, with bruised pain transversely across thighs and in sacrum. 7—9 a.m.,

pain in bends of elbows, while writing, as if bruised, extending upwards and drawing to biceps. At 10 a.m., while writing, tremor of hands, heat and redness of cheeks, with warmth of body; pulse 85. At 11 a.m. stitches in inner canthus; stitches in front of head of tibia. At noon, pulse 90, sweat of hair of forehead with stiffness of loins. At 1 p.m. persistent stitches in l. tendo Achillis. 1—2 p.m., pain and swelling of eyelids. At 2 p.m. violent tearing in anus when moving on his chair; sudden stitches in chest, through to region of liver, causing him fright. At 3 p.m. disagreeable (almost painful) itching in axilla. At 4 p.m. tearing up inner side of forearm. At 5 p.m., when pressing his hat on his head, feeling of icy coldness of upper half of head; frequent stitches in chest while riding slowly. At 8 p.m. violent stitches in and pressing outward of last true l. ribs, standing. At 10 p.m. pressure across lower half of chest, with oppression, walking. At 11 p.m. stitches in middle phalanges of fingers, heat of l. hip, like burning, in bed. On 4th d., in m., tearing jerking pain ascending to hips. At 12, sudden jerking drawing in muscles of upper arm above bend of elbow and in outer muscles of thigh. Efflorescence on upper lip and cheek of small white vesicles on raised red margin, painful to touch; pain of patellæ; stitches and pain of heel while sitting; pain in tips of toes. No note of time:—She feels sick and faint, with white lips and icy coldness of body, then vomiting of bile and mucus with strong shuddering. (STAPF's *Beiträge*.)

4. GROSS.—Sudden stunning in head, staggers and almost falls sideways, while standing; transient pain as from blow on vertex, painful stunning constrictive feeling, occupying whole head though starting from vertex as a centre, and disappearing first from other parts, finally from vertex; blunt inward pressure on r. temple, intermittent (after 8 m.); fugitive twitches in r. temple; tight drawing across forehead (after 5 m.); dull tension behind frontal tuberosity; dull pressive contraction in l. forehead; painful drawing round orbits, more towards one side, especially on stooping (after $\frac{1}{2}$ h.); slight twitching in r. auditory meatus (after $\frac{1}{4}$ h.); drawing in l. meatus; fugitive repeated twitchings in l. cheek-bone; painful twitching drawing, transient, in r. cheek-bone (after $\frac{1}{4}$ h.); quick painless twitching from time to time below skin of l. cheek, which he thinks must be visible, but which is not so, —stroking with hand disperses it for a short time; repeated empty eructations; immediately after waking eructation of sulphuretted hydrogen; she has warm risings from stomach oppressing breath; sudden pressure in scrob. cordis, disappearing with rumbling; on cartilage of a l. rib over scrob. cordis blunt-pointed intermittent pressure; a fugitive, sudden, quick cutting from scrob. cordis to region of navel (after $\frac{1}{4}$ h.); bloated stomach; involuntary retraction of abdomen, with pain, pinching, and cutting; winding with some nausea in hypogastrium, as before menses; blunt pressing pain in abdominal muscles, as if bruised or from cold, worse during inspiration; bruised feeling on and about os pubis, increasing at times to a painful pressing or drawing; after regular motion strong urging in anus as if diarrhœa would follow, —this disappears gradually, but returns after some h., so that he has again to go to stool, when he has only a natural motion; strong, hearty

sneezing; fugitive twitchings like electric shocks below r. axilla; during deep inspiration a dull stitch like outward pressure in l. side of chest below axilla, lasting as long as the inspiration,—also pressure causes soreness; violent pain in l. lumbar region above hip, as from over-lifting, worse standing or sitting than walking; in axilla, also in other places, on quite a small spot, pressure or blunt stitches as from a hard blunt instrument; pressure in head of humerus; repeated painful twitchings through humerus like electric shocks; sudden violent transitory twitchings in l. hand, spot hurts even afterwards when touched; repeated electric twitchings through l. thumb; twitchings in muscles of r. hip; while standing, repeated fugitive twitchings in middle of l. femur like electric shocks, then bruised pain there; from time to time dull pressure above l. knee across thigh, then again descending downwards to knee; soreness in outer side of l. knee; blunt pressure under l. knee; great heaviness and lassitude of legs, standing, disappearing sitting (after $\frac{1}{4}$ h.); bruised pain in front of middle of tibiae as if broken (for days); fugitive dislocated pain in r. ankle-joint, worse standing, disappearing from walking; fugitive repeated twitchings in inner margin of r. foot, like electric shocks (after $\frac{1}{2}$ h.); sudden dislocative pain in r. ankle, felt more standing than walking; painful slow drawing and twitchings in bones of limbs, sitting; drawing fugitive twitchings in many spots here and there; superficial twitchings in muscles; yawning and stretching of limbs; pulse tense, somewhat frequent and irregular, sometimes 2—3 beats are quicker; horripilations from nape of neck downwards; chilliness down whole body; warm all over except hip, where she feels as if cold water was poured on her. (*Ibid.*)

5. STAFF.—After $\frac{1}{2}$ h. quickly passing nausea. After $\frac{1}{4}$ h. stupid in head, with flying heat when bending forwards; violent pressure in forehead, followed after a few m. by stitches in forehead, especially over orbits, alternating with pressure,—stitches seem jerking out of eyes (lasting some h.); some stitches below l. short ribs. After $\frac{1}{2}$ h. feeling in head as after intoxication, some excitement; twisting when stooping as if everything was turning round; scratching in throat with ineffectual urging to hawk. After 2, 3, and 4 h. violent deep internal jerking stitches in middle of forehead, coming and going; painful drawing with stitches in muscles of l. arm from axilla to fingers, a sort of tearing, unaffected by posture, much worse after second dose, disappearing after violent stitch in knee while walking, and replaced by pain up and down between l. knee and toes (less walking than sitting), then slighter and entering r. foot; violent stitch from axilla to fingers; heaviness in calves, impeding walking. (*Ibid.*)

6. WISLICENUS.—Rapid change of ideas, as during intoxication; dim confused recollection of former ideas and actions, changing with such rapidity as to render him quite stunned and blank as if dreaming (from fumes). (*Ibid.*)

7. BARRALLIER proved the oil on several persons.

a. 2 dr. in a spoonful of water were taken at 8 a.m., fasting, by a strong man of 40, pulse 64. 9, slight supra-orbital headache, especially on r. side, gradually increased for an h., after which it was replaced

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This CYCLOPÆDIA is compiled under the following instructions, adopted jointly by the American Institute of Homœopathy and the British Homœopathic Society :

1. Give the scientific name and synonyms of each article, and its natural order.

2. Give a narrative of all provings, stating the symptoms in the order of their occurrence, with such condensation as completeness allows.

3. Give, in describing virulent drugs, such selected cases as may properly illustrate the various forms of poisoning by them, condensed as before.

4. Give the results of experiments on the lower animals, where of value ; generally in abstract.

5. Trace all versions and copies to their originals, and verify, correct, or reproduce therefrom.

6. Include, as a rule, no drug that has not shown pathogenetic power in two or more persons.

7. Include in the narratives, as a rule, no symptoms reported as occurring from a drug administered to the sick.

8. Include no symptoms reported as occurring in the persons of provers under the influence of other drugs, or when in conditions or circumstances not allowing a clear reflection of the pathogenetic influence of the article under consideration.

9. Include symptoms reported as coming from attenuations above the 12th decimal only when in accord with symptoms from attenuations below.

The Editors would repeat the appeal made in the Preface to Vol. III for contributions to the Appendix, it being to the interest of all that it should be as complete as possible. References, cuttings and copies of pertinent matter will be gratefully received by Dr. DAKES, Nashville, Tenn., U.S.A., or Dr. HUGHES, Brighton, England.

by slight heaviness of head, a slight pain still remaining over l. eyebrow. Pulse 60. Even up to 2 p.m. there was a little weight in head, and at 3 urine became very copious, of high colour and strong odour; there was also pressure at epigastrium, and tasteless eructation; pulse 80. At 5 all symptoms had disappeared, save some fatigue and dulness of head.

b. A healthy man of 33, pulse 72, took same at same time. At 8.35, slight heaviness of head, as in commencing intoxication; foetid eructations; pulse has fallen to 68; diminished capacity for work; sense of heat at epigastrium. 9, lengthened yawnings; oppression of head continues; pulse 62. At *déjeuner* little appetite, everything tasting of V. (whose odour was also perceived in sweat and urine). In course of afternoon symptoms went off gradually, pulse rising to 76. (*Bull. de Thérapeutique*, lix, 243.)

8. *a.* A healthy man of 21, pulse 80, took 6 dr. in water at 8.30 a.m., fasting. Immediate effect was nausea and salivation, but this soon passed off, and nothing more was noticed till noon, when he had repeated yawnings, and chill; at 1, irresistible drowsiness came on, and he slept profoundly till 3. Pulse, which had fallen to 62, now gradually rose, and at 4 was 96.

b. A healthy man of 19, pulse 64, took same at 8 a.m., fasting. Similar immediate effects followed. At 9, pulse was large, compressible, 56. Nothing more felt till 2, when skin became hot, pulse rose to 78, and face was reddened; agitation set in, then pronounced somnolence. Urine was copious, of deeper colour than is natural, and of strong valerianic odour.

c. Man of 19, in good health, pulse 80, took same at same time. Local effects lasted till 9.30, when pulse was 64. Slight headache and somnolence at 11; at noon profound sleep till 2; on waking, headache had gone, urine was as in last case; pulse at 5 p.m. 90. (*Ibid.*)

9. *a.* Healthy man of 20, pulse 68, took 10 dr. in water at 7 a.m. An h. after, nausea, pulse 56, sense of great dryness at back of mouth; frequent cough; slight headache. At 9, heat of skin; pulse small, contracted, 78; face reddened; nausea and risings of potion. At noon, general malaise; head dull and heavy; great tendency to sleep; dry cough at intervals; pulse 70; urine as previously. No appetite for breakfast or dinner.

b. Strong man of 48 took same at same time, pulse 72. From 8 to 9 pulse gradually fell to 60; weight at temples; heat of skin; urine as before. At 4 p.m. headache; pulse 74. All d. strong distaste for tobacco, though he is a great smoker. At 6, much hunger. Sleepy in e. earlier than usual, and unbroken sleep during n., which he has not known for 3 mos.

c. Robust man of 41, pulse 70, took same. At 10, unusual perspiration, smelling slightly of V.; heavy headache; little capacity for mental work, inclination to sleep; pulse 64. At noon, irresistible sleep, which lasted 3 h.; general fatigue, especially in lower extremities; urine as before. Pulse, which was only 52 on waking, rose gradually towards e. to 72. (*Ibid.*)

10. *a.* ENGLER took at 4 p.m., December 12th, 1822, a fourth part

of an infusion of $\mathfrak{z}\text{ij}$ of root to $\mathfrak{z}\text{xij}$ of water. Through e. he felt eager and more cheerful than usual. Same result followed next d. a similar dose of a $\mathfrak{z}\text{iv}$ to $\mathfrak{z}\text{xij}$ inf. On 14th, same proportion of a $\mathfrak{z}\text{v}$ to $\mathfrak{z}\text{xij}$ inf. made head feel very free, and mental operations seemed carried on more easily and brightly. N. was quiet, but next m. urine was turbid, with a scanty whitish sediment. Last dose, on 16th, was taken from a $\mathfrak{z}\text{vj}$ to $\mathfrak{z}\text{xij}$ inf. N. was restless, and urine in m. turbid, with a mucous deposit, which dissolved on slightly agitating vessel.

b. On Jan. 23rd, 1823, E. took at 4 p.m. $\mathfrak{z}\text{ss}$ of powdered root in water. Sleep at n. was disturbed by dreams, and urine next m. was cloudy, with a whitish mucous deposit. On 24th he took $\mathfrak{z}\text{j}$. During e. he was unusually gay; n. was very restless, with vivid dreams towards m.; urine was as before. Same results followed $\mathfrak{z}\text{iss}$ on 25th and $\mathfrak{z}\text{ij}$ on 31st. (JÖRG, *Materialien*.)

11. a. GÜNTZ took $\mathfrak{z}\text{ij}$ on 9th Dec., $\mathfrak{z}\text{j}$ on 10th, $\mathfrak{z}\text{iss}$ on 11th, and $\mathfrak{z}\text{ij}$ on 12th and 13th, in infusion, without effect. After $\mathfrak{z}\text{ij}$ on 14th, at 4 p.m., slight headache and restless sleep. After same dose on 16th slight general headache till 9 p.m., restless sleep, and bran-like deposit in urine. Same dose on 17th gave same results, but $\mathfrak{z}\text{ij}$ on 18th were without effect.

b. On Jan. 20th, 1823, G. took $\mathfrak{z}\text{ss}$, and on 25th $\mathfrak{z}\text{j}$, in powder, without effect. After $\mathfrak{z}\text{iss}$ on 27th, frequent eructations, afterwards nausea, malaise, fulness in stomach, and headache; n. was restless, and sediment was observed in m.; urine as before.

c. On m. of June 2nd, 1824, G. took an inf. of $\mathfrak{z}\text{ss}$ to $\mathfrak{z}\text{x}$ of water. After rumbling and some cutting in bowels 2 loose stools occurred. On 9th he took a $\mathfrak{z}\text{j}$ to $\mathfrak{z}\text{x}$ inf. After $\frac{1}{2}$ h. slight scraping in throat for 5 m., and sense of fulness in head for 2 h. These effects also followed $\mathfrak{z}\text{ij}$ on 10th and 13th. On these d. there were also diarrhetic evacuations about 2 p.m., pulse and appetite continuing normal; and urine became cloudy as before. (*Ibid.*)

12. a. HAASE took same doses as 10 a without effect, save eructations and scraping in throat, till he came to the $\mathfrak{z}\text{vj}$ to $\mathfrak{z}\text{xij}$ infusion, on 16th and 17th Dec., 10 m. after which copious diuresis began, and continued some h. On 18th and 19th same proportion of a $\mathfrak{z}\text{j}$ to $\mathfrak{z}\text{xij}$ infusion was taken, with similar but no further effect.

b. In Jan. $\mathfrak{z}\text{ss}$ of powder was taken without effect, but $\mathfrak{z}\text{j}$ and $\mathfrak{z}\text{iss}$ doses were followed by eructations and diuresis as before. (*Ibid.*)

13. a. HEISTERBERGK began with the $\mathfrak{z}\text{v}$ to $\mathfrak{z}\text{xij}$ infusion, which had no effect; and the $\mathfrak{z}\text{vj}$ to $\mathfrak{z}\text{xij}$, taken Dec. 16th, produced merely eructations; but latter dose next d. caused after 6—8 m. general warmth over body, lasting $\frac{1}{4}$ h. On 18th the $\mathfrak{z}\text{j}$ to $\mathfrak{z}\text{xij}$ was used, and general heat again ensued, passing off in $\frac{1}{2}$ h. without sweating. On both occasions eructations also occurred. On a double dose of this infusion being taken on 19th, same effects followed; and urine passed in e. showed next m. a whitish sediment.

b. From $\mathfrak{z}\text{ss}$, $\mathfrak{z}\text{j}$, and $\mathfrak{z}\text{iss}$ of powder taken 20th, 24th, and 25th Jan., nothing was observed. From $\mathfrak{z}\text{ij}$ on 28th nothing came save eructations, but on m. of 29th urine was cloudy and sedimentous. On 30th same dose had same effects, but also on rising, 31st, a pressive

feeling in l. hypochondrium, which on coughing or deep breathing rises to acute pain; it lasted unchanged till Feb. 1st. (*Ibid.*)

14. KNESCHKE took all the infusions, but fruitlessly; and the same result followed his trial of the powder, in doses of \mathfrak{zss} — \mathfrak{zij} . In June, 1824, he took infusions of \mathfrak{zss} and then of \mathfrak{zj} in $\mathfrak{z}\mathfrak{x}$ of water. In 2 h. after second pulse fell from 75 to 70, and remained thus for 2 h.; during which time he had sense of fulness in head, with increased warmth of face. On 9th, at 8 a.m., he took a \mathfrak{zj} to $\mathfrak{z}\mathfrak{i}\mathfrak{i}\mathfrak{s}\mathfrak{s}$ inf. After $\frac{1}{2}$ h. unwonted feeling of fulness in stomach, which lasted all forenoon, and at midday and p.m. spoiled his usually good appetite. From 10 to 12 there was congestion to head, with unaltered pulse. On 10th he took \mathfrak{zj} of powder in \mathfrak{zj} water. It was followed by eructations, fulness at stomach, and diminished appetite. On 11th, took $\mathfrak{z}\mathfrak{i}\mathfrak{s}\mathfrak{s}$ at 9 a.m. Same symptoms as yesterday, and also a steady determination of blood to the head. The gastric symptoms lasted on into e. and even n. On 12th, 8 a.m., he took \mathfrak{zj} in $\mathfrak{z}\mathfrak{i}\mathfrak{s}\mathfrak{s}$ water. Eructations were not so frequent or so lasting as yesterday; in region of stomach from 9 till noon feeling of fulness and slight pressure, especially at cardiac end; very little appetite at midday. From 9 to 10 congestion to head, and for first $\frac{1}{4}$ of this h. a not exactly unpleasant dulness of forehead. (*Ibid.*)

15. KUMMER took, Dec. 12th, $\frac{1}{4}$ of the $\mathfrak{z}\mathfrak{i}\mathfrak{i}\mathfrak{j}$ to $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$ infusion. After 3 h. slight pressive headache, spreading from forehead towards vertex, and especially towards eyes, causing pressive feeling in eyeballs slight exertion of eyes. Next d. took the $\mathfrak{z}\mathfrak{i}\mathfrak{s}\mathfrak{s}$ in $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$ inf. at 4 p.m. He noticed confusion of head, changing repeatedly into pressing tearing pain, especially in frontal region. Slept more soundly than usual. Next m. felt as if pharynx were spasmodically contracted, which sensation lasted till 2 p.m. After 4 oz. of infusion $\mathfrak{z}\mathfrak{v}$ in $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$, at after 4 h. troublesome pressing pain in r. frontal region, now and again extending to l. side. Next d. he took the $\mathfrak{z}\mathfrak{v}\mathfrak{j}$ in $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$ at 4 p.m.; towards 7 p.m. felt same pressing headache, which gradually spread from r. frontal region over whole head, ceasing at times but soon returning, but without disturbing sleep at n. This headache passed off during subsequent sound sleep, but returned (less violently) at 2 p.m. Next d., and lasted 3 h. After the $\mathfrak{z}\mathfrak{j}$ in $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$, taken at 4 p.m. on 18th, noticed after 3 h. signs of congestion of head; pressing squeezing headache spreading from r. frontal region over whole head, extending at times to eyes, leaving them sensitive to slight movement, and penetrating occasionally as far as angle of lower jaw on r. side; therewith times feeling like that of a limb "gone to sleep." (*Ibid.*)

16. a. WINKLER took the first two infusions without effect. From the $\mathfrak{z}\mathfrak{v}$ to $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$ he had increased secretion of urine, in which on standing brown flocks formed. He then took the $\mathfrak{z}\mathfrak{v}\mathfrak{j}$ to $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$. In $\frac{1}{4}$ h. unwonted cheerfulness; urine as before. On 17th, experiment of previous d. was repeated. Soon after dose a notable, almost petulant mirthfulness; pulse only a little quicker; urine dark red and turbid, with vermilion brick-dust cloud and sediment. On 18th the $\mathfrak{z}\mathfrak{j}$ to $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$ inf. was taken, with same result,—exhilaration lasting all d. at intervals. No fresh symptoms resulted from repetition of experiment on 19th, save that

pulse was somewhat quicker. Urine retained for several d. condition assumed on 17th.

b. On Jan. 20th W— took ʒss of powder without effect. On 22nd he took ʒj; after which overnight urine showed brown flocks, and became turbid on agitation. On 23rd he took ʒij. After $\frac{1}{2}$ h. feeling of comfort and heightened cheerfulness. Urine as yesterday. On 25th ʒij. No sensorial excitement; the somewhat scantier urine showed mucus in it. 27th.—ʒiiss in ʒiiss water. Felt very uncomfortable and low-spirited, with anorexia up to bedtime. Next m. very languid. Urine for days was brownish and turbid, with a vermilion deposit. It did not become quite normal till Feb. 3rd. (*Ibid.*)

17. PIENITZ took inf. of ʒss to ʒx and of ʒj to ʒiiss without effect. After ʒiiss to ʒiv he experienced all d. sense of pressure and weight in stomach, and had, p.m., two pappy stools. (*Ibid.*)

18. *a.* SIEBENHAAR, at 9 a.m. on 2nd June, 1824, took inf. of ʒss to ʒx. Scraping feeling in throat for $\frac{1}{2}$ h.; after $\frac{1}{2}$ h. movement and rumbling in small intestine, lasting $\frac{1}{2}$ h.; after some h. an altered, indescribable, very troublesome, nauseating taste. On 3rd took inf. of ʒj to ʒx at 8 a.m. After $\frac{1}{2}$ h. movement and rumbling, with slight cutting in bowels, especially about navel, subsiding after $\frac{1}{2}$ h., and resulting in a normal evacuation. After ʒiiss to ʒiiss on 5th same symptoms, and after ʒij to ʒiiss nothing further than greater scraping in throat and slighter movement in bowels.

b. On 10th S. took ʒj in ʒj water at 8 a.m. About 9, violent eructations set in, and recurred frequently up to noon; about 10, rumbling and movement in bowels for about $\frac{1}{2}$ h. He had not his usual appetite for dinner. On 11th took ʒiss, with almost same effect, only this dose disturbed alimentary canal more and longer. On 12th, ʒij in ʒij water. Symptoms of digestive tube still more marked; fulness of stomach, so that little could be taken at meals, with frequent eructations and occasional disposition to vomit. After dinner, fulness of abdomen increased, still greater urging to vomit; indisposition to bodily or mental labour. Towards 4 p.m. disturbances subsided. (*Ibid.*)

19. ENDERS took, Jan. 23rd, 1830, ʒss in ʒj water without effect. On 24th he took, at 4 p.m., ʒj, whereupon during e. occurred pressive headache in r. forehead. On 26th, experiment was repeated, with same result; also considerable reddish deposit in urine. After ʒiiss on 28th headache was much more violent; urine as before. He was not well till 30th. (*Ibid.*)

20. STRÖFER took, Jan. 20th, 1823, ʒss in ʒj water. Frequent eructations; nausea even to vomiting; pressive headache, especially in forehead, all e., and at n. slight sweat. 23rd.—ʒj. Same eructations; greater nausea; pressive headache, but not specially in forehead, rather over whole crown. N. good. (*Ibid.*)

21. JÖRG himself experimented in 1822 and 1824; he gives the result of the latter proving only. On June 9th, at 8 a.m., he took a ʒj to ʒx infusion. The peculiar taste of V. changed in $\frac{1}{2}$ h. to one resembling the odour of violets. Whole body seemed somewhat excited; pulse for 1 h. was accelerated by 4—5 beats, but was not fuller or stronger. Natural appetite for dinner. From 3 p.m. much,

sometimes fœtid, flatulence; from 4 to 5 burning and cramp-like pains in gastric region; bread in e. had little taste. On 10th, at 10 a.m., took a $\mathfrak{z}ij$ to $\mathfrak{z}iiss$ inf. Soon after, fulness in stomach without eructations, changing to canine hunger (prover had not breakfasted yet). In $\frac{1}{2}$ h. after dose slight cutting in umbilical region for 2 m. In 6—8 m. after it feeling of fulness in head, especially under crown, lasting an h., during which time pulse was quickened by 4—5 beats. At noon little appetite; after the canine hunger had subsided he not only felt stomach and abdomen as if replete, but there was a constant rising of a very peculiar scraping and nauseating irritation in œsophagus, without eructations, lasting till e. Also, p.m., distension; urine very bilious, but normal in quantity. N. very disturbed, for 1 h. by cramp-like pain in stomach, throughout by dreams and profuse sweating. Next d. head felt gloomy; he had not his usual appetite; urine still more bilious; stools more frequent than usual, but each scanty and with some tenesmus. On 13th he took a $\mathfrak{z}ijj$ to $\mathfrak{z}iv$ inf., with similar but heightened effects. After $\frac{1}{2}$ h. moderate congestion to head, slight pressure under parietal bones, distension of abdomen. After 1 h. transient cutting in small intestines; diminished appetite, and return of the bilious rising of the previous d. P.m., frequent indications of pressive pain here and there on head. Urine was of a darker brown. (*Ibid.*)

II. *Poisonings.*—1. A patient who took $\mathfrak{z}vj$ of the root daily, in the form of decoction, one n. when about to fall asleep suddenly started up, believing that he saw a great light, and that the side of the ward opposite to him was in flames. Other patients imagined that flashes of fire were darting from their eyes. (BARBIER, *Mat. Méd.*, ii, 153.)

2. I have met with some patients whom V. threw into such agitations and hurries of spirits as plainly showed that it is by no means inert. (HEBERDEN, *Commentaries*, quoted by Pereira.)

3. Perseverance in its use for too long a period induces a decided tendency to low melancholy and hysterical depression. (PHILLIPS, *op. cit.*)

4. Within 8 h. a man of nervous temperament took $\mathfrak{z}ij$ of extract. He became delirious, threatening and vociferating violently. His pulse was frequent, tremulous, and irregular, and the pupils extremely and fixedly dilated. He was blind, recognised no one, imagined himself beset by dangers, and staggered in walking. He had also a constant desire to urinate. After $1\frac{1}{2}$ gr. of morphia pupils contracted, sleep ensued, and in 2 h. he was wakened without difficulty, and in a perfectly rational state of mind. (ABELL, *Bost. Med. and Surg. Journ.*, March, 1856, p. 117.—Stillé, from whom this case is taken, thinks that belladonna or stramonium must have been given to the patient by mistake.—EDS.)

III. *Experiments on animals.*—1. One of the most singular properties of V. is its effect upon cats, which Mathiolus describes in these terms: "Cats are so fond of it that they smell it at a great distance, and purr with delight while they are eating it." Foy paints a still more vivid picture of this singular phenomenon. "In places where V. is stored," he remarks, "cats may be seen rolling themselves upon

it, mewing and purring in the most extraordinary manner, and at last expiring in a perfectly voluptuous frenzy." (STILLÉ, *op. cit.*)

2. GRISAR experimented on animals with the ordinary volatile oil of V. employed in pharmacy, and mentions that every specimen used was highly charged with the peculiar odour of valerianic acid. The general result of his experiments with valerian oil was similar to that of the trials with chamomile oil; reflex excitability was always manifestly reduced, and the specific reflex excitement of strychnia-poisoning was antagonised. (PHILLIPS, *op. cit.*)

VERATRUM.

Veratrum album, L. White hellebore. Nat. Ord., *Melanthaceæ*.

I. *Provings*.—I. HAHNEMANN, *Mat. Med. Pura*, vol. iii of original, vol. ii of translation. Contains 315 symptoms from self, 154 from 5 fellow-observers, and 247 from authors.

2. Sept. 24th, 8 a.m., 2 gr. of root. No effect.—25th, 8 a.m., 4 gr. 9 a.m. and later, pressure in sinciput; repeatedly heat streaming through back into occiput, pressure in ankle-joints and legs, also in shoulders.—29th, 8 a.m., 6 gr. 9 a.m., pressure, heat, heaviness in sinciput, compression in r. ankle-joint; feeling of coldness and burning and shooting in mouth and tip of tongue; burning in œsophagus and stomach, coldness through back, a peculiar feeling of coolness in head, especially sinciput, stiffness in nape, nausea, heaviness in legs and r. arm as if numb. 11 a.m., repeated vertigo, head hot, numb, and stupefied; stiffness in chewing muscles; pulse very slow, even when walking; pain in muscles of l., then of r. upper arm; frequently bright spots fly before eyes; pupils at first contracted, at noon very dilated, vision sometimes indistinct; stiffness and pain in r. calf, great heaviness in legs; weariness and drowsiness even when walking; persistent numbness in l. arm, with pain and stiffness in its muscles; twice sharp burning in l. nostril. Until 2 p.m. very frequent attacks of coolness through head, especially over crown; boring in upper incisors; vertigo, especially when rising from seat, with great pressure on crown, pain in arms, loss of sight, coolness through arms, then feeling in head as of a cold wind blowing through it. 4 p.m., symptoms mostly gone, the head remains confused, numbness in arms, coldness in back, hands very cold, very slow pulse. In e. head heavy, confused; this lasts next d., and repeated tearing in muscles of l. leg.—30th. Stool very costive.—Oct. 10th, 2 gr. 9 a.m., scraping in throat, great coldness in back, sharp burning in tip of tongue, pressure in forehead, all which symptoms disappeared within 1 h.—Nov. 9th, 8 a.m., 4 gr. 9 a.m., stiffness in nape muscles, pain in muscles of r. upper arm, burning in stomach, nausea, heaviness and numbness of head for several h. During forenoon repeatedly cold feeling in head, followed by heat.—10th, 8 a.m., 4 gr. At 8.30 a.m. feeling of heat and burning in stomach, throat, and tongue, together with a feeling of coolness as from pepper-mint lozenge; this continues till noon. 9 a.m. and later, coldness in

back. 11 a.m., feeling of coldness in head, numbness of r. arm.—11th, 8 a.m., 4 gr. Soon burning in stomach, lasting a considerable time, nausea; great coldness in back, cold hands; later great heat in back from 10 till 11 a.m., burning in throat and tongue, head confused, hot; this lasts till 1 p.m.—13th, 7 a.m., 4 gr. 8.30 a.m., drawing and stiffness in calves, then in muscles of l. arm; great heat of head, burning and shooting in tongue. 11 a.m., coldness alternating with heat in back, lasting 1 h. Heaviness, numbness of head, till 2 p.m., attack of vertigo. During all the proving the stool was normal.—Feb. 14th, 1862, 8 a.m., 4 gr. After $\frac{1}{2}$ h. head hot and heavy, pressure in forehead, coldness through back; persistent pain in r. shoulder-joint; scraping in throat, shooting and burning on tongue; feeling of coldness in mouth as from peppermint; much eructation of air for several h. Constant coldness in back and cold hands, blue nails; the coldness goes from back through shoulders into arms, and occurs frequently. 9 a.m., burning in stomach, lasting till 11 a.m. Much saliva in mouth for several h. At noon, numbness of r. arm several times; feeling of a cool current of air through head; weariness when walking; pulse slower even when walking. (LEMBKE, *N. Z. f. h. Klin.*, vii, 73.)

3. a. Dr. SCHELLING took, 31st Jan., 1844, 9 p.m., 1st dil., prepared from dry root. Long of falling asleep, owing to unusually cold feet; they were warm when he went to bed, but gradually got colder. After 4 hours' quiet sleep woke with cold feet, shivering and drawing up the thighs; thereafter cutting burning in cardiac region and præcordium. Rumbling in belly.—Feb. 1st, m., 5j of 1st trit. Cold hands and feet after breakfast. 8 a.m., shooting and tensive pain in r. shoulder. The shooting is first slight, but increases every minute, and spreads from the shoulder to back, making movement difficult, even breathing is painful; pain relieved by pressing part with hand. On removing pressure there ensues burning in skin. Pain much increased by hawking and coughing. Shooting in r. shoulder and neck, stiff neck. Noon, tight and squeezing pain above both hips and loins when walking. E., after eating peas great discharge of flatus. In bed the feet again became cold, though well covered. Dreams. After midnight painful sensation from both feet to knees as if a cold wind blew on them, relieved by rubbing the limbs for a long time with the hand.—2nd, m., tension and shooting in nape, in both shoulders and between shoulders, worse when moving and turning. Secretion of mucus in fauces, and yet dryness and heat there. Watering of eyes. Much yawning, and eructation of air, often renewed after dinner and in afternoon, with pressure in stomach and tension in upper part of abdomen. Stomach feels too full after eating but little. When walking in the snow great and painful forcing out in bowels. Uncommon hernial distress, with rumbling of flatulence. E., vomiting of bitter sour brown mucus mixed with bits of food, 2 h. after a cup of coffee. Supper caused no uneasiness. Dry stool. At n. hands and feet warm, noisy discharge of inodorous flatus. Slept quietly from 11 till 4 a.m. Woke in m. with pain in nape and shoulders.—3rd, 8 a.m., hungry; the attempt to remain without food is prevented by much

yawning and malaise, after taking a cupful of milk and bread he passed all the forenoon without discomfort, except the pain in nape and shoulders. Mucous secretion in mouth and flatulence after dinner. E., cold feet, flatulence. After supper and a glass of wine increase of mucus in mouth. Unusually copious secretion of mucus in mouth, fauces, and throat, he spits up large lumps of mucus without coughing. At n. sleep disturbed by painfully cold feet with frequent waking and change of position.—4th. Stiffness of shoulders and pain in nape, great itching in thighs, on rubbing them small pointed pimples on skin. On waking the eyelids are stuck together and difficult to open. 8 a.m. and e. a dose of 1st dil. Great increase of mucus in throat and fauces, large blue masses like barley-corns are expectorated. Pain in nape and shoulders less. Tensive pain in sacrum and shooting in 4th cervical vertebra. After eating constant expectoration of mucus from mouth and throat. Disposition gloomy, sad, can hardly speak. E., after a glass of wine constant expectoration of mucus for $\frac{1}{2}$ h., with cold hands. At n., though the feet were warm, could not get to sleep for a long time, constantly changes position, the knees commence to get cold. 10 p.m., drawing in thighs, then cold feeling as from snow-water through limbs down to feet, with great restlessness till 3 a.m. In the m. 2 h. of restless sleep.—5th. On waking violent shooting and tearing in r. shoulder, in neck, and occiput, aggravated by movement. Tension and tearing on r. side of neck, which is drawn awry, and is worse on movement, relieved by pressure. 7 a.m., another dose of 1st dil. Great feeling of hunger, frequent diminution of the mucous secretion, pain in shoulder less. After dinner slight pressure in stomach. E., cold hands and feet (after smoking). Sleep restless from 12 to 3 a.m., then pain in shoulder.—6th. Out of spirits in forenoon, disinclined for work, dull. E., after fatiguing walk and leaping violent cramp in both calves on their outer side for $\frac{1}{2}$ h. Sleep quiet, feet warm.—7th. No symptoms. Pain in shoulders and mucous secretion only in m., and slight. All d. quite well.

b. Jan. 19th, 1856, 2 dr. 12th dil. in water and spirits of wine, 3 tablespoonfuls in the d. Nausea and dulness frequently during d., restless, out of spirits. Long of getting to sleep at n., dreams.—21st, m., needle pricks in r. toe frequently during d. with weakness. Frequent sneezing, catarrh, much mucus in nose, dry, smarting cough, especially e., with shivering; pain in sacrum, shoulders, and back, shooting, tensive.—22nd. After restless sleep, pain in shoulders, cramp in feet. M. weary, unrefreshed by sleep, stupid in head, on attempting to get up sinks back in bed, overcome by sleep, dreaming half-sleep with perspiration and heat. All d. very disinclined for exertion.—23rd. Headache, giddiness, stupefying pressive pain in head, shooting in l. side of forehead, little appetite, loathing at food, yawning, nausea, dry cough, with painful stiffness of back, nausea and weariness making him lie down.—24th. Quiet n. Dreams without perspiration. M. very drowsy, head heavy and giddy on rising. After breakfast tearing pressure in scrob. cordis and middle of chest, with spasm of stomach and eructation. Shooting in temples, burning in eyelids. Irritable humour, disposed to anger, when disturbed at work.—25th. At noon

uncommon drowsiness, so much so that when conversing and making an effort to speak the head sinks down, the eyelids close, and the thinking power is lost. All p.m. weary, heavy, giddy in head, unfit for all work. More cheerful after a glass of wine.—26th. Sleep full of dreams at n. In m. weary, also after breakfast and sleepy. Falls asleep while reading, p.m. Diarrhæic stool, e. (*Allg. h. Ztg.*, lxxxiii, 19.)

4. WATTL made a decoction of ʒij of the root in ʒj water; of this he took at 8 a.m. 1 teaspoonful. As after 1 h. he felt no effect he took a tablespoonful. After 3 h. he felt burning hot in his body, in $\frac{1}{2}$ h. more he broke out in profuse perspiration, which lasted 5 h. 6 h. after taking the dose his room appeared quite dark, he could not bear the daylight nor keep his head upright, but must keep it sunk forward on his chest, otherwise he had suddenly violent pain in occiput. Pulse very quick; he felt sometimes hot, sometimes cold, was uncommonly prostrated; at length he vomited ten times, and had even more frequent stools; his features were sunken, face pale, covered with cold sweat, truly Hippocratic. Quiet n. (BUCHNER'S *Rep.*, xxvii, 75.)

5. I have found that 1 dr. of the 1st dil., taken n. and m., will produce constipation in 4 or 5 d. The person on whom this was proved was a healthy young man. (SHARP, *Essays in Medicine*, p. 725.)

6. B. C. E., in full health, pulse 72 and regular, took 2 dr of tinct. at 8 a.m. Immediately, hacking cough, soon attended by hoarseness and expectoration. 8.15, distension of stomach with salivation and eructations. 8.25, cold sweat on hands in warm room; spasmodic cough and tightness of chest. 8.30, spasmodic constriction of throat and lungs; involuntary twitching of extremities; occasional cramps in legs; skin cold. 9, rumbling in bowels with retching, followed by ineffectual desire for stool. 9.15, urgent call to stool, which was copious. 10.15, pulse 90, weak and intermittent; violent pulsations of heart; occasional rigors and flashes of heat. 10.30, call to stool, loose, with nausea. 11, inward heat with thirst and external coldness; great restlessness. 11.10, stitches in heart, extending to spine, with laboured breathing. 12.30, sharp pains in forehead and temples, extending to eyes. 2, stitching pains in bowels and renal region, followed by urination. 4, pulse 66; felt very weak; occasional numbness and faintness on motion. (Dr. A. W. WOODWARD, *Trans. of Int. Hom. Convention*, 1881, p. 34.)

11. *Poisonings*.—1. Two children, æt. $1\frac{3}{4}$ and 5 years respectively, took V. alb. by mistake, the former 4 gr., the latter 7 gr., doses considered to be fatal. Within a few m. both children became cold and fell down; eyes projecting as in suffocation, and saliva running from mouth. They seemed devoid of consciousness within $\frac{1}{2}$ h. Tickling throat with a feather failed to induce vomiting, but rather aggravated symptoms. Milk in large quantities had no effect but scanty vomiting, which only increased the faintness. Both seemed to be at the point of death. Distorted, projecting eyes, disfigured cold countenances, lax muscles, closed jaws, respiration imperceptible. The infant was the worse of the two. The impending death by apoplexy, the failing irritability, at once suggested coffee as an antidote. Warm coffee was introduced into mouth through the clenched jaws, and in large

quantities as an enema. Within 1 h. all danger was gone. Heat, consciousness, respiration returned. A long sleep, during which breathing was slower than usual, refreshed them. The children remained weak and emaciated; and every n. before midnight were attacked with a form of fever, which threatened to prove fatal in a chronic manner. Peruvian bark removed this sequela. Good health then ensued. (HAHNEMANN, *Lesser Writings*, p. 379.)

2. A distiller of Bremen found some dry roots of V., and thinking they were innocuous aromatic roots, he placed them in the retort and distilled brandy over them. After some time he gave this brandy to some members of his household. All who partook of this spirit became extremely tipsy and felt very ill with vertigo, vomiting, diarrhœa, &c. His coachman who was employed in driving his carriage drove about town like a madman. An old sempstress who had drunk a small quantity had to be supported by two persons to her house, and watery stools escaped from her involuntarily. All the symptoms ceased soon. (BARKHAUSEN, *Med. Zeit. v. Ver. f. Heilk. in Preussen*, 5th Jahrg., 1836, No. 7, 35.)

3. A shepherdess baked V. root in her bread instead of caraway. Eight members of the family, aged from 1 to 80 years, ate of the bread and were attacked with pains in abdomen, with a feeling as if the intestines were twisted together in knots; vomiting (after 8 h., in some only next d.) of green bile, the tongue swelled, the mouth felt as if excoriated, there was vertigo and loathing of food. (WAGNER, *Rust's Mag.*, xiv, pt. 3, 547. 1823.)

4. A girl, æt. 15, whose head was infested with vermin, had the powder of V. root sprinkled on her exuding head. She soon began to run about the room in raging mania; the head was hot, face red, pulse febrile, eyes sparkling. The head was shaved, washed with soap, and the mania soon passed off. (KÖCHLING, *Horn's Archiv*, lxxviii, pt. 2, 815. 1835.)

5. Three persons took at 9 a.m. an infusion of V. root in brandy.

a. A woman, æt. 60, after 1 h. had violent burning in throat, œsophagus, and stomach, then great nausea, vomiting of green mucus, urinary tenesmus, soon followed by stiffness and coldness of whole body; pulse from noon till e. could not be felt, respiration quite suspended for some m., then for some m. spasmodic and rattling; face and lips pale, pupils greatly dilated. She seemed to be deprived of reason and sense, was unable to swallow medicine or liquids, ammonia dropped on her tongue produced no effect. Strong rubbing with warm cloths gradually restored warmth, pulse, sensibility, respiration, sight, and power of swallowing. She got decoction of bark and camphor mixture. The next d. she could answer questions, but usually lay in a comatose state, face red, spots like flea-bites on her body, pulse full and strong, headache. She was bled, and various medicines were administered. On the 3rd d. she was out of danger, and only complained of weakness, urinary tenesmus, heaviness of head; she could take nourishment.

b. A man, æt. 60, thin, of delicate constitution with a tendency to hæmoptysis, complained first of violent burning in throat and stomach, nausea, urinary tenesmus, insensibility, stiffness of limbs, and retracted

tongue. After 15 gr. ipec. he vomited 3 or 4 times. After this the burning in throat and stomach subsided, but towards e. he had great exhaustion, dryness of tongue, dilated pupils, complete blindness, spasmodic, small, contracted pulse, and weak interrupted breathing. After being rubbed with warm cloths and taking tea and lemon-juice and decoction of bark during the n., was quite well next m.

c. An apprentice, æt. 28, after taking a small quantity, complained of burning in œsophagus and stomach, paralysed condition of limbs, and vertigo; all the fingers (except l. index and thumb) were paralysed, stiff, and insensible; he felt like a flash of lightning from shoulder to hand; for a short time he lost his sight, pupils dilated. After an emetic of ipec. the symptoms subsided in the e., and he was quite well next d. (*Horn's Archiv.*, xxviii, pt. 3, 1002, 1815.)

6. A fatal case is quoted by Berat from *Schuster's Medical Journal*. A man took twice as much as could be held on the point of a knife, was attacked with violent and incessant vomiting, and lived only from m. to n. Gullet, stomach, and colon were here and there inflamed. (*CHRISTISON, op. cit.*)

7. On Aug. 4th I was requested to see a young married lady who was in a state of collapse. About 6.30 p.m. she had taken by mistake ʒss of the homœopathic mother tincture, made in Germany from the green root. Immediately after taking it she felt soothed and quiet, having been exceedingly nervous before. At 10 her hands and feet became numb, a sensation which gradually extended over whole body. She attempted to rise, but had two attacks of syncope in rapid succession, and was taken immediately after with violent vomiting. At 10.30 I found her pulseless; heart beating feebly and irregularly; resp. 22, regular; eyes fixed and staring, pupils dilated, almost total loss of sight; body covered with cold and clammy perspiration; complete anæsthesia of skin; voice clear and strong, as in collapse of cholera; lips of a bright carmine; mind calm, clear, and collected, though she thought she was dying; incessant retching and vomiting, ejecta being viscid glairy mucus of greenish hue. There was no purging now; but after 3 enemata of brandy and ammonia, in water, which were retained, it set in violently with severe tenesmus. At 1 pulse was perceptible for first time, 38, feeble and intermittent; can now see distinctly; anæsthesia, vomiting, and purging continue. 3, pulse 44; temp. normal; intense thirst. 10, pulse 96; vomiting only occasional; frequent bloody stools; marked pain at l. iliac region, extending to l. hypochondrium, with tenderness on pressure. 6th.—6 a.m., pulse 100; restless n.; tympanites; marked tenderness of l. iliac region; nausea, vomiting at intervals; tenesmus, with bloody stools every h.; anæsthesia persistent; thirst intense. By 8th abdominal symptoms were increased, and mouth was affected—tongue dry, furred, and brown; gums inflamed and tender, bleeding freely at intervals; aphthous ulceration of palate; breath offensive; pyalism profuse. On 10th state was much the same, though stools were no longer bloody; there was still anæsthesia in lower extremities, and a profuse flow of blood from the uterus occurred during n., though catamenia were not due till 22nd. From next d. improvement, continu-

ing up to 18th, when she was taken at n. with violent tenesmus and catharsis, bloody stools, &c., and this attack lasted till end of September (As, however, "marked insalubrity" of the hotel at which she was staying [and from which she was removed Aug. 29th] is mentioned "caused by miasma and defective drainage," and as there were then in the same wing as that occupied by her two cases of dysentery, one of which was "typho-malarial," this second attack is more probably idiopathic than medicinal. It may be a question, moreover, whether the environment had not something to do with the unusually inflammatory character and prolonged duration of the original symptoms.—Eds.) (E. PEUGNET, M.D., *N. Y. Med. Record*, vii, 124.)

8. *a.* In the summer of 1860, 3 members of the same family were affected with symptoms of digestive organs, which terminated in death of the two younger sufferers. *Symptoms.*—In the last d. of June or 1st of July Jean J—, æt. 23, was suddenly seized with violent pain in epigastrium, intense thirst, vomiting, sensation of heat in fauces and upper part of abdomen, some diarrhœa. These symptoms soon subsided. Some time afterwards they recurred without noticeable cause, but in still greater intensity. When seen (Aug. 29th) his face was thin and had an anxious expression, eyes surrounded by a black circle, no sleep for several n., vision only affected during and after the vomiting, no mental symptoms, temperature of skin normal, very weak, anorexia, insatiable thirst, feeling of burning and heat in epigastrium and along œsophagus, acid eructations, frequent vomiting, which was renewed every time he drank; the stools contained some blackish matter resembling blood; stools attended by tenesmus. He died Aug. 31st.

b. A younger brother, æt. 22, soon afterwards showed the same symptoms, excepting the tenesmus and bloody stools; these symptoms persisted, and he died Sept. 14th.

c. Marie B—, mother of the above, an old woman, was on Aug. 24th seized with violent pain in fauces, intense thirst, vomiting of greenish matter, with pain in epigastric region; she passed some liquid stools, and had often very painful flushes of heat from the upper part of the abdomen to chest and lower part of neck; these ended in acid eructations. Seen Aug. 29th she was found to be very weak, noises in ears, sight only affected during the efforts to vomit, she then sees objects through a mist; insomnia, pulse regular, 75; tongue natural, broad, moist; anorexia, thirst not quite so intense as before; uniform redness of m.m. of fauces and slight swelling of tonsils, the flushes of heat not so frequent, feeling of burning in stomach, accompanied by inclination to vomit and acid eructations, no stool since last n. She was treated medically, and recovered about the 20th Sept. She said that when she was in pain her gait was unsteady, her legs weak, and she had to support herself by the furniture. Chemical and physiological examination of the contents of the stomach in the 2 fatal cases led to the conclusion that all three had been poisoned by Ver. alb. (*Gazette Hebdomadaire*, viii, 499.)

9. In excessive dose V. operates as a narcotico-acrid poison, producing gastro-intestinal inflammation and an affection of the nervous system. The symptoms are, violent vomiting and purging (sometimes

of blood), tenesmus, burning sensation of mouth, throat, œsophagus, and intestines, constriction of throat with sense of strangulation, griping pain in bowels, small and in some cases almost imperceptible pulse, faintness, cold sweats, tremblings, giddiness, blindness, dilated pupils, loss of voice, convulsions, and insensibility terminating in death. A cutaneous eruption has in some instances followed the use of V. I am indebted to Dr. Wm. Raynor, of Stockport, for notes of three cases of poisoning by the infusion. The symptoms resembled those just mentioned, except that there was no purging. All three cases rapidly recovered, and there were no after-effects. (PEREIRA, *op. cit.*)

10. Bergius, Brückmann, Etmüller, and others, have described the operation of V. when taken internally. There was often swelling of tongue and soreness of mouth, and in all the cases burning heat in stomach and vomiting were observed, with anxiety, tremor, vertigo, weakness of limbs, faintness, syncope, aphonia, interrupted respiration, a feeble pulse, convulsions, distortion of eyes, dilated pupils, blindness, mental derangement, sometimes prolonged insensibility, and cold sweating of whole body. In not a few instances death resulted, when inflammation of stomach and congestion of lungs were found. When the effects were not fatal, there often remained for several d. debility, tremulousness, muscular twitching, and a sense of constriction and distress in the præcordial region. * * * Powdered hellebore applied to the epigastrium may produce vomiting, and, if the cuticle is broken, the further constitutional effects of the drug may be experienced. (STILLÉ, *op. cit.*)

III. *Experiments on animals.*—1. Wibmer has given an abstract of the experiments of Wepfer, Courtin, Viborg, Schabel and Emmert, Orfila, Hertwich, and others with V., on various animals both small and large. The effects were nearly the same however it was introduced into the system, and consisted of straining to vomit or actual vomiting, salivation, general debility, a small, feeble, irregular, or rapid pulse, slow and laboured respiration, spasms of abdominal muscles, general tonic or clonic convulsions, tremulousness and a tottering gait, increased urine and perspiration, contraction of pupils, and insensibility. After death the lungs were usually found congested, and, when the poison had been introduced into the stomach, the mucous membrane of this organ was red. (*Ibid.*)

2. ORFILA introduced into thigh of dog 15 gr. of powdered root. It caused vertigo, vomiting and purging, and death in 7 h. *P.M.* revealed slight inflammation of mucous membrane of stomach, and red patches of this membrane in rectum. (*Toxic.*, sub voce.)

VERATRUM VIRIDE.

Veratrum viride, Willd. American hellebore. Nat. Ord., *Melanthaceæ*.

I. *Proving*s.—1. Mr. WORTHINGTON took gr. $\frac{1}{4}$ of alcoholic extr. It caused acrid, burning sensation in mouth, and communicated to throat and fauces a sensation of dryness and heat, which finally

reached the stomach. In the course of an h. this feeling became intense, and a disposition to hiccup was excited which soon commenced, gradually increasing in frequency, until it reached 15—20 times in m. This was attended with some sickness and retching, until vomiting took place, which was violent, and recurred every 10—15 m. for space of an h. During this time dizziness and tremor were present. With the hiccup there was copious secretion of saliva, and discharge of mucus from stomach and nose. During action of dose, pulse was weakened so as to be scarcely perceptible, and reduced from 68 to 52. This experiment was repeated 3 times, and in neither was there any disposition to catharsis. (HALE, *New Remedies*, 2nd ed.)

2. a. Dec. 20th, 1832, e., I took 2 gr. of extr. prepared from juice of root. Slight glow in stomach followed, but no other effect. In $\frac{1}{2}$ h. took 4 gr. Nothing occurred for $\frac{1}{2}$ h. save an increase of this feeling; but then began sensation as if stomach were slowly contracting on its contents and forcing them into œsophagus, producing sensation as of a ball at top of sternum. Also, sensation at epigastric region as if a full dose of calomel were operating. About $\frac{3}{4}$ h. after last dose vomiting was produced, without effort or the least nausea. This was several times repeated, and hiccup accompanied; much bile was thrown up, and there was great increase of salivary secretion. Skin with this was cool; much dizziness; cloud before eyes; great prostration; considerable fatigue of muscles; pulse very weak, small and soft, 34 only. Sense of contraction at stomach increased and became very disagreeable, still without nausea. About $\frac{3}{4}$ h. after first vomiting I took ʒss of laudanum, and in 20 m. 45 dr. more. Relief soon followed, and I went to sleep, and slept quietly till next m., when I awoke feeling unusually well.

b. About 8 a.m. took 3 gr. No effect for 2 h., when there began to be queer feelings about head. Sensation of cramp in gastrocnemii followed, with inability to exert them; there was no contraction in them, but rather paralysis. This feeling went off in about an h. At 12.15 took 3 gr. more. Same sensation in gastrocnemii returned, and muscles of forearm were also affected in like manner. Vomiting followed in 45 m., with same symptoms as on n. before, but in less degree. Laudanum again relieved. Two gr., taken in e., caused slight vomiting but no other trouble.

c. I afterwards took gr. $\frac{1}{4}$ every 3 h. for 3 d. A feeling of clumsiness of limbs was produced, and several times the peculiar muscular affection before mentioned. It seemed to affect any muscles that had been fatigued from previous exertion. The feeling of contraction of stomach was occasionally perceived. (W., in *Bost. Med. and Surg. Journ.*, x, 216.)

3. Dr. EPHRAIM CUTTER, April 7th, 1862, put 60 min. of tinct. of his own preparation into ʒj of vehicle, and took $\frac{1}{4}$ of whole at 6.30 p.m., pulse being 60. At 7 pulse was 52. At 7.30 took a second dose. At 9.30 pulse still 52: took another dose. At 10.30, pulse 48; no nausea or unpleasant symptom, save very slight uneasiness at epigastrium. Slept soundly as usual. (*Monthly Hom. Rev.*, vi, 496.)

4. Dr. WOODWARD, æt. 50, very nervous, pulse normally 90,

resp. 20. At 8 p.m., after a busy day, pulse 94, took 8 dr. of Norwood's tinct. In 1 h. pulse 87, resp. 18. In 2 h. pulse 80, resp. 16; took 4 dr. more. In 3 h. pulse 75, resp. 14, lassitude. In 4 h. pulse 65, with sense of sinking at heart, resp. 12; took 3 dr. more. In 10 m. felt nausea; pulse 50, resp. 8. In 15 m. more he vomited; pulse 42, resp. 6; profuse diaphoresis, and sense of utter prostration. Slept well that n., and awoke without any trace of trouble. (*Phil. Med. and Surg. Rep.*, Nov. 3rd, 1860, p. 109.)

5. At noon took 2 gr. pulverised extract. 1 p.m., uneasiness in stomach, not amounting to nausea. This continued till 1.30 p.m. when vomiting ensued, which occurred without nausea, but with a sense of rising in œsophagus like rumination. Felt as though muscular fibres of stomach contracted gradually and steadily on its contents till they were expelled, the diaphragm and abdominal muscles remaining entirely inactive. After the vomiting had continued a considerable time, it appeared to be more the effect of spasmodic action, and was attended with chills and coldness of whole body, but moist skin. After 1 h. vomiting ceased, and was followed by dimness of sight, dilated pupils, vertigo, faintness and drowsiness; pulse 40, hardly perceptible. Took ℥xxv laudanum and fell asleep. After 1 h. woke with same symptoms and dull pain in epigastrium, so again took laudanum. But finding no relief, dimness of sight increasing, and amounting almost to blindness on moving body or turning head, and stiff sensation in muscles, especially temporal and extensors of head, with general prostration, took a double dose of laudanum. This relieved him. (OSGOOD, *Amer. Journ. of Med. Sc.*, xvi, 302.)

6. A medical man took at 9 p.m. 2 gr. In $\frac{1}{4}$ h. slight uneasiness of stomach. 9.30 p.m. 4 gr. 10 p.m. feeling of a ball rising in œsophagus as far as top of sternum, as if propelled by a gradual tonic contraction of stomach. 10.15 p.m. vomiting commenced, at first mildly but then more heaving, ejections chiefly of bile, much ineffectual retching, constant hiccup, chilliness, dimness of vision, vertigo, inability to control voluntary muscles, distress of stomach, pulse small and creeping, 34 (usually 56). Took laudanum ʒss, which sent him to sleep. At 7 a.m. took 3 grs. 9 a.m. confused head and almost entire loss of power of gastrocnemii muscles. At noon, 3 grs. 12.30 p.m. all muscles of forearm similarly affected. 1 p.m. vomiting, pulse 40, and other symptoms of previous d. 2.30 took laudanum, ℥xlvi, and in 2 h. all symptoms subsided except powerlessness of gastrocnemii muscles. 11 p.m. 2 gr., which in $\frac{3}{4}$ h. caused vomiting but nothing besides. The same prover took subsequently $\frac{1}{2}$ gr. every 3 h., which after 3 doses caused uneasiness of stomach and paralysed condition of extensors of feet. $\frac{1}{4}$ gr. every 3 h. caused similar symptoms but less markedly. $\frac{1}{8}$ gr. every 3 h. caused diuresis. (*Ibid.*)

7. Dr. JAMES WATSON and a fellow-student proved a tinct. prepared by Dr. Cutter. At 6.15 p.m., their pulses being 64, they took 8 dr., and repeated dose 3 times at $\frac{1}{2}$ h. intervals, but without effect. Dr. Watson then proved another tinct. prepared by Duncan and Flockhart, taking 8 min. at 3 p.m., and repeating dose at 5. No change in pulse or other effect was observed till 7, when he was troubled a

good deal with flatulence. In a few m. more he began to feel nauseated, and would have vomited had he not restrained the tendency. Force and frequency of pulse were now diminished. Gripping in bowels now followed, also sickness and weakness with considerable pain at epigastrium. There was heavy dull headache with occasional throbbing in temples. Pulse (70 at 3 p.m.) was now 64. Pain in bowels continued, and he felt himself growing weaker; but nevertheless took another 8 dr. at 7. At 7.15 debility was greater still, and he felt that he must soon vomit. Pain in stomach and bowels became much more severe, clammy cold sweat broke out on forehead, and at 7.30 he vomited. By this time his back had become very weak; the retching was attended with intense pain, at times almost amounting to agony. While vomiting, which he continued to do till about 8, it required all his remaining strength to support himself. Pain was at this time most severe over front of chest, with occasional twitching in small intestines. He was now attacked by one or two cold shivers. Feet and hands became cold and numbed, though there was a large fire blazing in grate. This cold numbness crept up legs and arms, and at last whole body felt as if enveloped in cold damp cloths, and he became quite prostrate. Hands and feet were quite cold; pulse 40. Flatulence continued pretty constant till 8.15, when he vomited again, less painfully; clammy cold sweat remained, and whole surface felt benumbed. At 8.30 bowels were slightly moved, and after this gripping nearly disappeared. Depression and prostration continued, but gradually went off after taking some wine. Face was very pale after vomiting, but pupils were not dilated. (*Edinb. Med. Journ.*, ix, 616.)

8. a. Dr. BURT, in perfect health, took at 9.50 a.m., Dec. 21st, 30 dr. of 3x dil. of fl. extr. (prepared with water). 10, sharp drawing pain over l. eye, with contracted feeling of skin of forehead. 10.30, constant dull frontal headache, with neuralgic pains in r. temple, close to eye. 11, dull pains over eye, with quite severe drawing pains in umbilical region; pulse 67. Took 50 dr. 12, slight frontal headache, with pricking pains in region of heart and frequent drawing pains in umbilical region; pulse 70. Took 60 dr. 2, drawing pains in forehead; natural stool. Took 100 dr. 3, dull frontal headache, with pricking pains in præcordial region. Took 150 dr. 5, slight frontal headache; neuralgic pains in region of heart and cardiac portion of stomach. Took 200 dr. 7, very frequent pains about cardia. Took 175 dr. Slight dull frontal headache; neuralgic pains in r. side of umbilicus, passing down to groin; slight drawing pains in r. elbow and calves; sharp flying pains in epigastric and umbilical regions. Pulse 66.

b. Slept well, but had frightful dreams of being on the water. 9 a.m., feeling well, pulse 79, took 3 dr. of fl. extr. 9.30, pulse 76; slight dull frontal headache, with contractive feeling of skin of forehead. 10, took 4 dr. 11, dull frontal headache, with neuralgic pains in temples; sharp pains in epigastric and umbilical regions, passing down to pubes; pulse 71. 12, took 5 dr. 2 p.m., very severe frontal headache, with dull aching pains in umbilical region; pulse 74.

Took 6 dr. 4, constant dull headache; pulse 70. Took 6 dr. 9, head as at 11 a.m.; tongue feeling as if it had been scalded; dull aching in epigastrium; very sleepy. Took 8 dr. 23rd.—Restless n.; frightful dreams of persons drowning. In m. flat taste in mouth; tongue coated yellow along centre. Soft papescent stool. 9 a.m., took 10 dr.; pulse 70. 10, there have been constant and severe cutting aching pains in umbilical region, with rumbling in bowels, and a soft stool. Took 12 dr. Thereupon dull heavy aching pains in region of gall-bladder and umbilicus; arms also ache. 12, took 12 dr. 1 p.m., very severe aching in back of neck, difficult to hold head up; constant burning distress in region of heart; felt very weak, and trembled all over; pulse 46, soft and very weak, hardly to be felt; mushy stool without pain. 2, dull frontal headache; face very pale, nose looks pinched and blue; constant hiccup, with violent and constant spasms of upper œsophagus, causing dysphagia; profuse vomiting of thick glairy mucus and water; profuse secretion of tears, also of saliva; neck aching severely; pulse 44, soft and very weak. 2.20, violent vomiting, with severe frontal headache and hiccup; cannot walk, if he attempts it he is faint and completely blind; obliged to keep in horizontal position. 4, pupils dilated; neck and arms ache severely; dull aching in umbilical region, with rumbling; pulse 44, soft and very weak. 5, still umbilical aching, with sharp neuralgic pains in l. groin; can walk about 10 rods, when he becomes blind and is obliged to sit down; pulse 46. 8, feeling much better; pulse 61, soft and weak; aching still in umbilicus, and also about gall-bladder. Took 8 dr., and retired. 24th.—Slept soundly, but had frightful dreams of water as before. Mouth and tongue as yesterday on waking; slight dull pains in bowels; pulse 64, soft and full. Took 10 dr. 8 a.m., dull aching pain about umbilicus and gall-bladder, occasionally becoming sharp and shooting; tongue felt as if scalded. 10, took 10 dr. 12, dull frontal headache; natural stool, followed by aching in rectum; pulse 55, soft and very weak. Took 10 dr. 1 p.m., very severe frontal headache, and symptoms as on 23rd—hiccup, œsophageal spasms, vomiting, lachrymation and salivation, aching and weakness in back of neck and arms. Pulse was 44, soft and scarcely to be felt; after a short walk became blind and faint, but could sit up without any trouble. Hiccup and spasm lasted 2 h. 2, dull frontal headache; severe aching in neck, very much worse on movement; dull pain in bowels; pulse 46; constant dull aching burning pain in region of heart, under sternum; ringing in ears, and movement quickly brings on deafness. 3, pain in region of heart and in umbilicus, as before; pulse 46, very soft and weak. 5, same, but pulse 57. 6, same, but pulse 60. 10, pulse 66; dull pain in umbilicus, with desire for stool; mushy stool, followed by aching in rectum. Next m. felt well; pulse 66, small and hard. (HALE'S *New Remedies*, 2nd ed.)

9. Mrs. — dissolved 1 dr. of tinct. in Oiss of water, and took a wine-glassful at 8.5 p.m. Pulse rose at once from 74 to 80, and in 5 m. fell to 70. At 9 p.m. nausea, which passed off on eating. (BERRIDGE, *N. Am. Journ. of Hom.*, N. S., iii, 500.)

10. a. Dr. JAMES LILLIE, Dec. 19th, 1865, dissolved 1 dr. of

tinct. in Oiss of water, shook it, and took a wineglassful at 8.5 p.m. Pulse rose at once from 74 to 80, and in 5 m. fell to 70. In first $\frac{1}{2}$ h. had aching in l. humerus just above elbow, which changed soon to l. breast about nipple (this was very slight and transient). It then returned to l. humerus about middle, soon shifting to l. shoulder-joint, lasting longer there than elsewhere, but going off on eating at 9 p.m. Took another wineglassful before 9. Pulse fell at once from 76 two or three beats. At 10 had aching in l. tibia, about middle, for 1 or 2 m. At 10.30 a wineglassful; pulse 82. In 20 m. pulse 80, with slight aching over r. eye, also in r. temple and malar bone just under eye. 20th.—Last n. in bed, itching in l. malar prominence, in orifice of l. ear, and in l. groin. On waking from a short sleep, indescribable sensation rising from forehead towards crown, and grasping as it were vertex and occiput. On waking a second time felt as if waves were rising from stomach into chest. Rose at 7, and at 8 took a wineglassful. Pulse rose at once from 60 to 66, but in 15 m. had fallen to near 60 again. At 9.30 took 2 wineglassfuls, and while riding in an omnibus had pain in r. elbow, which went up to scapula, also aching in l. eye. While sitting, pain in l. tibia returned. At 5 p.m. one wineglassful; at 6.45 (after dinner), 3. Pulse rose at once from 76 to 82, but fell to 76 again in $\frac{1}{2}$ h. In 30 m. pain returned above l. elbow, rose to middle of humerus, and then to shoulder-joint: it was severer than last n. It then went to l. instep and outside l. ankle, also over to r. ankle. At 8.45 took 3 wineglassfuls of a dil. made of 1 wineglassful of former to Oiss of water. Pulse rose from 66 to 72, and fell again in $\frac{1}{2}$ h. While eating at 9 p.m. distinct aching in bend of l. foot inside. On waking next m. pain in l. hip-joint, which soon went to r. 21st.—At 8.15 a.m. took 4 wineglassfuls, after which pulse was 70; in 30 m. it was 62. Pain in l. hamstrings, then in l. instep, and at same time in middle of r. tibia; afterwards a dull steady pain in muscles of l. thigh, and in those above ridge of l. scapula. At 11 p.m. took 4 wineglassfuls of a 3rd dil. made as above. Immediately a sudden severe ache in r. trochanter. 22nd.—At 7 a.m. took 4 wineglassfuls. Immediately, distinct ache over r. eye. At 9.30 took 5. In a few m. severe shooting, suddenly-stopping pain in l. eye. 23rd.—Woke at 4.30 a.m. with violent cramps in both calves. Rose, and had stool before 5, larger and easier than usual. Took 2 wineglassfuls. P.m., steady pain of some intensity about l. nipple. 24th.—At 11 a.m. took 4 wineglassfuls of a 4th dil. prepared as before. 25th.—On waking in m., shuddering for some time, with pains in joints till he fell asleep. On waking again felt shuddering once more, but without chilliness. 26th.—Woke with same shuddering, and with throbbing ache in knee (r.) on which he was lying. On turning to l. side and rubbing knee, pain gradually went off; it then came into l. knee in a milder and less steady form, then went back to r., went off while dressing, but returned at times during d., especially when limb was in a constrained position. Pain in arm also came on when holding anything in hand, and went off on setting it down. Pain in r. knee recurred every n. save one up to 30th, always when lying on r. side (his usual position). It went off as before on turning and rubbing.

b. 30th.—At 11.15 a.m. took 1 dr. of 1st dil. Pulse rose at once from 82 to 92, but in 25 m. was 73, and in 20 m. more 72. One h. after, feeling of dislocation in r. ankle, so severe as to make walking almost impossible. This pain (not unknown to him in former years, but rare of late) lasted more or less all d. In e. had slight return of pain in r. knee, and in l. thigh just above knee. At 10.48 p.m. took 3 dr. Pulse rose at once from 72 to 80, and in 5 m. fell to 76. Felt at once distinct but transient pain at extremity of r. elbow. Pain in r. knee returned, and also that in l. thigh; also some heaviness about forehead, and sharp steady pain about middle of l. instep towards inside, going off gradually in about 1 m. On going to bed very sudden severe lancinating pain in r. hip. Frequent return of throbbing aching in r. knee, and once a little in l., and slight return of that above ridge of scapula, that in middle of l. tibia, and that felt first in humerus above elbow. Also aching in upper part of r. orbit. Much lively dreaming, in which he was continually provoked and baffled. Jan. 1st.—At 8.30 a.m. took 10–12 dr. in $\frac{3}{4}$ ij water. Pulse rose at once from 64 to 76, and fell again in 10 m. A.m., very slight pains in l. shoulder and great trochanter; p.m., something of dislocated feeling in r. ankle. At 10.57 p.m. took 6 dr. Pulse rose at once from 72 to 80, and in 7 m. fell to 70; and there was aching in r. knee about inner condyle of femur, pain soon extending to inner middle of thigh, and wandering to front of thigh and above knee. Inner condyle of l. femur began to be similarly affected, also inner condyle of l. humerus and l. instep. Pains then seemed all to settle in r. ankle outside. 2nd.—Twice during n. towards m. a shuddering; pain felt in r. knee on waking. This m. slight pain in r. knee and ankle. At 11 p.m. took 12 dr. in $\frac{3}{4}$ iss water, sipping it in 2–3 m. Pulse by that time had fallen from 82 to 76. 3rd.—This m. steady ache for a m. or two in middle of l. ulna. At noon took 2 or 3 dr. Pulse rose at once from 70 to 80. In e. made 30th dil. from 3rd, and drank all the intermediate (watery) dils. at once. In a few m. felt old pain above elbow and in r. knee, also above l. knee and in l. shoulder-joint. During n. had several of the former pains, and an itching between r. ala nasi and face. There was also the former aching in upper part of r. orbit, and in line between r. glutei and thigh.

c. Jan. 10th.—At 10.35 took 1 dr. of tinct. in a glass of water. Pulse rose at once from 64 to 76, and in a few m. fell to 70. In first $\frac{1}{2}$ h. slight transient pains in r. and l. knee, and several other parts. After going to bed pain in upper part of l. shoulder, and the itching in l. side of nose. 11th.—On waking, had much slight shuddering in r. and l. shoulder in succession, and afterwards in whole chest, extending into abdomen; also pains in fingers and toes. At 12.30 p.m. took another dr. Pulse rose at once from 78 to 82, and in 5 m. fell to 74. At 4.15 p.m. repeated dose, pulse 92 (after a meal). Pulse rose at once to 98, and in 20 m. was 88. After a few m. more, transitory pains and flying aches occurred in various parts, and returned repeatedly. There was also steady dull pain over r. eye, gradually extending to forehead. During e. pains became severer and steadier than before, chiefly in condyles of legs and arms; there was also a long-continued

steady thrilling about an inch to l. of dorsal vertebræ, 4 in. below scapula. At 10.20 p.m. took another drop. At n. on going to bed intense painful itching in middle of l. eyebrow, and same on first joint of l. index finger. (He had had this feeling before in same and corresponding joint of next finger.) While lying, pain on r. side of l. sole (this also had occurred previously). Had the pain in l. great trochanter and both knees—simultaneously or alternately. 12th.—At 8.45 a.m. 1 dr. In $\frac{1}{2}$ h. had pain in back. During d. felt occasionally usual pains in joints. At 10.45 p.m. another dr. After going to bed, itching on several spots of face. No more was taken till 17th, but former symptoms recurred from time to time, especially in m. on waking.

d. On 17th, at 1.30 p.m., took 3 dr. of 3rd dil. on sugar. Pulse (which had been but slightly influenced by later doses of tinct.) rose at once from 82 to 98. Repeated dose at 7 p.m., with same result. At 10.10 p.m. took 1 dr. in water; pulse 82, did not rise at once, but in 3—4 m. was 88. In first 30 m. after dose several of the old pains recurred. Before going to bed noticed a pain in l. shoulder, and after lying down had itching in face again. 18th.—At 8.15 a.m. took 1 dr. Pulse unaffected. Several pains in forenoon. At noon, 1 dr. on sugar. Pulse rose from 74 to 80, falling again in 5 m. Usual pains occurred during afternoon. At 6.30 p.m. took 3 dr. on sugar. Pulse rose at once from 86 to 106, and in 5 m. fell to 82. The thrilling quivering sensation of the 11th was felt in back all e., over about size of half a crown in extent. Two h. after dose, severe pulsating pains in 1st joint of r. middle finger, lasting 1 m. At 10.30 p.m. 5—6 dr. on sugar. Pulse rose from 72 to 78, and immediately pain set in at lower third of l. tibia. Itching in face at n. On rising next m. found urine passed the n. before turbid, dark, depositing a reddish sediment and covered with a scum. There was smarting this m. upon urinating. At 8.30 a.m. took 7—8 dr. on sugar. Pulse rose from 66 to 72. Pains as usual. At 1 p.m. 3 dr. in water. Again usual pains, and thrilling in back changed once into a severe ache on rising from a reclining posture. At 10.20 p.m. took 7 dr. in water. Pulse rose from 64 to 72, and had not come down in 25 m. For the third time noticed nasal catarrh and sneezing shortly after the dose, soon passing off.

e. Dr. L. finally proved 30th and 200th, with very similar results as regards pulse and (flying) pains, but with no new symptoms. Prover dreamt much, especially of water, throughout his experiment. (*Ibid.*, ii, 505.)

11. Feb. 1, 1862, at 2 p.m., after a light meal, pulse being 70, resp. 16, took 7 dr. of tinct. 3, pulse 65. 4, pulse 60; repeated dose. 6, pulse 50. Took 4 dr. From 6 to 7 there was slight nausea and feeling of weakness throughout body. 8, took 6 dr. 8.30, pulse 46; considerable nausea; no vomiting; indescribable feeling of weakness and lassitude in limbs. Went to bed at 9.30, and slept soundly till m. There was, during the 24 h. following the first dose, a considerable increase in the amount and corresponding decrease in the sp. gr. of the urine. (ABBOTT, *Bost. Med. and Surg. Journ.*, lxvi, 190.)

12. Having taken 20 m. of tinct. of V. vir. in $\frac{3}{4}$ water, nothing

unusual occurred until about 3 h. after, when I went out to walk. I had not gone far when I experienced a sense of weariness in all the muscles of progression—especially the gastrocnemii. I remained out for about an h., and was scarcely able to get home from muscular weakness. At this time I was in a profuse perspiration, and in a few m. was obliged to lie down; pulse was only 30, and not perceptible at wrist. I remained thus for $\frac{1}{4}$ h., cold perspiration pouring off, when my stomach got a little sick. Retching continued for $\frac{3}{4}$ h., food, mucus, &c., being brought up; but I got no relief till I threw up some bitter stuff with the characteristic taste of the V. vir. My mind was perfectly calm all the time; and although I thought it probable I should die, I did not feel alarmed. An unmistakable tendency to cramp was present in my legs when touched or moved. During all this time, if I assumed the erect position even for a m., dimness of sight and partial syncope supervened, which obliged me to resume the recumbent posture. This continued for $1\frac{1}{2}$ h., extremities being quite cold, but clammy perspiration gradually wearing off. After this I slowly recovered, a cup of hot strong coffee doing more good than anything else. (P. M. RICE, *Brit. Journ. of Hom.*, xxiv, 343.)

13. T. L—, æt. 14, took 10 pellets of 3x every $\frac{1}{2}$ h. all d. for 4 d. On 3rd d., vertigo and photophobia, relieved by closing eyes and resting head (in m.). Dull headache in occipital region. Tongue white in centre with red edges and white tip; it does not look like a coated tongue, but as if the blood were pressed out (in m.). Water tastes like lime-water. Very thirsty, drinks little, which relieves for a short time. Thirst with slight nausea an h. after rising in m. Very sleepy. Tenesmus and diarrhœa, copious and offensive stool, with burning of anus and pale face; tenesmus and burning before and up to the stool, but not during and after; felt better after stool. Felt cold in m., after being up $\frac{1}{2}$ h. 4th d.—When rising from a seat or from bed a slight dizziness. Dull headache, occipital, all d. Edges of tongue red, tip white, and centre almost pure white. Submaxillary glands swollen and sore to touch. Pulse 70 and weak (normal pulse 80). Three loose stringy stools, with tenesmus and burning in the anus up to stool, relieved by stool. 5th d.—Dull headache, occipital, all d. 6th d.—Took 5 dr. of tinct. in water every $\frac{1}{2}$ h. Slight occipital headache. One loose stool. 7th d.—Dizziness, nausea, and severe vomiting on rising in m. Pulse slow. Several loose stools during d. with tenesmus; felt better after each stool. Clothes would not fit him, seemed as if they were scratching him somewhere, and he could not relieve himself; constant twitching of different parts of the body, trying to relieve the rubbing sensation. (Dr. SULLIVAN'S provings, from Allen's *Encyclopædia*, x.)

14. E. B. S— on 1st d. took 10 dr. of tinct., p.m. Pulse as frequent but softer than usual (at n.). Slept but little during n.; restless. 2nd d.—Took 5 dr. every $\frac{1}{2}$ h. Face pale. Tongue bright red at tip and edges, white in centre. Usual morning stool, but scanty and soft; at noon tenesmus, followed by loose stool with burning of anus; stool relieves tenesmus; four stools, all the same. Urine scanty. At n., when standing, pulse 58. 3rd d.—Constipated. Two d. later took

5 dr. of 1_x every $\frac{1}{2}$ h. all d. General coldness of body (after $3\frac{1}{2}$ h.). 2nd d.—Took 1_x all d. No effect. 3rd.—Same. No effect. 4th d.—Took $3x$ every $\frac{1}{2}$ h. Slowness of heart's action. Had a severe pain in l. testicle all the time after 2nd d. (*Ibid.*)

15. a. W. E. D.—, 1st d., 10 dr. of $6x$ at 9.20 and 10.20 a.m. and 1 p.m. 2nd d.—10 dr. of 1_x at 10.12 a.m. and 1 p.m. A heavy dull feeling over l. eye, worse when stooping (2 p.m.). Two soft stools in e., at 6 and 7.

b. 1st d.—3 dr. of tinct. at 7 and 10 a.m., and at 2, 6, 6.30, and 10 p.m. Soft stool, discharged easily. Urine very clear. 2nd d.—3 dr. at 7.45 and 11 a.m. Awoke in m. with a frontal headache, which seemed relieved after stool. Ravenous appetite on waking in m. Soft stool with slight tenesmus in m.; during d. several soft stools, but no tenesmus. Decreased amount of clear urine. Pulse 80 and irregular at 7.15 a.m., normal (72 to 76) remainder of d. 3rd d.—Sensation about anus as if something were crawling out or about it, it seemed like a worm. It seemed clothes did not fit well, they irritated wherever they touched; would keep twitching, and it seemed almost impossible to keep still, especially when sitting. 4th d.—10 dr. at 8 a.m., 12 m., and 7 p.m. Tongue red on edges, greyish from tip halfway back, back part grey with red spots size of a pin's head (strawberry tongue). Ravenous appetite at noon. At 1 p.m. while riding was attacked with sudden and fearful tenesmus, which doubled him up in spite of all he could do; an offensive watery stool came with a gush and great force; it came all at once, and that was the end of it; after the stool there was pain in bowels, with ineffectual desire for stool; pains in abdomen continued all afternoon. Pulse 78, full and strong. 5th d.—Desire for stool woke him with urging tenesmus at 6.30 a.m.; stool soft, stringy, and doughy; at 7.30 a.m. another stool of about the same consistence, but not with so much tenesmus. During this proving had no headache after 1st and 2nd d.

c. Took pellets saturated with 30th potency for 6 d. with no results, then took pellets saturated with third potency every $\frac{1}{2}$ h. for 2 d. 1st d.—After 1 p.m. noticed a frontal headache which extended back on l. side of head to occiput; continued all d., more when lying down, especially when lying on occiput. Evacuation of bowels regular, but soft and stringy; had to use some force to start stool from sphincter, it seemed to stick, but after passing it was as described. 2nd d.—Pain in bowels with flatulence; this is a very marked symptom, as the prover seldom passes flatulence. Pain in both testicles. 3rd d.—Flatulence continued all d. 4th d.—Same doses as on 1st d., beginning at 2 p.m. Slept very poorly during n. Flatulence a marked symptom. Pain in bowels ran down into scrotum; pain in scrotum was last to disappear. Two soft stools after 5 p.m., doughy and stringy, with tenesmus relieved after stool. Headache which stopped (? started) at temples, and seemed to take a diagonal course across head (after 2 h.). 5th d.—Alternating soft and hard stool every 2 h.; the soft stool was doughy, stringy, and large; the hard stool of moderate size and followed by pain. Pain in testicles, worse in l., in m. During proving a fulness in l. ear, with continued beating of carotids; he

could hear the beat distinctly. Pulse ranged from 72 to 80, never exceeding the latter.

d. On 1st d. 3rd potency every $\frac{1}{2}$ h. Headache, l. side, back to temple. Stool at 9 p.m., which was doughy and hard to expel; the same again at 12 m., with tenesmus. At 6 p.m. pain in both testicles, worse on l. side, sometimes shoots up cord into abdomen; continued all e. Pulse 80 in e. 2nd d.—Headache, l. side, from before backwards. Tongue white, not coated, looks as if bleached. Pain in lower portion of bowels. One soft stool. Pulse 78 at 7.30 a.m. 3rd d.—5 dr. of tinct. every h. Pain in abdomen. Pulse 68, regular, at 8 a.m.; 72, irregular and soft, at 9; 80, regular, at 10; 84, regular and full, at 11; 83, regular and soft, at 12 m.; 72, regular and full, at 2 p.m.; 76, regular and full, at 3; 83 at 4.30; 82 at 6; 85 at 9; 76, regular, at 11. 4th d.—10 dr. of tinct. at 8 and 9 a.m., 12 m., and 1 and 2 p.m. Dull feeling in head all afternoon and e. Fulness and throbbing in carotid in l. ear; this came on soon after beginning to take drug. Nausea and dizziness, followed by heat of surface, then icy coldness. Pulse 70 at 8 a.m., 85 at 11, 84 at 12 m., 75 at 1 p.m., 80 at 2. (*Ibid.*)

16. J. H. C., æt. 28, took 10th potency every 20 m. from 7 a.m. Heavy dull pain in head with weakness; full, pressing, heavy feeling in eyes. Pain in bowels with nausea; desire for stool with nausea; some wind passed, but not much fæces. Drawing pain in lower thoracic region with nausea. Feet cold and chilly. Slight heat of body and cold sweat of forehead. Pulse (normally 72 to 76) at 9 a.m., 72; 12 m., 68; 1 p.m., 58; 4.30, 76 and full. 2nd d.—Continued same. Vertigo with nausea; head full and heavy. Frontal headache with cold feet and hands. Numb constrictive pain in forehead pressing back to ears, sensation as if membranæ tympani would break. Unsteady vision. Nausea and vertigo with pain in bowels; these symptoms 4 times in succession, 20 m. apart, each lasting 3 to 5 m. Soreness across abdomen and pain in bowels. Urgent desire for stool, but no passage; felt weak and faint. Difficult respiration, with nausea. In e. tickling, spasmodic cough, from just above sternum. At 6 p.m. feet and hands cold, with frontal headache. Skin of head hot and moist. Pulse, 9 a.m., 90, very weak, hardly perceptible; 12 m., 72. 3rd d.—Pain and soreness across abdomen, just above pelvis, continuing all d., gradually decreasing. (*Ibid.*)

17. Mr. CHAS. BULLOCK experimented with the resin of Ver. v. after it had been entirely freed from alkaloids. He took $\frac{1}{3}$ gr. dissolved in alcohol every $\frac{1}{2}$ h. until 1 gr. had been consumed. No effect on circulation, or other result, was noticeable. On a second trial same dose was administered at same intervals till 2 gr. had been taken. No effect on force or frequency of pulse was observed; the only result was great prostration of the digestive functions, subjecting the experimenter to a temporary but severe attack of dyspepsia. (H. C. Wood, *Am. Journ. of Med. Sc.*, N. S., lix, 51.)

18. Dr. WOOD, at 3.35 p.m., pulse 80, took gr. j of resin. 4, stomach feels mawkish and slightly nauseated; pulse 82. 4.15, took another gr. 4.30, pulse 76; slightly nauseated. 5, pulse 80, still

nausea. 5.20, took 2 gr. more. 6, pulse 70; nausea marked, relieved at times by eructations of wind. At 6.30 he took a meal, though food was repugnant to him, and he ate little. All through e. he suffered from tightness, nausea, stomachic wretchedness, with frequent eructations of wind. A glass of whisky gave some relief. (*Ibid.*)*

19. For the following observations patients were chosen in the hospital in a state as nearly approaching to health as possible, and to these the tinct. was administered in increasing doses till a marked effect was produced. In each case patient was put upon a stated diet, and kept in bed for a d. or two previous to administration of drug, their temp. and pulse being frequently noted, so as to compare their normal state with the observations subsequently made.

a. C. G.—, æt. 45, widow, suffering from false angina pectoris, general condition fairly good. After being in hospital for a week temp. and pulse were noted for 3 d. Tinct. was then given in 20 min. doses. Pulse was soon affected, but no fall of temp. worthy of note occurred. After 2nd dose pulse fell within 2 h. 10 to 20 beats in m., and continued so for about 2 h. On rising again to about 60 beats, 3rd dose reduced it within an h. to 50. Two d. later, medicine being given in same way, corresponding results were observed, and there was faintness and retching. Next d. (Dec. 1st) one dose of 40 min. was given at 10 a.m. This reduced pulse in an h. about 10 beats, and till 4 p.m. it remained about 20 beats below average of days on which no medicine was taken. Dec. 2nd, 60 min. were given at 10 a.m. From 9 till 10 pulse had ranged between 64 and 72. One h. after medicine had been taken pulse began to fall, being between 11 and 12 as low as 42, ranging between this and 54 till 2 p.m., and gradually rising till it reached normal rate at 4. Temp., unchanged on previous d., was this d. slightly higher.

b. S. W.—, æt. 48. Admitted complaining of beating sensation in abdomen, which gave rise to much uneasiness at times, and occasionally to vomiting. Pulsations of abdominal aorta were very distinctly felt in epigastric region, but there was no enlargement. Heart healthy. In this case 2 doses of 20 and 40 min. respectively were given on 6th and 7th Dec., smaller dose producing a slight, and larger one a most marked diminution in the number of pulse-beats, within 2 h. of taking medicine. Temp. was not in the least altered. Each dose made him sick, faint, and weak, and 7 h. after latter there was slight headache. (SQUAREY, *Pract.*, iv, 210.)

II. *Poisonings.*—I. C., æt. 1½ years, was given repeated doses of tinct. till he must have taken about 35 dr. in 2 to 3 h. There were efforts to vomit every few m. after 2nd dose. Dr. HARRIS was called to him 7 h. after 1st dose. He found him unconscious, very pale, breathing heavily—almost stertorously; pulse 40; extremities cold, and a profuse cold perspiration over body. Stimulants were given, and mustard applied; but child died in 6 h. more. (*Bost. Med. and Surg. Journ.*, lxxii, 249.)

* Dr. Wood also experimented with the resin on a pigeon and two rabbits. On the latter the effect was *nil*, but the former suffered from repeated vomiting.

2. *a.* On e. of Dec. 18th I was called to see a scientific chemist. I found him sitting in the w.c., vomiting into the pan. His features were sunken, skin cold, and covered with profuse clammy sweat; pulse quite imperceptible. He complained of intense pain about epigastrium. The vomited matter appeared to consist at first of the food and contents of the stomach, afterwards of glairy mucus. I gave him immediately ʒiiss of pure brandy, which checked the vomiting. He was removed to an adjoining room, and laid on a couch in front of the fire. Surface was still very cold, especially on extremities. Clammy sweat continued; but pulse could be felt indistinctly, beating very feebly and irregularly, 44 to m. Two or three efforts at retching afterwards took place, and he once or twice vomited food, mucus, and a small quantity of blood. Warmth gradually returned to surface, and pulse became somewhat better in volume and power. Brandy was repeated at short intervals, and after about an h. he fell asleep, slept for 15 m., and woke saying, "I am right now," as he appeared to be. There was no diarrhœa throughout. He had 2 or 3 times a slight return of the symptoms; did not sleep during n., but was quite easy; and next m. felt only soreness of muscles from retching.

b. The following was his own account of the attack. After saying that he had taken experimentally what he thought a safe dose, viz. ʒj of tincture, at about 4.45 p.m., he went on—"My stomach soon afterwards whispered that I had admitted a troublesome guest. I went upstairs and sat down, thinking a cup of tea would set all right; but the uneasy constriction of the stomach continuing, with a tendency to sickness, made me retire to the closet. The sickness, once commencing, soon became alarmingly violent, with the most excruciating pain in the lower part of the stomach, in spot about size of palm. The feeling was as if all the warm drinks I took to provoke the vomiting went under the pain, making the constriction more and more violent. Finding the case desperate I sent off for medical aid. The pain continued to increase, and the ejection from the stomach was now of glairy mucus with blood, and there was running from nose and eyes. The most painful and profuse cold sweating now came on, and the breathing became more and more laboured. I could not help wondering at the absence of anything like heat or constriction of throat; my mind was perfectly calm; and, although I thought it more than probable that I should die, I did not feel alarmed. Hearing and recognising the voice of one of my medical friends is all I recollect for some time. Immense circles of green colour appeared round the candle, which, as vertigo came on, and I closed my eyes, turned to red. The pain continued excruciating at pit of stomach, and a slight tendency to cramp existed when my legs were touched." The bowels were not moved until (after aperients) second m. (EDWARDS, *Med. Times and Gaz.*, 1863, i, 5.)

3. Dr. WOODBURY prescribed for a gentleman, æt. 45, as an expectorant, 40 dr. of tinct. in ʒj of water, a teaspoonful every 3 h. First dose was taken as directed, but after an h., no effect being felt, patient ventured on a tablespoonful, *i. e.* 20 dr. In 10 to 15 m. he experienced burning sensation in throat, œsophagus, and stomach, dizziness and

pain in head, with dimness of vision, dilated pupils, and severe nausea though little vomiting. Dr. W. saw him $\frac{1}{2}$ h. after 2nd dose. He found him in great distress; very pale, with cadaverous look; convulsive breathing, almost to suffocation; pulse very small, about 40; extremities cold to elbows and knees; profuse cold sweat about hands and face; weakness and stiffness of limbs, with frequent efforts to vomit, and extreme prostration. Emetics (ipec., which acted freely), sinapisms, and stimulants were given. Patient became somnolent, soon followed by lethargy, which continued 4 h., from which he awoke feeling much better, though weak, and complaining of an indescribable sensation, more felt in limbs than elsewhere. (HALE, *op. cit.*)

4. My little girl, æt. 21 mos., got hold of my pocket case, and I found her sitting down drinking medicine. She had a vial of V. vir. in her hand, with the cork out, and its contents emptied. It had contained about $\frac{1}{8}$ drachm of tinct. She could not have had the case more than 5 m. before I discovered her, but in 2 m. she commenced vomiting. I immediately gave half a cup of coffee, and went for some camphor, returning in about 5 m. Her jaws were then rigid, and nothing could be put into her mouth; pupils were widely dilated, face blue, hands and feet cold, no pulse could be found at wrist. I bathed her bowels and back with camphor, when she went into a spasm, with violent shrieks; body was bent backwards, arms rigid and thrown up over head, face dark blue, breathing suspended for several seconds; this lasted about 2 m., and then, after some moments' ease, she went off into another spasm similar to the first. I put her into a tub of warm water, which soon relaxed whole muscular system. Vomiting kept on, with severe retching every few m. for 3 h., when it gradually subsided; matter vomited was a white ropy mucus. She remained pulseless all this time, with blue hippocratic face; hands and feet were shrivelled up, as if they had been in water for a long time. When she was not vomiting she lay in a stupor, with pupils widely dilated. After 3 h. pulse could be counted; it was 36, and very feeble. In $3\frac{1}{2}$ h. after taking the V. she went to sleep, and slept quietly and soundly for 3 h., then awoke well, save for a little weakness. (BURT, in *Ibid.*)

5. A man, æt. 45, had tertian ague. The febrile paroxysm was unusually severe, and lasted 12—18 h. He was taking arsenicum in the apyrexia, but I left a vial of tinct. of Ver. v., and ordered 1 dr. every h. during the fever. By some mistake 5 dr. were given instead. When I saw him he had taken about 30 dr. I was informed that after the third dose he had perspired warmly and freely, vomited very profusely, and complained of burning in œsophagus and some pain in stomach. He seemed prostrate, and I was sent for. When I arrived his whole body was covered with a cold sweat; face, hands, and feet were very cold; pulse 30, full and soft, easily compressible (this was quite different from the small feeble pulse it sometimes causes). He had not had diarrhœa, and the vomiting was not very painful. His pupils were dilated, but there was no headache or dimness of vision. A few oz. of brandy sufficed to antidote the effects of the medicine. He had no more ague. (*Ibid.*)

6. A man, æt. 30, was under treatment for pneumonia. By mistake 7—8 dr. were taken every h. for 4 h. About 10 m. after last dose great uneasiness came on, followed in a few moments by intense pain in stomach. This pain was of a drawing, twisting, pressive character; stomach felt as if drawn tightly against spinal column, causing pain in back (dorsal region). There was at same time drawing pain in cervical region of spine. Patient could not lie on back, as it seemed to increase pressure of stomach on spine. This uneasiness and pain would culminate, every 5—10 m., in a paroxysm of sudden, powerful, and expulsive vomiting, after which there would be a lull of a few moments in the pain. During its intensity there was great nervous sensitiveness; the least noise, as talking, walking across floor, &c., would aggravate it excessively. The vomiting was not preceded by nausea, and was of mucus only; when, however, stomach had been emptied, there was excessive, painful, and ineffectual retching. The pain, vomiting, &c., reached its height about 1 h. after first onset, and subsided in about the same time (under morphia). (SMART, in *Ibid.*)

7. A man of 55, suffering from sciatica, but otherwise strong, dosed himself with Ver. v. macerated in whisky. For about 2 d. he had taken sufficient to produce perspiration, but then suddenly increased dose. He was seized with vertigo and sudden prostration, soon followed by vomiting of bile, and then of mucus and dark-coloured blood; then severe retching and moaning, with great fear of death; pulse scarcely perceptible, and very slow—40 to 45. This state continued about an h., when I gave a dose of arsenicum 3. Soon afterwards retching and vomiting ceased. During greatest depression he complained of being very cold, and his limbs were bathed in cold sweat. Most of the time between the vomiting spells he was lethargic, with slow and difficult respiration. When vomiting ceased he complained of severe constriction about chest, with great anguish. These symptoms continued 10—15 m. He then became quarrelsome and delirious, striking and kicking with r. hand and foot. At times these movements appeared to be involuntary. This mental condition changed to a happy and comical delirious state, which lasted 15 h. There was gradual return to normal pulse and temperature. For several d. patient was troubled with a sour and acrid rising from the stomach. (*Hahn. Monthly*, viii, 46.)

8. A family had taken a large quantity of V. v. in mistake for a table vegetable. Five partook largely of the dish. In 30 or 40 m. they felt extreme sickness and distress at epigastrium, and made several ineffectual efforts to vomit. Prostration, cold extremities, with severe agues, soon followed. Some 3 h. after the poison was taken, I found two so prostrated that the pulse could not be felt at wrist and only slightly in carotids; was told their distress had been excruciating. There had been frequent and severe spasms of stomach and respiratory organs. These, with constant and ineffectual retching, temporary delirium and colliquative sweats, were the chief symptoms. They were given ℥ss sulph. ether, and mustard applied to epigastrium and extremities. Three of them immediately vomited, and threw up a quantity of vegetables; the two

most prostrated were not so affected. Repeated dose every 10 m. and frictions of tinct. capsici, when, after 40 m., free vomiting ensued, pulse and warmth returned, and the patients gradually recovered. (HUBBARD, *Boston Med. and Surg. Journ.*, xix, 31.)

III. *Experiments on animals.*—1. From a number of experiments on dogs with *V. vir.* and veratrine it appeared that the most remarkable effect was on the pulse, which was diminished in frequency to a remarkable degree, in one case from 110 to 14. In this case the dog became perfectly insensible to pain. The respiration was slow but full. In another the pulse fell from 142 to 34. (PERCY, *Trans. of Amer. Med. Ass.*, xiv, 235.)

2. From hypodermic injection of resinoid of *V. v.* in a slut, the stomach, intestines, uterus and bladder were intensely injected. The coats of stomach and intestines were thickened and probably inflamed. Liver dark and congested, heart distended, ventricles full of blood, r. lung congested with ecchymotic spots on its surface. (PEUGNET, *N. Y. Med. Rec.*, vii, 114.)

3. OULMONT, after various experiments on dogs, rabbits, and frogs with the tinct. of *V. ver.*, administered hypodermically, gives following as results of his observations:—"The first effect was on the circulation, a remarkable falling of the pulsations; then a diminution of temperature of 1—5 degrees, the respiration becoming slow and irregular. Then followed vomiting and purging. The most prominent symptom was the extreme prostration, followed by insensibility and total loss of power,—the animal totally insensible to electric shocks or any other irritation. Death, however, rarely ensued; and when it did there were no lesions of the digestive tract." (With *V. album*, on the other hand, these P.M. appearances were very marked, and death occurred constantly and rapidly.) (*Bull. de Thér.*, lxxiv, 152.)

4. Dr. BURT experimented on a very large dog, weighing 60 lbs.; resp. 20, pulse 88. "Injected into jugular vein 15 dr. of Tilden's fl. extr. at 5 p.m. In 2 m., violent vomiting; 3 m., tries to get up but falls to floor; 10 m., pulse 140, resp. 32; 20 m., pulse 120; 35 m., pulse 138; 45 m., pulse 160; 1 h., pulse 100; 1½ h., pulse 110; 2 h., pulse 112; 3 h., same; 5 h., 130. Has been vomiting every few m. all the while: at times he would hold his breath, so that there would be but 4 or 5 respirations in a m. I left him 10 h., and when I returned I found resp. 9 and pulse 102: he could not stand. Tried to inject 25 dr., but dog struggled, and fluid passed into cellular tissue. In 8 m. he became very restless, and pulse had fallen to 88; 30 m. after, pulse 74; 1 h., pulse 60. No vomiting. I now injected 20 dr. into jugular; he immediately began to move and tried to get up and vomit, but he could not. Some bile ran from his mouth in his efforts to vomit. Pulsation of heart was so feeble that I could not find it for 15 m.; then it was 60: it could not be felt any more, and he died in 20 m. after the last injection without a struggle. Autopsy, 20 h. after death.—Great congestion of lungs, especially lower lobes. Heart: Both auricles empty, both ventricles filled with coagulated fibrin, clot extending into aorta and pulmonary vein. Slight congestion of m. m. of stomach, which was filled with bile and

a dirty-looking fluid. A good deal of congestion of small intestines. Other organs natural. (HALE, *op. cit.*)

5. Same injected under skin of fore-leg of a large cat 5 dr. of fl. extr. In 10 m., nausea, and efforts to vomit; 18 m., violent vomiting, flounders about in much distress; resp. 176, while before injection it was 70; 30 m., great prostration, resp. 200, nausea and vomiting; 50 m., violent spasms, flounders about at a fearful rate. After 5 m. of this it became still, with slow, heavy, rattling resp., and died in 5 m. more. Autopsy, 11 h. after death. Arteries of arachnoid greatly congested, though none could be found ruptured. Lungs could not be more congested, looking completely hepatized. R. heart distended with blood, l. empty; about ʒss of fluid in pericardium. Pyloric portion of stomach congested and covered with bile; gall-bladder half full; liver looked congested. All other organs natural. (*Ibid.*)

6. Same injected 8 dr. under skin of a large female cat at 11.24 a.m. In 4 m. nausea; 12 m., violent vomiting, resp.—at first 80—now 100; 20 m., violent nausea and retching, resp. 198, great prostration, cannot stand; 36 m., complete prostration, resp. 202, urinated and had a thin stool; 50 m., resp. 160, nausea. 1.15 p.m., resp. 176; pupils contracted; ears and legs very cold. 1.22, had a short spasm; came near dying, resp. 130, heavy and rattling. At 1.30, resp. was 150; at 2 it was 100, at 3 only 72; at 3.30 it had fallen to 14, and she seemed in great pain. At 4.30 and 6 resp. was 12, and there was great prostration. Six dr. more were injected. At 8 p.m. resp. was 10, and there was complete prostration. In m. she was found dead, but not rigid. Autopsy, 12 h. after death. Cerebellum appears congested. Both lungs very much congested, and apparently hepatized in spots. Pericardium contained ʒss of serum; both ventricles inflamed (?), 1 in. of l. as black as ink; l. ventricle full of coagulated blood, r. empty. Cardiac portion of stomach congested and covered with bile; stomach much distended with air; liver looks congested; mesenteric arteries very much distended. Other organs natural. (*Ibid.*)

7. I killed 7 more cats with V. vir. Nausea and vomiting were produced in all, 5—10 m. after injection. In 5, resp. increased from natural standard up to 200—300, and then would come down to about 15 before death. To keep up the respirations, medicine had to be repeated every ½ h. With two the respirations did not rise above 90; their lungs were found natural, but the heart had evident signs of inflammation, with great collections of serum in pericardium. All but these had violent congestion of lungs; in 3 complete hepatization seemed to have taken place, and in one l. lung adhered to pleura for about the space of a dollar. In those I let live for 3 or 4 d., the lungs were inflamed in small patches. All had signs of inflammation of heart, and a large quantity of serum in the pericardium. All had congestion of stomach, and it was covered with bile and distended with air. The liver in all appeared congested; and all had great distension and engorgement of the mesenteric arteries. (*Ibid.*)

Veratrinum, an alkaloid found in root of *V. album*, and also in seeds of *Sabadilla*. $C_{33}H_{62}N_2O_8$.

I. *Proving*s.—1. ESCHÉ took $\frac{1}{2}$ gr. of acetate. It produced collapse, with pale, cold, wet skin, pinched features, rapid, thready, irregular pulse, violent vomitings, and marked muscular tremblings. (H. C. WOOD, *op. cit.*)

II. *Poisonings*.—1. In human beings $\frac{1}{15}$ gr. twice a d. causes peculiar feeling in stomach, which after larger doses increases to burning; there is often salivation, nausea, vomiting, colic, diarrhoea, sometimes urinary tenesmus, perspiration. Used externally, especially on parts affected with rheumatism or neuralgia, coldness, heat, prickling and shooting, and when its use is continued, dull pains in back, shooting as from electricity in various muscles and joints. If from $\frac{1}{2}$ to 1 gr. dissolved in spirit or mixed with 10 gr. of lard is rubbed in for 10 to 15 m., or in chronic cases 2 to 10 gr. in 1 oz. spirit, it causes immediately heat, burning, prickling from the place of application to various parts of skin, when it suddenly ceases to appear on other parts. Occasionally radiating in electric streams through the nerves, sometimes like boiling water streaming down over back. Also slight twitchings in various muscles. When rubbed in on face or shoulders, especially in hysterical or hypochondriacal persons, violent blows or tearing pains thence to crown. When rubbed in on back, electrical streams to the nerve plexuses of abdomen, breasts and heart, the beats of which are manifestly diminished. When rubbed in on sacrum, spasmodic movements of bladder with discharge of watery urine. All these symptoms cease after 10 to 15 m., but recur. The skin is generally unaltered, but if energetically rubbed in, in febrile diseases or on delicate skin, with a tendency to erysipelas or eczema, there are apt to occur inflammatory redness and very violent pain, sometimes pustular eruptions. (SZERLEZKI, *Oest. Zeit. f. Hom.*, iv, 452.)

2. *a.* After a patient has taken 2 or 3 times $\frac{1}{6}$ — $\frac{1}{4}$ gr. of *V.*, often, indeed, 30—60 m. after first dose, there arises a feeling of tingling, sparkling, prickling in parts remote from stomach, most commonly in points of fingers and toes, sometimes in elbows, bends of knees and shoulders, occasionally on forehead or over eyebrows, more rarely and at a longer interval in thighs, abdomen, or back. Simultaneously with this, or soon after, some patients experience a sense of warmth, others of cold, referred to different regions, mostly in hands and soles of feet, knees, and mouth. While one has feeling as if a stream of warm air or drops of hot water were issuing from these parts, another perceives as it were a frozen atmosphere around the legs, and particularly the knees, as if cold water was poured upon them. Some compare the sensation in the mouth to that produced by sucking peppermint. Generally the warmth occurs when there is integrity of the vital powers, but abdominal torpor; while old hypochondriacs, and hysterical women with predominant asthenia, experience the cold.*

b. Besides the above sensations, it occasionally happens that a pain,

* On the other hand, a few doses sufficed to restore permanent warmth to the feet of a feeble, emaciated, melancholy female, which for years before had remained icy cold.

it may have been of long standing, in some part of the body either suddenly disappears altogether or is replaced by another, equally sudden in its invasion, in some distant part. Examples also are not wanting of a limb or of the muscles of the face, especially if previously the seat of painful or spasmodic paroxysms, becoming seized with starting or tremor soon after taking the medicine. (FORCKE, in *B. and F. M.-Ch. Rev.*, viii, 363.)

3. V. and its salts, in $\frac{1}{8}$ gr. doses, generally give rise to sensation of warmth in stomach, which gradually extends itself over abdomen and lower part of chest. After dose has been repeated once or twice, same feeling is experienced in lower extremities, and particularly in feet; upper extremities and head become also affected in same manner, and, if medicine be pushed further, a sense of tingling exactly similar to that caused by local application of V. manifests itself in various parts of body, and sometimes over whole surface; this is generally accompanied by considerable perspiration and some feeling of oppression; and all these effects are augmented by heat or by use of warm diluents. To this succeeds sensation of coldness; and should administration be continued, stomach becomes affected, and a degree of nausea takes place, followed by vomiting. In a few instances only have these remedies acted as diuretics, and in still fewer as purgatives. No narcotic effect has been observed to arise from their use. (TURNBULL, *Ranunculacæ*, Lond., 1835, p. 19.)*

4. a. A lady afflicted with tic-douloureux swallowed by mistake a dose of a liniment containing V., amounting to about 3 gr. Dr. Blake found her, 2—3 h. afterwards, complaining of great giddiness, sickness, thirst, relaxation of bowels with tenesmus, and sensation as if all intestines were tied together with a strong cord and continually tightened. She said she felt dreadfully tired, weak, and faint, as if she had undergone some tremendous exertion. Tongue was much swollen, and mouth and throat very sore, as if she had swallowed boiling water; pupil was extremely contracted (there was opium in the liniment), breathing hurried, pulse quick and very small; and there was excessive feebleness in action of heart. There was sense of constriction in nares, making swallowing difficult. There were continual calls to micturition, and tingling all over skin, with now and then fits of most unbearable itching in different parts of body, compelling her to scratch and rub vigorously in the most uncontrollable manner.

b. Free emesis was induced, and relieved all the symptoms save the pruritus, which worried her terribly all the d., passing off very slowly, and only really ceasing on 3rd d. For at least 2 mos., moreover, skin was seat of an exceedingly troublesome tingling, as if she had been stung by nettles, but without any rash or other appearance of irritation. Also, for some time after, when she was eating, or laughing heartily, or talking with animation, there would frequently be a spasmodic closure of the lower jaw, which would shut suddenly with a loud snap. (*St. Geo. Hosp. Reports*, v, 69.)

5. A gentleman took by mistake in a glass of hot ale and ginger (a similar glass having been previously imbibed) a liniment containing

* Dr. Turnbull's veratria was made from Sabadilla.—EDS.

29 gr. of V. Almost immediately afterwards he experienced a peculiar sensation of oppression and anxiety in the head, and a sense of suffocation. Discovering his mistake, he sought medical aid at once, and free emesis was induced. In about $\frac{1}{2}$ h. after vomiting, very violent sneezing came on, and continued for about 1 h. Patient then slept, and had no disagreeable symptoms afterwards. (*Pharm. Journ.*, x, 521.)

6. EBERS'S observations were made on patients of various sorts. He says: I have never noticed that the sensorium was in any way affected more when the drug was applied near the nerves of the head; but, on the other hand, when it is applied even in small doses to the scrob. cordis it causes sensible effects in the spinal cord and the nerves proceeding from it, on the nerves of the thorax and of the abdomen. The pain extending through the whole periphery of the nerves of the abdominal walls, drawing along the spine, twitchings, great anxiety, orthopnoea, nausea and vomiting, and a feeling which the patients knew not how to describe, but which they said was intolerable, and they begged urgently to be relieved of this torture. Its internal use caused severe nausea, inclination to vomit, anxiety, vertigo, and complete anorexia. The rubbing in of V. anywhere caused great diuresis. (*Casper's Wochensch.*, 1835, 790.)

III. *Experiments on animals.*—1. ESCHE made a number of experiments on dogs, cats, rabbits, and birds with V. He observed: a few m. after administration of the drug the animal became very restless and anxious, much saliva flowed from the mouth, the heart's beats became irregular, slow and intermitting, the respiration deep and slow. The animal loathes its food, and is tormented by violent efforts to vomit, which sometimes amount to actual vomiting of what has been eaten; there is rumbling in abdomen, which is either spasmodically contracted or distended and soft; sometimes violent diarrhoea ensues, vomiting of viscid mucus, or a gelatinous and even bloody fluid. The evacuation is caused by violent and strong contractions of abdominal muscles, which continue for some time after the evacuation. The respirations become gradually slower and slower. The animal shows anxiety and restlessness, with staring dull eyes. The voluntary muscles become very weak, the head always heavier, and the animal falls down and is unable to rise again. The external surface of the body is cool, there are spasmodic contractions of pharynx and other convulsive affections especially in the lower extremities and facial muscles, but the cerebral functions are not impaired. If the dose was not too large, health returns after copious discharge of fæces and urine with sediment, the skin becomes warmer, the convulsions cease, and the animal regains power in the voluntary muscles; but the loathing of food, the weakness and slow pulse continue for some time. If the dose were stronger, then the nervous life becomes depressed, there is apathy and general atony, the respirations and circulation are gradually extinguished, the convulsions become tetanic, and the animal dies. But even then the animal is sometimes saved by constant evacuations. *P.M.* examination shows the lungs blackish in colour and filled with blood, they crepitate less and often sink in water. The cavities of the heart and the large vessels are filled with black coagulated blood. The liver is

congested, the gall-ducts and bladder are filled with bile, tongue and buccal cavity dry and pale, œsophagus and sometimes stomach also very contracted, but there is never inflammation of stomach, it contains either remains of food and a watery acid fluid or much bile and mucus. The intestinal canal is very contracted, and its m. m. in folds and much reddened; it contains much bile and mucus. The bladder appears to be spasmodically contracted. Nothing abnormal in head except some venous congestion. (*De Veratriæ effectibus*—quoted by von Praag.)

2. VON PRAAG made a number of experiments on dogs, rabbits, and frogs. His conclusions are that when the alkaloid is administered the respiration and circulation are diminished in intensity, the muscles lose their tension, the irritability of many nerves (especially the peripheric cutaneous nerves) is diminished. On the other hand, very small doses cause vomiting and frequently diarrhœa, but diarrhœa follows more frequently large doses. The urinary secretion is sensibly increased, so also is the saliva. The stage of excitement is shown by hurried breathing, quickened pulse, spasmodic tension of muscles, increased nervous irritability. Death seems to ensue from paralysis of spinal cord. (*Virchow's Archiv*, vii, 286.)

Veratroidia, alkaloid obtained from *V. vir.*

I. *Proving*s.—1. *a.* I took of Veratroidine gr. $\frac{1}{80}$ in pill, pulse being 80. In 15 m. pulse was 78; in 40 m., 72. Dose was then repeated, and in 20 m. it was 76, in 30 m. 72. I then took gr. $\frac{1}{40}$. In 15 m. pulse was 70, and continued so at 30 m., when I took gr. $\frac{1}{80}$. In 15 m. it was 76, in 30 m. 72, in 45 m. 70, in 60 m. 68. I now ate a hearty lunch, with two glasses of claret; and 2 h. after took gr. $\frac{1}{8}$, pulse being 80. In 30 m. it was 92, in 1 h. 72, in $1\frac{1}{2}$ h. 80.

b. I now took gr. $\frac{1}{80}$ of the alkaloid from *V. album*, pulse being 70. In 30 m. it was 72, when I took gr. $\frac{1}{40}$. In 14 m. it was 66, in 30 m. 62, in 40 m. 67, when I took gr. $\frac{1}{8}$. In 20 m. pulse was 69, in 35 m. 64, in 1 h. 62.

In neither experiment was there any unpleasant feeling save a slight depression or languor.

c. As above experiments were made 2 h. after eating, I took gr. $\frac{1}{40}$ (from *V. viride*) 4 h. after eating. In 1 h. 20 m. pulse was not materially affected, but about 3 h. after dining a feeling of depression and weakness came on, accompanied with tingling of tongue and lips, which continued for some h., and was exceedingly unpleasant. (PEUGNET, *loc. cit.*, p. 129.)

III. *Experiments on animals.*—The influence of *V.* on the animal may be summed up as follows:

- a.* Locally it is somewhat irritant.
- b.* It is an irritant emetic and sometimes cathartic.
- c.* It exerts no direct influence on the brain or on the pupil.
- d.* It is a direct spinal motor depressant, producing death by asphyxia, and acting at the same time to some extent upon the conducting nerves and the muscles.

e. It depresses the heart's action both in force and in frequency, but

the period of depression is followed by one of reaction, its primary cardiac action being independent of its spinal influence. (H. C. Wood, *loc. cit.*)

Viridia, another alkaloid from *V. vir.*

I. *Proving.*—1. Several trials were made by administering it to persons in health, gr. $\frac{1}{40}$ dissolved in alcohol being administered every $\frac{1}{4}$ h. until gr. $\frac{1}{8}$ had been taken. In $\frac{1}{2}$ h. after taking last portion pulse in each case was reduced 8—12 beats in m. No nausea or other effects were experienced, and the benumbing sensation of aconite was wanting. (BULLOCK, *loc. cit.*)

2. Dr. WOOD, pulse 85 sitting, took at 11.40 a.m. gr. $\frac{1}{18}$ of sulphate in aqueous solution. 12, no reduction of pulse, but ever since taking dose there has been persistent, peculiar numbness in fauces. Took gr. $\frac{1}{8}$ more. 12.15, fauces same; general feeling of languor and quietness; sense of exertion on going upstairs. 12.35, pulse unchanged; repeated dose. 1, pulse when quiet 76; fauces same. Took a hearty meal. 1.40, pulse 76 still; another dose. 2.10, pulse 80; took gr. $\frac{1}{8}$. 2.40, pulse 74; numbness of throat not noticeable. 3.15, pulse 69; another $\frac{1}{8}$ gr. 3.40, pulse 66. 4, pulse 72; took gr. $\frac{1}{8}$. 4.30, pulse 73; another $\frac{1}{8}$ gr. 5.15, pulse 67; decided feeling of weakness; no other symptoms. 5.30, pulse 68; any exertion an effort, and when forced sending pulse rapidly up to 110 (walking once or twice round room sufficient to do this). 6, pulse 70; any exertion painful. A friend coming in asked what was the matter, he looked so languid. 6.15, pulse nearly 70, down at times to 62. At 6.20 took supper, with 2 oz. of brandy, but pulse continued 66—70. No digestive disturbance or other symptom has been manifested since taking the drug, save only the slowing of the pulse and the not unpleasant muscular languor. The benumbing of the throat seemed local, and there was no tingling sensation as from aconite. (*Amer. Journ. of Med. Sc.*, 1870, i, 53.)

III. *Experiments on animals.*—The results obtained by my investigations as to the physiological action of Viridia may be summed up as follows:

- a. It appears to be but very slightly, if at all, locally irritant.
- b. It has no action at all upon the alimentary canal, never producing either vomiting or purging.
- c. It exerts no direct influence on the brain, and the pupil is unaffected by it, except it be an indirect dilatation just before death.
- d. It is a spinal motor depressant (probably directly so), producing death by paralysis of the respiratory nerve-centres, and is without action on the muscles or nerves.
- e. It is a direct depressant to the circulation, lowering the force and rapidity of the blood-stream, slowing the action of the heart, and finally affecting the force of the single beat, independent of any spinal action it may exert. (*Ibid.*, p. 50.)

VINCA.

Vinca minor, L. Lesser periwinkle. Nat. Ord., *Apocynaceae*.

Proving.—1. Dr. ROSENBERG, in conjunction with Drs. Zitter and Buchner and Surgeon Burdach, proved the tincture, the first-named in doses of from 20 to 30, the others in doses of from 30 to 60 dr. No information given as to which was observed the different symptoms. The following are recorded: Tearing in limbs. Trembling sensation in all the vessels (?) of the body. Trembling motion, especially in upper extremities, with tendency to be startled, especially during exertion. Empty feeling in various parts. Gouty tearing in bones. Gastric lesions. Great weakness and faintness. Lachrymose state. Exhaustion as if life were extinguished. Inclination to stretch the limbs. Most of the symptoms ameliorated by movement in open air. Eroding itching inducing scratching, sensitive skin with redness and excoriation from rubbing it a little. Frequent sneezing. Sudden attacks of shivering. Heat with hard full pulse. Sleeplessness. Restlessness at n., lascivious and tiresome dreams. Sadness with fear of death. Irritability, quick anger, and soon afterwards repentance. Whirling vertigo with nausea and flames before eyes. Headache. Confusion of sinciput with slight pressure upon eyes and misty vision, increased by stooping and writing. Pressure upon temples. Tearing pain on top of head, with feeling as if struck with a hammer within outwards. External pressure on head. Shooting in l. temple towards r. side. Eroding itching on hairy scalp with irresistible desire to scratch. Moisture on head with many vermin, and especially nocturnal itching with burning scratching. Great heat in scalp with prickling. Matting together of hair of like *plica polonica*. Itching smarting of scalp, especially in vertex, inducing sneezing. Itching and burning in eyelids, which are red. Dimness of vision when reading. Mist before eyes when reading, sometimes also when walking. A snuff got into his eye it secreted so little water that he had to help it with water. In the ears tinnitus and whistling, with sensation as if wind blew out from them, especially l. ear. Itching of nose. Tiresome dryness and heat in nose to the sinuses. The tip of the nose becomes red on the slightest chill. Moisture on nasal septum; the skin which when opened discharges a yellowish moisture changes to light brown scabs, is dirty white, somewhat raised, with reddish areola. Redness of face. Tearing in zygomata. Heat of cheeks without redness. Swelling of face with eruption of pimples. Itching of upper lip, making him scratch. Dryness of upper lip and corner of mouth. Toothache when chewing. Pain in teeth, but only when out of bed; in the warmth of bed these symptoms disappear. Aphthæ in mouth. Increased secretion of saliva. Diminished taste of all things. Flat taste. Hunger alternating with anorexia without having eaten anything. Complete absence of thirst. Ulcerated throat. Sore throat when swallowing, which is difficult. Feeling as if something were sticking in œsophagus low down, making him to swallow. Great empty eructation. Empty eructation increased by drinking beer and other liquids. Inclination to vomit, also after coffee. Copious secretion of bitter, yellowish-green fluid. Empty feeling in stomach. Abdomen hard and tense, but painless. Flatulence. Pinching in belly. Rumbling in abdomen with discharge of much fetid flatus. Distension of abdomen after stool. Urging stool. Stool first hard, then soft. Exhausting stools with burning in anus. Urine yellow. Little deep yellow urine. Excessive menstruation almost like a stillicidium, with great feeling of weakness. Stoppage of nose, chiefly of one side, with discharge of thick mucus from choana. Frequent epistaxis. Spasmodic cough with slight rattling in larynx. Viscid mucus in trachea. Frequent hawking all d. Hoarseness. Stenosed respiration. Pains in chest with shooting and tightness. Stitches on sternum. Pressure on sternum with empty feeling in chest. Painful tension and cramps in nuchal muscles, with feeling as if a weight lay there. Cramp-like twitching and tearing in upper arm and tips of fingers. Swelling and stiffness of first phalanges, with burning pains in nails. Burning pains and ulcers as from bites on l. natis. Itching, exuding spots above right ankle. Cramp-like twitching in feet and toes. Duration of medicine 8 d. and more. (*A. h. Z.*, xvii, 39, ROSENBERG'S *Weichselzopf*.)

VERBASCUM.

Verbascum thapsus, L. Great mullein, long taper. Nat. Ord., *Scrophulariaceæ*.

I. *Proving*s.—1. HAHNEMANN, *Mat. Med. Pura*, vol. vi of original, vol. ii of translation. Contains 32 symptoms from self and 141 from 4 others.

2. The tinct. of *V. nigrum* and *V. blattaria*, in doses of from ʒss to ʒij, caused slight sense of weight about head, with vertigo, often to considerable extent, but at same time somewhat pleasurable; sensation of sinking and dizziness of sight and drowsiness. Pulse reduced in number and force; when the doses were large the extremities became cold, countenance pale; always pain and oppression at chest, with disinclination to frequent respiration; urine smelt of *Verb.* after 10 m., and subsequently there was some diuresis. In several the quantity of urine increased from 15 to 20 per cent. In one case the increase was from 45 oz. to 57 oz. daily; 2 d. after omitting the medicine it diminished to 40 oz. Bowels always relaxed. (C. BUTLER LANE, *Prov. Med. Journ.*, vi, 90. 1843.)

VIBURNUM.

Viburnum opulus, L. Guelder rose, high cranberry. Nat. Ord., *Caprifoliaceæ*.

I. *Proving*s.—1. Dr. H. C. ALLEN took, July 6th, 1879, 10 dr. of tinct.* 3 times; on 7th, 15 dr. twice; on 8th, 15, 20, and 25 dr.; on 9th, 50 dr.; on 12th, 100 and 50 dr. From March 10th, 1881, took 10 dr. of 30x every m. for a week.—Confused, and unable to concentrate mind on usual mental labour. Dull frontal headache; dull, throbbing, frontal headache, extending to eyeballs, aggravated by mental exertion, and relieved by moving about. Severe stitching darting pain in l. hypochondrium, deep-seated as if in spleen, with sensation as if some hot fluid were running through splenic vessels, relieved by walking about room (e. of 3rd d.); intense pain in region of spleen, producing faintness, relieved by perspiration; severe throbbing pain under floating ribs of l. side, relieved by hard pressure and walking about room (11 p.m. of July 8th till 3 a.m. of 9th); violent throbbing in l. hypochondrium if he attempted to lie on l. side, could not lie on l. side at all; most intense pain in l. lumbar region between floating ribs and wing of ilium,—pressure relieved its intensity, but he must keep continually moving; pain in l. lumbar and l. hypochondriac regions, so intense as to produce faintness, and, though n. was cool, a warm perspiration broke out all over body, giving relief (from 30th, after several doses). After 3rd d. of first proving, stool was small, dry, and composed of hard round balls, evacuated with much effort, and for over 3 weeks after drug was discontinued there was great inactivity of rectum, and no inclination for stool; for 2 mos. after second proving a similar condition obtained,—stool being so large, dry, and difficult that

* Prepared from inner bark of shrub and bark of roots.

mechanical assistance was often necessary to effect (a painful) expulsion. On 3rd d. profuse flow of clear watery urine every h., p.m.; at n. also urine profuse and pale, sp. gr. 1021; same condition m. of 4th d., sp. gr. 1019. Tired, bruised pain in muscles of back, extending from point of scapula to wing of ilium on each side of spine, relieved by firm pressure. Wandering tired pains in muscles of back, worse on l. side; same, extending to hips and knees, with disinclination to move about. Restless and unrefreshing sleep. Muscles of entire l. side of body sore, as from bruising or over-straining. Inability to lie on l. side during entire proving. (*Trans. of Amer. Inst.*, 1881, p. 160.)

2. a. Miss L. F. W— took 10 dr. July 10th at 3 p.m., and on 11th repeated dose 3 times.—Stupid feeling on waking in m., as if she could not tell where she was or what to do. Dull throbbing headache all e., so severe on retiring that she felt ill all over. Sore feeling in eyeballs; heaviness over eyes and in eyeballs, so severe that at times she had to look twice to be sure of seeing an object. Sharp jerking pains in ears like stabbings with a sharp knife, lasting nearly an h. (1st d.). Deathly sick feeling at stomach as if she could not live, not relieved by any position,—this occurred every n. for several d. Rumbling darting pains in bowels; cramping colic pains in lower abdomen during menstruation, pains coming on suddenly and with terrible severity (never had anything like it before), felt as if breath would leave her body and heart cease beating. Diarrhœa during menstruation, profuse, watery, 4 or 5 stools in an h., accompanied by terrible chills, cold sweat running off forehead. Flow (menses) ceased entirely for several h., then came in four large clots, colour of raw beef and solid as liver. Strange buzzing (*sic*) feeling in hands as if they would burst. Tired in m. on rising.

b. After an interval she took 10 dr. of 30th n. and m. for 3—4 d. with similar results. It produced same deathly sickness at stomach, worse at n., and cramping pains in hypogastrium as if going to be unwell.* (*Ibid.*)

3. Miss E. A. C— took 10 dr. of 1_x e. of May 21st; same m. and e. 22nd—25th; and 20 dr. m. and e. 26th—28th.—Whole abdomen tender and sensitive to pressure, especially about umbilicus; bearing-down pains in abdomen as during menstruation, with heavy aching in sacrum and over pubes, accompanied by drawing pains in anterior muscles of thighs, and occasional sharp shooting pains in ovarian regions (on 27th),—this recurred next d. after 3 p.m., and again 3 d. after discontinuing drug, with great nervousness, she could not sit or lie still more than a few m. at a time on account of the pain, therewith a flow just like menses lasting 2 d.† During proving an irregularity of pulse—remission every 3rd beat, of which she had felt nothing for 6 mo., returned. (*Ibid.*)

4. Miss E. M. S— took 10 dr. of 30_x dil. every m. for a week. It caused uneasy sensation in pelvic region and slight bearing-down pains

* This last symptom occurred, chiefly at n., in four young lady provers, who declined to experiment further on account of severity of pains.—H. C. A.

† Proving had begun at mid-menstrual period, so that this flow anticipated next period by 4 d.

all the time; also pain in back, loins, and lower abdomen—"across her"—as if menses were coming on, worse in early e. and in a close room, ameliorated by open air and moving about. Catamenia occurred during following week, and she was entirely free from the pain and uneasiness customary at her period. (*Ibid.*)

5. Miss E. E. B— from Jan. 7th took 20 dr. of tinct. m. and e. for 4 d., without effect. From 26th she took 20 dr. of 30_x dil. in m. for 5 d.—Dull heavy headache, mostly over eyes, worse on l. side, at times extending to vertex and occiput, aggravated by a sudden jar or false step, or by bending over (during delay of menses); severe pain in l. parietal region, pain sharp and penetrating into brain, aggravated by coughing, by moving head, and when bowels act. Eyes heavy; feels almost ill enough to go to bed. On 1st and several subsequent n. awoke with great pain in ears, deep in bone, external ear sore as if bruised; would have to rub ear, and felt as if she must straighten it,—sensation being as if it were pinned to head; she could not lie on affected side, but after lying on other would be awakened with similar feeling in that ear, and was compelled to change position many times during n. in consequence. Menses delayed 10 d.; when flow appeared it was scanty, thin, and pale, and continued but a few h., attended with sensation of tightness of head and nausea, so that she must lie down, when she attempted to sit up she would faint; these last symptoms continued for 10 d. after menses ceased, there was sense of emptiness in stomach accompanying, and they were temporarily relieved by eating; there was thin yellowish-white leucorrhœa for 2 d. following; and subsequently leucorrhœa occurred—thin, colourless save after every evacuation of bowels, when it was thick, white, and blood-streaked. Constipation during entire proving, with great tenesmus; when bowels moved, pain felt in l. orbital region. During menses, obliged every h. or two to urinate, passing at each time large quantities of clear, light-coloured urine. Neck stiff for several d., with pain in occiput. Sleepiness after dinner. (*Ibid.*)

6. S. E. BURCHFIELD, April 7th, took 5 dr. of 1_x dil.; on 18th 10 dr. m. and afternoon, 15 dr. e.; on 19th 15 dr. twice.—Slight frontal headache (forenoon); vertigo, with inclination to turn to l.; severe pressive pain in r. supra-orbital region (in an h.); finally, a severe frontal headache with occasional vertigo set in, continuing severe for 6—7 d., almost incapacitating for study, and accompanied by profuse and frequent urination (this diuresis seems to have begun even before the headache set in). (*Ibid.*)

7. H. K. BRASTED took 10 dr. of 1_x each d. for 4 d.; three weeks later took 20 dr. once.—Profuse discharge of watery urine, repeated quite regularly every h., p.m. and e. of 3rd d.; on 4th d. after each micturition was a constant sensation as if urine continued to flow. Severe pain and swelling of epididymis and testicle of l. side; next d. epididymis of r. side so painful and swollen that he was obliged to use a suspensory bandage.* Severe pain in renal region, relieved by press-

* Prover had been subject to attacks of epididymitis from cold or violent exercise, but on this occasion had been exposed to neither.—H. C. A.

ing across back with arms crossed; felt again next d., but less severely (without repeating dose). (*Ibid.*)

8. H. C. KASSELMANN, Feb. 27th, took 20 dr. of 1_x in e.; 28th, took same m. and e.; March 1st—4th, same.—Dull aching over l. eye; headache beginning about 3 p.m., worse at n. Dizzy feeling all the time; vertigo on rising from seat, feels as though he would fall forwards; vertigo on closing eyes, p.m. Eyes burn, can hardly see on account of profuse lachrymation (3rd d.). Aching in stomach, p.m., relieved by stretching body and throwing stomach forwards. Constipation; stool long, large, hard, and difficult to expel; has desire to evacuate, but when attempting feels as though there were nothing there, and evacuation occurs slowly, and only after long straining. (*Ibid.*)

9. J. F. FLINT, Dec. 13th, took 15 dr. of tinct. m. and e.; from 15th took same in m. for 4 d. consecutively.—Obstinate constipation, desire for stool with much straining (3rd d.); stool large, hard, and when passed attended with cutting sensation in rectum and anus,—during and immediately after stool profuse hæmorrhage of dark red blood (4th d.); no stool on 5th d.; on 6th stool hard, dry, with blood and great soreness of anus; on 8th d. scanty and hard, with hæmorrhage, and sensation of constriction of rectum and anus. (*Ibid.*)

10. M. COLLIN took in several doses \mathfrak{J}_{ss} of 1_x dil.—Constipation; there was urging to stool as if it would be dangerous to postpone, but stool was large and difficult to pass. (*Ibid.*)

11. R. H. BEAL took \mathfrak{J}_{ss} of 30th in two weeks.—Severe dull frontal headache. Profuse discharge of clear watery urine for several d. in succession, sp. gr. low. (*Ibid.*)

12. E. D. BORORF took repeated doses of 10 dr. of 1_x dil. for several d.—Inability to study, to such an extent that he abandoned proving. Dull supra-orbital and frontal headache, with profuse flow of clear watery urine.* (*Ibid.*)

13. a. Several persons, 4 women and 3 men, took 5—10 dr. of tinct. every 2 h. for several d. with varying results. The only symptom experienced by all was an unusual exaltation of spirits. I myself experienced this to a notable degree, as did also my assistant, Dr. Penfield; a big day's work and a hard work before me seemed as nothing. This in some cases seemed the primary action only of the drug; some of the provers had a decided reaction, and were depressed in spirits after ceasing to take the drug. I had no such symptom.

b. All the lady provers experienced some unusual symptoms in the uterine region; one of them, a healthy young married woman, was troubled with a profuse and unusual leucorrhœa. All felt more or less "unwell pains" in the back.

c. The most marked and painful symptoms were experienced by a young man of about 22. He is of nervous sanguine temp., and very sensitive; his health is good. He took first about 10 dr. of tinct., and an h. later 15 dr. Within $\frac{1}{2}$ h. he had severe headache, with fiery red face, and confusion of mind to such an extent that, although an entry

* Several analyses were made of urine of different provers, but no morphological elements were found.—H. C. A.

clerk by occupation, and very accurate, he made numberless and stupid blunders in addressing a lot of envelopes. He also was tortured and doubled up by severe cramping pains in stomach and bowels. He was extremely angry with Dr. Penfield, accusing him of deliberately poisoning him.* (HAWKES, *ibid.*, p. 185. Dr. Hawkes also gives a "Schema of the provings of *Viburnum opulus*," but as he supplies no information as to how these were obtained, we must defer their insertion till further light is thrown upon their origin.—EDS.)

II. *Poisonings*.—Mrs. P—, æt. 49, consulted me for flushes of heat, pain in l. side, dizziness when stooping. I prescribed *V. op. θ*, a pilule every 3 h. In a fortnight she reported dizziness quite well, flushes and pain much better, but added, "The first week after commencing it I could not hold my water when I coughed or walked about, and I also passed water during sleep without knowing it." She further remarked that it made her urine very offensive; in her own words, "it made it nasty like cats' water." (BURNETT, *The Organon*, i, 345.)

VIOLA.

Including *V. odorata*, L., and *V. tricolor*, L. Nat. Ord., *Violaceæ*.

Viola odorata. Sweet violet.

I. *Provings*.—I. HAHNEMANN proved tinct.; no particulars given. Makes him shut eyes. Swollen above eyes, and all seems dim. Jerking drawing downwards in cranial muscles near nape, when lying on opposite side, e. Sensation in palate as of a healing wound, which is too dry. Constipation for 2 d.; he has desire to go to stool, but nothing comes. Very unusual nocturnal emissions, which do not agree with him; he has headache thereafter. Transient burning here and there in body; it feels as if there was a contraction on a small spot, where it burned as in a small transient flame, both by d. when seated and at n. when lying. Yawning every m., during which the eyes became full of water. On awaking in bed, m., bruised pain in all joints, going off after getting up. Contrary to habit, he lies at n. asleep on the back, the l. hand under head, and the knees bent and widely extended sideways. Night sweat. (*Archiv*, viii, 2, 182.)

2. STAPF proved tinct.; no particulars given. *No time stated*.—Unconnected ideas, one of which displaces another, but none of which he is able to retain, but so much sense remains that he knows how ill-understood he must have been when he gave utterance to his thoughts; hence he is silent, and mostly unable to say a word about his fancies. Half-ideas occur to him, he tries to arrange them and they elude him; he makes an effort to complete the other half, but at that instant the half-idea is supplanted by another incomplete idea, and so on; one thought chases away another, but they are always only half-thoughts, which he cannot retain or think out; his power of judgment, however,

* These provers, as also those of Dr. H. C. Allen (2 to 12), were quite ignorant of the drug they were trying.

remains, he is aware of his imperfect fancies, but cannot help it ; at the same time he appears to be in deep thought and out of spirits. Great weakness of memory for 24 h. Remarkable acuteness of mind for a long time. Dull dazed headache. Dull headache with spasm in eye, during which he saw a fiery quivering semicircle. For several d. tension in integument of occiput, even when not moving, but increased by moving head back and forwards, a painful sensation which compels him to contract frontal muscles frequently. Hot forehead. Heat and burning in eyes. Burning pain in l. eye. When reading the contour of the letters was not sharp, they ran together. Tension under eyes. Dislike of all music, especially the violin. Roaring and ringing in ears. Shooting out at l. ear. Pressive pain behind l. ear, externally. Numb feeling in tip of nose as if he had received a blow there and the blood were being forced out. Tearing pain in l. lower maxilla up to ear. Short breathing. Frightful oppression of chest and dyspnœa with pain in chest as if a stone lay on it. Drawing pains in r. elbow-joint. Pressive pain in r. wrist. Drawing pain in back of l. metacarpus near wrist. Relaxation of all muscles. Yawning and stretching without sleepiness. Febrile rigor. Sadness, passing into gloomy melancholy. —Immediately, violent drawing pressure from zygomata to temples. After $\frac{1}{2}$ h. shooting in tip of middle finger. After 1 h. increased cheerfulness for $\frac{1}{2}$ h. ; contracted pupils. After $1\frac{1}{2}$ h. heaviness of eyelids with normal clearness of eyes, as though he had got up too early. After $1\frac{1}{2}$ h. dislike for conversation, dazedness and hypochondriacal disposition with weakness of memory ; difficulty of thinking for 1 h. After 2 h., in order to see distinctly he must hold objects closer than usual—myopia. After 8 h. morbid state of the imagination ; pictures present themselves to his imagination, he makes an effort to observe them, and before he can do so they are gone. After $8\frac{1}{2}$ h. deception of vision, wherever he looks he sees half a point, which then becomes a quivering light, and grows always more fiery, later appears as a semi-circular, zigzag, serpentine, fiery object ; lastly becomes weak, and gradually disappears ; at same time the white of the eye has a reddish colour. Breathing scarcely perceptible, inspiration and expiration difficult ; expiration is the most painful, with great anxiety and strong palpitation of heart. After 9 h. very powerful activity of brain and mind, with constant weakness of memory, followed by headache. Sharp sight, facility in seeing. (*Ibid.*)

3. GROSS took tinct. ; no particulars given. *No time stated.*—Vertigo ; all in the head seems to whirl, even when seated. Vanishing of the thoughts for instants. Confusion of thought ; when he wished to give utterance to a thought it was immediately gone, and another quite strange one occurred to him, and he could then not remember the first one. Weakness of memory, when he has read to the end of a paragraph he has already forgotten the first part of it. Heaviness of whole head, during which the nuchal muscles seem to be too weak. Tension which sometimes affected the upper part of face, especially the nose, thence extends over forehead and temples to ears, alternating with a similar state in occiput and nuchal muscles. Drowsiness of eyes and lids ; they are inclined to close, without general drowsiness. Cramp-

like spasm in eyelids to zygoma, especially l. Pressure in both zygoma. Drawing and stretching in l. ear, more externally. Transient deep stitches alternately in both ears, especially l. Trembling of limbs.—After 5 m. spasmodic pain in distal joint of l. index. After 10 m. tearing in r. lower teeth. After 11 m. prickling from rush of blood in forehead. After $\frac{1}{4}$ h. drawing in l. frontal protuberance. After $\frac{1}{2}$ h. tension in integuments of occiput and forehead. After $1\frac{1}{2}$ h. feels as if both eyeballs were compressed from the sides. (*Ibid.*)

Viola tricolor (Jacea). Pansy, heart's-ease.

1. *Provings*.—I. FRANZ proved tinct.; no particulars given. *No time stated*.—Buzzing in forehead when sitting still. Pressive pain above r. eye, going off on touching it. Pressive and tearing headache with heat of face and throat. Burning pressive pain on r. side of top of head when sitting. Cloudiness of vision, distant objects appear dimmer. Immediately after eating, great heat all over body, most in face, with sweat on it, oppression of chest with great anxiety, which drives him out of the house. Cutting through abdomen and urging to stool. Single jerking shoots in front part of hypogastrium, which go off on rising up and leave a burning sensation. Great urging to stool, which is as usual. Oppression and stitches in cardiac region when leaning forward chest while sitting. When lying, præcordial anxiety in undulating beating. On waking, m., thighs felt bruised. Drawing along calves and thighs, with giving way of knees when walking. When at rest tearing under inner internal ankle in heel, going off when foot is moved, but leaving a slight burning feeling. Long of getting to sleep on account of many thoughts, wakes early, lies on an unusual side, and cannot get thoroughly roused for weariness. Chill through and through in open air. Hurried in all actions, as if impelled by internal anxiety, and at same time great feeling of weakness and prostration.—After 1 h. chilliness for $\frac{1}{4}$ h., a.m., or cold chill through body as though a cold wind were blowing, with dazedness of head, vertigo, and a slight feeling of pressing asunder in middle of brain. After $1\frac{3}{4}$ h. drawing in r. thigh when standing. After 2 h. tearing jerking in upper part of thigh when sitting. (*Archiv*, vii, 2, 173.)

2. S. GUTMANN proved tinct.; no particulars given. *No time stated*.—Giddy and staggering when walking. Undulating pressure in forehead. Pressive pain in brain outwards through forehead. Heaviness of head, with pressure towards forehead. Pressive pain uniformly over whole brain. Pressure out at r. side of head. Burning stitches in forehead as if externally in bone. The eyelids close from sleepiness p.m. Sensation under upper eyelid as if a hard body lay between it and eyeball, for 3 h. Tensive shooting in muscles at r. side of occiput when at rest, also when turning and bowing head. Itching needle-pricks behind l. ear. Pressure on membrana tympani from without inwards. Itching on r. ala nasi. White tongue. Tongue covered with mucus with bitter taste, but food tastes right. Much saliva with dry feeling in mouth; no appetite, and no taste in food. Needle-prick pain in upper part of abdomen, persisting during inspiration and expiration. Lightning-like stitch in whole r. side of abdomen and chest

when walking. Soft stool following flatus. Erections of penis, m. Emission of semen with lascivious dreams. Itching in r. scapula. Pricking in l. shoulder-joint, removed by moving. Pricking in l. elbow. Pressive stitches in l. ring finger, only when at rest; movement relieved, but they returned when at rest. Itching on upper inner side of r. thigh. Itching anteriorly over l. knee-joint. Itching obtuse stitch in l. knee-joint. Itching shooting in r. foot behind external ankle. Pressive pain in r. foot, especially in ankle-joint, when walking. Itching in ball of r. big toe when standing, worse when sitting. Relaxation of whole body. Drowsiness for 2 h., p.m. Lascivious dreams. Restless sleep; vivid dreams. Disinclined for serious work; sadness about domestic affairs, obtuseness of mind, and indisposed to talk, it is almost impossible for him to do so, p.m. and e.—Immediately, burning in glans penis. After $\frac{1}{2}$ h. drawing pressive pain from l. lower maxilla to r. side of head. Itching in dorsal muscles, removed by scratching. After $\frac{3}{4}$ h. pressure out at both temples. Drawing tension in l. cheek in front of ear. Stitches in chest when standing. After 1 h. pressive pain out at r. tibia, worst when standing, but also felt when walking and sitting. After $1\frac{1}{4}$ h. pinching pain all over belly. After $1\frac{1}{2}$ h. tensive drawing externally from l. side of forehead to l. nuchal muscle. After 2 h. dull pain in head and pressure in forehead. Pricking itching in l. eyebrow, removed by rubbing. Discharge of flatus and rumbling in bowels. Feeling of jerking in muscles of l. calf. After $2\frac{1}{4}$ h. pressure in frontal bone with confusion of whole head. Spasmodic jerk in nuchal muscles drawing the head suddenly backwards. After $2\frac{1}{2}$ h. pressive pain in penis, out at glans. Pressive pain in r. sole. After 3 h. stitches externally round about navel. After 4 h. itching pressure on l. side of nose. After $4\frac{1}{2}$ h. itching cutting pricking in r. eye from within outwards. Pressure in r. sole when sitting. Tensive shooting in r. metatarsus when walking. After 5 h. itching stitch in scrotum. After $6\frac{1}{2}$ h. stitch in l. side of chest when walking, persisting during inspiration and expiration. After 7 h. pricking shooting in bowels, making him stand still when walking. Stitch in r. side of mons Veneris. After $7\frac{1}{2}$ h. burning on hairy scalp above forehead. After $8\frac{1}{2}$ h. pressive pain in temple near l. eye. After 9 h. itching prick in skin of r. side of abdomen, going off when touched. Oppressive stitches in r. side when walking. After 10 h. smarting in l. eye as if sweat had got in it. During inspiration contractive pains in pit of stomach. Pressive shooting in diaphragm when breathing. Reserved, discontented with himself, loss of self-reliance, especially about the future. After $10\frac{1}{2}$ h. some wheals on l. cheek, itching strongly. After 11 h. pressure in forehead and confusion of whole head; when walking the whole brain shakes with a weight as if a stone lay on it and drew the head forwards. After $11\frac{1}{2}$ h. compression of eyelids, the eyes close and are difficult to open. Stitch in l. side of chest in the true ribs. After 12 h. heaviness of head as if a weight lay on it and drew it forwards; on stooping the head felt lighter, on raising it it felt heaviest. Itching on l. inner ankle. After 13 h. pricks in l. iliac region when sitting, also slightly on rising up. Hard stool. After 18 h. obtuse stitch in urethra when not

urinating. After 22 h. burning shooting in skin of l. thigh. After 24 h. soft stool. Twitching in r. pectoral muscles. Obtuse stitch in r. axilla. After 26 h. pinching movement in whole r. pelvis when sitting. Itching betwixt scrotum and thigh, going off by scratching. Obtuse stitch in l. scapula. Reserved, melancholy, discontented with his work. After 27 h. itching prick in r. patella when lying, removed by movement, but recurring when sitting. After 30 h. quivering of calf towards its inner aspect. After 31 h. dazedness and confusion of whole head. After 32 h. burning stitch in skin of upper part of men when walking. Pressive burning in l. big toe when sitting. After 33 h. pricking in dorsum of penis. After 35 h. itching prick in r. pectoral muscles. After 36 h. tensive stitch in l. eyeball, continuing when it is moved. Pricking in r. tibia when walking. After 37 h. stitch in l. gluteus muscle when lying. After 38 h. burning skin of temple in front of r. eye. After 50 h. obtuse persistent stitch in upper part of sternum, worst during expiration. Low spirits, sad, apathetic. After 52 h. obtuse tearing stitch on l. temple extending. Disinclination for all mental work. After 60 h. itching smarting skin of upper part of penis. After 74 h. obtuse stitches in r. chest, aggravated during inspiration and expiration. (*Ibid.*)

3. HAHNEMANN proved tinct.; no particulars given. *No time stated.*—Headache from root of nose into brain, going off in open air. Shooting in l. side of occiput, d. and n. Sore throat, e. Cutting in abdomen with howling and crying, during which she fell asleep at noon; on waking the same pain in belly, thereupon much flatulence passed, and stool with large masses of mucus. Stool in small portions. Frequent and copious discharge of urine, much more than he can drink, he can scarcely retain it. Urinary tenesmus, he has urgency if more urine would come. Very turbid urine. Swelling of prepuce. On waking, m., a jerk in penis which threatens to make it stiff. Miliar rash over whole body, with pricking eroding sensation. In its progress the child jerked its hands, turned in thumbs, with great heat over face and red face. Night sweat on 2 n. Disobedient. Cross and clamorous. (*Ibid.*)

4. LANGHAMMER proved tinct. No particulars given. *No time stated.*—Frequent urging to urinate, with scanty discharge (even after the 3rd dose). Lascivious dreams. Vivid dreams. Frequent waking. Morose all d., is sensitive and disinclined to talk. Irritable, ill-humoured and disposed to quarrel and scold, cheerful e.—After 1 h. empty eructation. After 1 h. very transient flush of heat with thirst. After 2½ h. cutting in abdomen. After 2¾ h. contraction of pupils. After 3 h. eye-gum in canthi. After 3½ h., when standing voluptuous itching on prepuce with stiffness of penis. Often as if he had not slept enough when sitting, a.m. After 11½ h. irresistible sleepiness, p.m. After 12 h., when sitting, sudden heat of face. Frequent urging to urinate, with copious discharge. When walking needle-pricks in muscles of l. forearm near bend of elbow. After 24 h. scanty urine. On distal joint of index an itching prick. (*Ibid.*)

5. WISLICENUS proved tinct.; no particulars given. *No time*

—Heat on one side of face on which he is not lying in bed, e.—After $\frac{1}{2}$ h. cutting stitches and itching in axilla. After 10 h. a pimple under l. zygoma, painful when touched. Pinching contraction between scapulæ, with cold feeling there. After 15 h. shooting cutting in l. hypochondrium during inspiration, when sitting bent together. After 18 h. in spine betwixt scapulæ cramp pain with cutting and formication in skin. After 24 h. pain as from a blow, only when touched, on side of parietal bone. Cutting pressure in r. side of chest, not increased by inspiration, but by moving body and arms, when pressed on it is painful as if bruised. (*Ibid.*)

II. *Poisonings.*—I. “I once saw the disease (eczema) in a fifteen-year-old child, who had also suffered from it in infancy, and at the 8th year; and now, for the third time, was suffering severely. The worthy mother drew from her pocket the prescription which, she said, had already twice cured her son of the eruption. It proved to be the jacea. When the eruption appeared for the third time, with little vesicles on the forehead and cheek, she believed that the evil had returned, and she forthwith administered two cupfuls of strong jacea tea m. and n. The vesicles began to dry up, the eruption became less evident, and the tea was discontinued. After 8 or 10 d., however, the eruption again came to the front. The tea was resumed, but its effects were quite different. The skin of the face became tense and swollen, and the eruption broke out in fresh spots, and spread all over the face and even behind the ears. The glands in the neck were swollen, and the patient, in consequence of the severe tension of the skin, could hardly turn his head. His eyes alone remained clear. Now, after several d., the entire face became covered with a thick crust, which here and there cracked, and he issued to a yellowish viscid matter, which thickened and hardened into gum. Owing to the overhanging crust, the patient could with difficulty open the eyelids. Together with the eruption there was an insufferable itching, which caused the youth to scratch and tear the crusts, even in his sleep, and when m. came it was found necessary to hold his hands to the bed to keep him from scratching. The urine increased to an unusual amount, and stunk horribly, pervading the entire room with an odour like that of cats’ urine.” (*HUFELAND’S Journal*, ii, 4, 128.)

VISCUM.

Viscum album, L. Mistletoe. Nat. Ord., *Loranthaceæ*.

I. *Proving.*—I. PRÖLL proved tinct., beginning with 1 dr., and increasing by same quantity daily till he had reached 40 dr. He then felt sensation on dorsum of l. hand as if a large spider were crawling over it, and soon after had same feeling in r. hand. He then left off the proving. About a fortnight later he suddenly felt very strange, as if he must fall down. He felt a glow rising up from feet to head, and it seemed to him as if he were on fire. At same time his face became very pale. On taking a glass of wine this sensation went off; but it recurred 3 times during the winter. This same winter, moreover, while travelling, he suddenly felt in r. foot a violent ching pain from within outwards that compelled him to take off his boot as if it were too tight. This sensation went off in an h. He had frequent recurrences of these symptoms for two years. (*Allg. h. Zeit.*, xcvi, No. 9.)

II. *Poisonings*.—1. Dr. BELCHER made a tinct. by macerating equal parts of leaves and berries in alcohol for 3 d., in proportion of $\frac{3j}{\text{}}j$ of former to $\frac{3xvj}{\text{}}j$ of latter, and filtering. This he gave in 5 dr. doses 3 times a d. to a girl of 17 affected with chorea, but otherwise (though of highly nervous temperament) seemingly well. On 2nd d. he was called to see her, and found her suffering as from a too strong opiate—giddiness, drowsiness, and stupor having been succeeded by almost entire insensibility. She lay motionless, eyes closed as if in sound sleep, but could readily be roused by a loud noise, when she would answer questions; on relapse into former condition there was a slight disposition to stertorous breathing; pulse was small, quick, and very irregular, skin warm and very moist, pupils contracted and at first insensible to light. Under treatment as for narcotic poisoning she made a good recovery. (*Monthly Hom. Rev.*, xii, 284.)

2. Two women, æt. 18 and 21, took V. to procure abortion. Every muscle of the body, save those of the eyes, became paralysed; bowels were obstinately constipated, showing a similar condition of intestinal canal; they could not speak or swallow; and both died on 8th—9th d., literally starved. (*ALLEN'S Encyclopædia*, x, 154.)

3. A boy, æt. 14, left house quite well; but about 40 m. afterwards was found lying in the street insensible. Dr. Dixon found him, 20 m. later, like one intoxicated; countenance suffused, lips livid, conjunctivæ injected, pupils slightly dilated and fixed; pulse slow, full and bounding; breathing slow and stertorous. Temp. was normal. On pricking soles, limbs were quickly drawn up. Patient was roused by cold affusion to spine, when he talked incoherently, had spectral illusions, and was inclined to be violent. This state continued 2 h., when he fell asleep. (An emetic had brought up 8 partly masticated berries of mistletoe.) Next m. he was well, and said that soon after swallowing the berries he began to feel giddy, and remembered nothing more. (*Brit. Med. Journ.*, 1874, i, 224.)

III. *Experiments on animals*.—1. We placed on the tongue of a large rabbit 2 grms. of visco-resin; he ate them readily, and with pleasure, for he licked his lips. In about $\frac{1}{2}$ h. he stretched his four legs, which became very stiff; he underwent contraction and startings in abdominal and dorsal muscles. These phenomena became all at once so violent that, although lying on his l. side, he made a leap to the height of more than 2 metres, falling back very nearly into same place, where he kept shaking for some m.; then, getting up, he walked as if drunk about 20 paces, and at last went into a most violent fit of epilepsy, which lasted more than $\frac{1}{2}$ h., with head turned backwards and to l. During this attack there was a seminal emission, on which it ceased almost immediately. The rabbit walked a few steps, and then slept for nearly 20 h. The d. after he awoke, walked as if drunk, and drank some water, but did not eat till next d. (*LAVILLE DE LA PLAIGNE*, see *Brit. Journ. of Hom.*, xxv, 684.)

XANTHOXYLUM.

Xanthoxylum fraxineum, Willd. Prickly ash. Nat. Ord., *Xanthoxylaceæ*.

I. *Proving*s.—1. a. Mr. S—, æt. 29, light hair, nervous temperament, took at 10 p.m. 4 dr. of tinct. Immediately a smart peppery taste in mouth and fauces. Slept well all n. 2nd d.—Took 10 dr. in m., followed by same sensation in mouth and throat, which soon extended to stomach, followed by increased pulse and slight heat all over body. In 5 m. a dull ache at root of nose: in 15 m. sharp shooting pains in r. side, like pains of pleurisy, occasionally extending through to scapula, which increased in severity and lasted $\frac{1}{2}$ h.; during this time there was constant desire to take a long breath. In 1 h. dull pain in r. ear and articulation of inferior maxilla of indefinite character, lasting 2 h. and gradually ceasing. 3rd d.—No symptoms recorded. 4th d.—Took 12 dr. at 8 p.m., followed by dryness in both nostrils;

constant desire to take a long breath ; gaping ; flatulence ; $\frac{1}{2}$ h. later throbbing headache over r. eye, with nausea ; sharp pains in r. side ; severe pain in r. arm, beginning above bend of elbow ; severe pain in wrist, extending to thumb ; in $\frac{3}{4}$ h. ringing in ears, r. particularly ; throbbing headache ; pulse 100. Slept hard all n., and woke languid and depressed, without appetite. 5th d.—No symptoms recorded. 6th d.—Took 20 dr. at 3 p.m. In 5 m. severe frontal headache, with dizziness ; continual desire to take long and deep inspirations ; nervous feeling of fear ; head feels full ; pain over r. eye and in r. side, sharp and shooting ; watering of eyes and nose ; constriction of head, with increasing pain over eyes. In 15 m. increased desire for long inspiration ; flatulence ; pain in r. arm and r. knee. Drowsy all e. Urine at n. and next m. scanty and high-coloured.

b. Six weeks later, at 8 p.m., took 25 dr. ; almost immediately felt same desire for deep and long inspirations ; in 5 m. pulse 100 ; frontal headache ; nausea ; 25 m., pulse still 100, but more feeble ; 1 h. later pulse 82, feeble and irregular. (HALE, *New Remedies*, 2nd ed.)

2. Mrs. A—, æt. 27, dark brown hair, fair complexion, phlegmatic temperament. 1st d.—Took 3 dr. at bedtime. Slept hard and heavy, dreamed of flying about over tops of houses. 2nd d.—In m. felt pain in r. leg ; bowels constipated ; took 3 dr., felt sleepy all m. ; great depression ; after dinner felt a bunch in l. side of throat when swallowing ; after supper discharge from bowels ; on going to bed the bunch shifted to r. side. 3rd d.—At 6.30 a.m. took 5 dr. ; in 15 m. discharge from bowels,—also after breakfast ; sleepy feeling all d., with headache. 6 p.m., another discharge from bowels ; flatulence ; slight choking cough. 4th d.—Took 12 dr. at 8.30 a.m. Strong peppery sensation in mouth and throat ; 5 m. after had darting pain under and behind r. ear ; r. nostril seems filled up ; sensation of soreness in r. side throat ; 15 m. after, darting pain in l. temple, recurring again and again ; aching in upper half of head, accompanied by flashes of throbbing pain as if top of skull were about to be lifted off ; flatulence ; slight pain above inner condyle of r. arm ; 1 h. after, sense of constriction about chest, with inclination to gape. At 10.30 p.m. pain in r. side low ribs ; continued gaping ; head dull and aching ; a flash of pain in thumb, extending to hand ; another in calf of r. leg ; legs and feet all tired. 5th d.—Discharge from bowels before and after breakfast ; soreness of throat, with expectoration of tough mucus. (*Ibid.*)

3. Man, æt. 33, light complexion, sanguine-nervous temperament, active habit, uniform health. 1st d.—Took 2 dr. tinct. Burning and dry feeling in mouth and tongue ; diffused pain in upper part of forehead, worse on r. side ; pain extends to base of brain, with soreness ; shaking the head produces a feeling of looseness or quivering of the brain, followed by dizziness ; rumbling of abdomen, with soreness on surface ; discharge of mucus from nose and feeling of congestion as if were about to bleed ; dull, heavy, grinding pain in l. eye ; feeling of heaviness and pressure at epigastrium ; empty eructations with slight taste of ingesta. 2nd d.—Slept soundly without dreaming. Soon after waking at 7 a.m. had severe griping abdominal pains ; thin brown diarrhetic discharge, mixed with some mucus ; anorexia, could eat but a few

mouthfuls at breakfast, and could drink only a half-cup of coffee, which was vomited soon after. Gripping pain continued at intervals, with general feeling of indifference and malaise; discharge of dry and bloody scales of mucus from nose. Hoarseness, with husky feeling in throat; obliged to clear the throat frequently. The hoarseness and obstruction of throat continued some d. after other symptoms had subsided. (*Ibid.*)

4. Miss D—, æt. 26, black hair, active habit, good health. 1st d.—Took 12 dr. of tinct. In 5 m. felt pressure in head, with fulness of veins. In 10 m. dull pain in r. knee. In 15 m. pain in both elbows and back of head, with bewildered sensation; pain in lid of r. eye. 30 m., sense of heat all through veins, with desire to be bled; flash of heat from head to foot. 1 h., pain in ankle; flash of heat; pain in l. heel; feeling of enlargement of throat; pain in r. side of throat; dull pain in l. elbow, passing to palm of hand, thence to shoulder; pain in l. side; heavy feeling in top of head; pain in l. leg between hip and knee, and in various other parts; feeling of numbness through whole of l. side of body from head to foot, the division very perceptible in head, where it affected half the nose—this feeling lasted 2 or 3 m.—2 h. after, pain in l. knee, very severe, lasting more than $\frac{1}{2}$ h.; slight pain in l. side, under scapula, and in l. hip; pain in lower jaw; whole l. arm and shoulder numb; pain in both feet, shooting up to knees. (*Ibid.*)

5. Mrs. H—, æt. 30, took 10 dr. tinct. at 6.20 p.m., pulse 80.—Soon after, feeling of weakness and depression; weakness of lower limbs, with pain in knees. At 8.30 p.m. pulse 74, soft; slight nausea with sense of oppression at stomach. Nausea and pains in limbs increased, accompanied by frequent chills. 2nd d.—In e. took 20 dr. did not experience so much depression as before, but same amount of weakness of limbs and pain in knees; pain in l. side; menses appeared next m., a week before usual time, attended by a good deal of pain. (*Ibid.*)

6. Mrs. J—, æt. 28, light complexion, sanguine temperament, good health. Took 20 dr. tinct. at 8 p.m. In 20 m. tightening of scalp and heavy pains in temples, with twitching in l. knee and trembling in r. 2nd d.—Took 20 dr. at 11 a.m.; same sensations in head; did not notice lower limbs. 2 p.m., took 22 dr.; same headache, or severe pain and constriction. 3 p.m., took 25 dr.; increase of head trouble, and a quiet menstrual flow, being 2 d. in advance of usual time. 8 p.m., took 20 dr.; some headache; all the system quiet, with an unnatural forcing of nature; went to sleep as usual, and awoke in dreadful distress and pain, baffling description; profuse flowing; pain (or agony) continued until noon of next d., when it gradually subsided. (*Ibid.*)

7. a. Myra de NORMANDIE, Oct. 19th, 1884, being in perfect health, at 7 p.m. took 20 dr. Immediately intense burning and stinging in œsophagus, with slight nausea. In 20 m. decided dyspnoea, with slightly increased action of heart. Slept as usual during n., but was waked at 4 a.m. by intense frontal headache. 20th.—Took 30 dr. Headache increased, of a burning, pressing nature, worse from moving

head suddenly; extending into vertex and orbits, with feeling of heaviness in eyelids and bright spots before eyes. Dyspnœa again noticed, with occasional hot flushes over face and head. 12 m.—Headache intense; no appetite; face much flushed. Temperature and pulse normal. 4 p.m., pain and stiffness in nape of neck, somewhat relieved by hard pressure or throwing head back. 9 p.m., 60 dr. Dyspnœa again marked, almost immediately on taking the drug, only lasting 8 or 10 m., during which time it was almost impossible to get a satisfactory inspiration. Noticed faintness at stomach, as if I had been fasting, but when food was brought cared to eat only a few mouthfuls, which nauseated me. 21st.—Had restless n., and although very sleepy, continually twisted and turned; when I did sleep dreamed of being chased, and when overtaken, about to be scalped; could not make a sound to call help. Woke at 5 a.m. Frontal headache, which had disappeared during e., returned with increased violence. This, with a perfectly exhausted feeling as if I had had no rest for a long time, made it an effort to dress, but afterwards I felt better, although I could eat but little breakfast, as even odour or sight of food nauseated me. 11 a.m., severe pain in region of heart, lasting but a moment, and recurring at irregular intervals of 5 m.— $\frac{1}{2}$ h., making me catch my breath, and turn pale even to lips; pain cutting in character, worse during inspiration, and passing directly through thorax in region of heart. This recurred 11 times; immediately after each attack very thirsty, flushed, and exhausted. Pulse irregularly intermittent and 72. Temp. normal. 4 p.m., taken suddenly with cramp-like pains in wrists and knees; wrists especially somewhat sensitive to touch; cramp and sharp pain soon settled down into steady ache like rheumatism. At same time deep dull boring pain in r. hypochondriac region, which was quite severe, and only relief was from constant pressure and motion, as lying down or sitting aggravated. This lasted nearly 2 h., and then gradually disappeared, while pain in knees and wrists persisted. Temp. 98.4° ; pulse 82. During e. headache and pain in back of neck returned. Headache relieved by cool water, and in open air. 9, urgent call to stool; large movement of dark-brown, rather loose and offensive matter, causing much excoriation and pain. 10, 90 dr. Felt very sleepy, and went to bed immediately, but headache kept me awake for an h., and on shutting eyes there appeared bright spots, star-shaped, dancing up and down. 1 a.m., startled out of deep sleep by severe pain in region of heart, and then violent action of heart set in; apex-beat to be felt and seen over large area, accompanied with suffocating feeling and almost inability to breathe. Had to sit up in bed, and turn first one way and then another, almost as in a severe case of asthma, even accompanied by several spasmodic coughing spells. This was repeated 3 times during n., and at one time (4 a.m.) I became almost unconscious from agitated tumultuous beating of heart. Temp. at this time 101° ; pulse 110. 22nd.—Slept hardly at all; felt weak and exhausted, and had almost constant hawking, without expectoration, sometimes arising from tickling in larynx, and again from sort of oppressed feeling in lungs. Headache also continued, frontal, extending into orbits; eyes bloodshot, with red margins, and feeling as if full

of sand. Very thirsty, but no appetite; craved coffee and lemonade. 9 a.m., temp. one degree below normal; pulse only 70. I had now taken drug 4 times, and in all 200 dr., and, being somewhat frightened at action on heart, decided to wait a week before continuing proving. Headache lasted 4 d., gradually decreasing; pain in back of neck lasted 3 d., although amounting only to stiffness last d. Cough lasted all the week, although, excepting this, I had not the slightest symptom of a cold; cough, however, amounted only to a hack, with now and then—perhaps 3 times a d.—a coughing spell, which I noticed came on only in open air; slight hoarseness was also noticed at same time. Bowels regular, but rather loose, and stools caused some burning and pressure for an h. or two after. Otherwise was feeling as usual. On 5th d. menses appeared, anticipating 8 d. Flow increased, bright red, and lasted 5 d. Dysmenorrhœa, with bearing-down feeling and pain in r. ovarian region. Very nervous, easily startled, and hysterical.

b. Nov. 3rd.—Seemingly in perfect health except cough, which had continued, at 10 a.m. took 50 dr. Dyspnœa was marked in 15 m., with sharp cutting pain in lower portion of r. lung. Cough continued and became more frequent, with scraping sore feeling under sternum; seemed more spasmodic, recurring at almost regular intervals of about 20 m., and was of a voiceless stifled character. Towards e. same headache began to return, and the peculiar stiff feeling in back of neck, so that involuntarily I put my hand constantly there to try and relieve by pressure. Cough continued, and during each attack I felt sharp pain in lower portion of lung. 10 p.m., 80 dr.; went immediately to bed. Slept very heavily till 4 a.m., though dreaming constantly; was waked at this time by bad coughing spell, lasting several moments. Head aching severely, eyes bloodshot and heavy, with red burning eyelids; back ached whole length of spine; face flushed, but body cold. At 5 a.m. temp. 98.6°, pulse 92. On attempting to rise was seized with vertigo, felt as if falling forward, everything became black, and I grasped for support; this was accompanied by nausea, which prevented my eating breakfast, and 20 m. after I vomited coffee and toast which I had succeeded in taking. 10 a.m., 120 dr. Dyspnœa immediately, marked, with severe coughing spells occurring at intervals of 10 m.; aphonia and pain in lower part of r. lung on deep inspiration or coughing. Pain in back became very severe, and was localised more in cervical and upper portion of sacral region. 12 m., cough continued, and one attack of pain in region of heart as in previous proving. Vertigo as if falling forward, with black spots dancing before eyes, and in going up and down stairs felt as if I were stepping over too far and should fall. Cough aggravated by exposure to cold; ameliorated in warm room; not especially painful except as it caused pain in lungs, which lasted several moments after each coughing-spell. 4 p.m., urgent stool at 1 p.m. and another at 3, small, watery, dark, and offensive; no pain accompanying, but severe burning in rectum and anus following. Temp. 100°; pulse 110. Very thirsty, and drank large quantity at a time. 10, 200 dr. In 5 m. urgent stool; same colour and consistence as before, and same burning pain following. Every inspiration an exertion, and very unsatisfactory, as deep breath-

ing brought on pains in lower part of r. lung and in heart. Cough almost constant, unless in very warm room. Head and back ached; neck stiff; carotids throbbled. Pulse 130; temp. 103° at 11 p.m. Constant dyspnœa; respiration 36. Frequent urination, once in 3 h., scanty and high coloured; sp. gr. 1025. 5th.—Very restless n., with frightful dreams of being killed or burned; bright images before eyes, which were sensitive to light, with dilated pupils, and bloodshot. Constant and increasing sense of constriction across chest, as if I had been running fast and long, or as of heavy weight on chest. 5 a.m., movement of bowels, followed by same burning and stinging, and slight hæmorrhage as from piles. Cough not quite so frequent or painful; dyspnœa continued, with same oppressed feeling in lung. Head and back ached; was perfectly exhausted and very weak. No appetite, but very thirsty. Temp. at 7 a.m. 101.2°; pulse 120. Coccyx seemed elongated, was extremely sensitive to pressure, and ached all the time; could not sit except on foot- or air-cushion, to raise it from chair. Dragging pain in lower part of pelvis and back. 11 a.m., severe aching pain in r. ovarian region, causing me to forget all other pains, and walk the floor. Pain constant, radiating from r. ovarian region to hip, thigh, and back, with occasional shooting darting pain, causing me to hold my breath, and at same time leucorrhœa, coming with a gush, of milk-white colour, coming at no other time. This lasted till 4 p.m., when it ceased suddenly, and from that time back and head began to feel better. Two movements of bowels at 10 and at 3. 6th.—Had more comfortable n.; cough less frequent; dyspnœa not so decided, although oppressed feeling still present. Felt weak and exhausted, but better appetite. Back and head still ache. Temp. and pulse normal. Frequent urination—30 oz. in 24 h.; sp. gr. 1030; acid reaction. Only 3 movements in a day, but still somewhat loose and excoriating. 7th.—Am feeling well again. Head rather weak, and slight cough remains.

The drug seemed to have no long-continued effect; unless the fact that in this month the menses again anticipated nearly a week, with increased flow, be attributed to this. (*Publ. of Mass. Hom. Society, 1885.*)

8. a. LUCY JOHNSON PIKE. The following proving was made upon myself under the direction of Dr. Southwick. My weight is 175 lbs.; height 5 ft. 4 in.; hair light brown; eyes blue; normal pulse-rate 80; resp. 16. At the time the 1st dose was taken I was 25 years old. Health has always been good, with exception of an attack of diphtheria in 1878, which yielded readily to the simillimum, and left no chronic lesion. All functions being normal, took first dose of 10 dr. at 7.45 a.m., June 20th, 1884. Pulse and temp. remained normal, and no symptoms appeared throughout d. 21st.—10 dr. at 7.45 a.m., and again at 12.45 p.m., with no variation in health. 22nd.—No drug taken, and no symptoms. 23rd.—20 dr. at 7.15 a.m., and again at 12.45 p.m.; no drug symptoms. 25th.—At 12.45 p.m., and again at 3.30 p.m., 25 dr. About 6 p.m. a sudden and violent pain over r. eye, accompanied with boring through temples. Pain soon spread over whole head. Heavy pressure on vertex. After this had lasted about an h., vision blurred as if eyes were looking through blue

lace; nausea and dizziness marked, as well as loud noise resembling a windmill, in l. ear. About 12.30 p.m. pains abated. 26th.—At 4 a.m., having slept about 3 h., nausea seemed to wake me. No relief on rising, in fact worse, and giddiness prominent. At 8 a.m. pain seemed to have gone, although nausea still remained, and occasionally noise in l. ear was marked. 9.20, slight nose-bleed. 11 a.m., 25 dr. Symptoms not aggravated, with exception of noise in l. ear, which lasted about a m. at a time. At 12.45 p.m. 25 dr. Nausea increased. At 3.45 p.m. 25 dr. 4.30 p.m., nausea and giddiness, so bad that I was obliged to go to bed. Violent pain in head returned, still worse over r. eye. No position comfortable. Faintness spread over whole body. Glass of ice-water and cracker taken with relief. About 10 p.m. pain subsided, and I slept till 11.30 p.m., when a dream of suffocation awoke me. On rising, dizziness not so much felt, but general sickness, head sore to touch; I did not care if I lived or died, and decided not to take a drop more if I ever felt better. 27th.—At 5 a.m., after sleeping about 4 h., throat felt dry, and voice was hoarse. Occasionally pain in head, but nausea and giddiness less. Tongue had a yellow coating. Glass of ice-water relieved all symptoms. 8.20 a.m., nose-bleed, more profuse than before. 12.30 p.m., feeling better, took a little lunch, which brought on nausea again. 1.30 p.m., 30 dr., with no aggravation until 4 p.m., when there was sharp and sudden pain in r. ovarian region, which later radiated down thigh and across l. hip, relieved by lying down and flexing thighs upon abdomen. Head dull and heavy; I could not walk straight or upright, abdominal pain was so intense. Throat seemed to be clutched. Hoarseness gone. Temp. and pulse were up to this time normal, but at 9 p.m. pulse 64 and temp. 99°. 10.30 p.m., 30 dr. Sleep almost immediately followed. I dreamed that throat grew up, and awoke in fright, finding it very difficult to breathe. I was trembling violently, and l. arm was numb and heavy. (The numbness of the arm I have felt before, and the position in which I lay, on the l. side, may account for it.) Nausea great; but it was easy to walk, except that I could not get over thought that I was suffocating. In about an h. fell asleep, and did not wake till 6 a.m. 28th.—Throat painful to touch and voice a little hoarse. Nausea present. Head felt big, and eyes could not bear light. Pulse 68, temp. 99.5°. Pain in abdomen gone. Milky-white leucorrhœa. Tongue had still a thick yellow coat. Felt better after eating breakfast, but was very tired all m. In afternoon I went to walk. About 4 p.m., while out of doors, an indescribable sensation came over me. I really thought I was dying. Whole body seemed falling in pieces. Atmosphere appeared blue, and there were constant flashes of light before eyes. Could not walk straight. Occasionally noise in l. ear was noticed, but it seemed this time like a loud bell ringing at a distance. My body felt as though it were elastic and stretched itself out. Tongue seemed alternately to expand and contract. Ice-water relieved nausea. L. side numb. On lying down symptoms were better, and at 10 p.m. I fell asleep, awaking in about an h. with a sense of suffocation, which soon passed away. 29th.—At 6 a.m. pulse 72, temp. normal. Tongue still coated. Head felt

large, and there was pressure on vertex. Occasionally disturbed by ringing in both ears. Nausea had gone, and I felt unusually hungry. Leucorrhœa profuse. About 4 p.m. irresistible sleepiness came over me, and I slept from then till 7 p.m., awaking simply long enough to eat a bountiful supper; and again slept with slight interruption till 7 a.m. 30th.—Pulse 72; temp. normal. Throat dry, and it required great exertion to talk; all food very acceptable. Leucorrhœa still abundant. Head sore to touch. July 1st.—Pulse 78; temp. normal. Tongue still a little coated. No leucorrhœa, but pain in sacral region troubled me a little. L. arm a little numb. 2nd.—Pulse and temp. normal. About 6 a.m. a little frontal headache with slight nausea. 3rd.—Tongue almost clean, and no leucorrhœa, though I felt tired all d. 4th.—Felt quite well. No more symptoms arose from proving. Sp. gr. of urine varied from 1015 to 1019. Bowels not affected. Menses appeared 2 d. early. Remained perfectly well from 4th July to 7th Aug.

b. Aug. 7th, all functions being normal, took 100 dr. at 12 m. with no effect during rest of d. 8th.—At 6 a.m. sharp cutting pain in r. ovarian region, extending about hip and down thigh, awoke me. Could not find any position comfortable. Head ached violently through temples and on vertex. Top of head felt as if uplifted. Loud ringing in r. ear. On lifting head very dizzy and somewhat nauseated. Dyspnœa great. Feared I should lose my breath entirely. Had hardly courage enough to take any more drug, but did at 10 a.m. take 100 dr. Symptoms all increased. Was unable to rise. Very chilly, though day was quite warm. Abdominal pain grew worse. At 12.30 p.m. menses appeared 2 d. in advance. Headache increased; pain in abdomen almost unbearable, though somewhat relieved by heat. Abdominal pain not continuous; intervals between attacks almost regular—about 10 m., and spasm lasted 5 m. L. side numb, back of neck same; face flushed; eyes twitched, and pupils were dilated. Everything looked blue. Very cross and hungry; but food increased nausea, while water relieved it. At 2 p.m. chill, which lasted about 5 m., attended by great nausea and vomiting. At 3 p.m. temp. 99.5°, pulse 96. Abdominal pain so agonizing I could hardly endure it. About 6 p.m. symptoms abated, and I fell asleep, but was restless all n. 6th.—Awoke with dull pain in r. ovarian region and frontal headache, with a little dizziness. Limbs ached. L. side felt numb, especially l. foot. Flow profuse. So unwell I could not take any more drug. 10th.—Still very weak and tired. Flow profuse, but ovarian pain slight. Head felt mixed; it seemed entirely void of ideas. It was an exertion to try to think. Throat ached, and dyspnœa came occasionally. 11th.—Flow abundant, I felt tired. 12th.—Flow less. 13th.—Flow disappeared, but left white leucorrhœa. 14th.—Felt well. Leucorrhœa less, and no traces of it on 16th.

c. No symptoms from 16th until 28th, when at 9.30 a.m. I took 10 dr; 29th, at 3 p.m., 25 dr.; 30th, at 11 a.m., 50 dr.; and 31st, at 11 a.m., 50 dr. First symptom occurred this d. about 2 p.m. Temp. normal, pulse 76. Dull frontal headache, loud noise in r. ear as of a valve continually opening and shutting. Somewhat sick at stomach

and dizzy. At 5 p.m. sharp, cramp-like pain in l. inguinal region, which increased until 7 p.m., when menses appeared 5 d. early. For about an h. pain seemed better, but after that began with renewed violence, worse than in two former provings. Thought I could not get enough air into lungs, inspiration was so difficult. About 10 p.m. fell asleep, as pain had abated. Sleep was restless, being interrupted by several attacks of dyspnœa. Sept. 1st.—On rising was very dizzy, sick and chilly. Throat felt as if in a vice. L. side numb. It seemed in walking as if floor were soft like wool. Arms felt better from being twisted. Pain, rather of a dull character, extended from nape of neck to r. shoulder-blade. Pain in l. ovarian region intense, not a constant pain; it began feebly and gradually increased, dying in same manner. All d. I felt something bad might happen. About n. headache and abdominal pain subsided, and I felt well. 2nd.—On awaking, whole body numb, especially l. side. Felt great desire to inspire, but was unable to get sufficient air. On rising very dizzy. Tongue had heavy white coat. Joints seemed loosened. Everything looked blue, and there was loud ringing in r. ear. At 8.30 a.m. took 60 dr. 8.45, had slight chill, accompanied by death-like nausea; soon followed by vomiting of thin white mucus, after which felt better, though very tired. Arms felt as if they had carried heavy weight, legs very weak. It was an exertion to talk. Flow very abundant, abdominal pain slight. 3rd.—At 7 a.m. took 150 dr. At 8 a.m. ate good breakfast. In about $\frac{1}{2}$ h. great nausea, and I soon vomited all the breakfast. At intervals all d. dyspnœa great, muscles of back seemed tired, and I ached all over. Limbs heavy, and occasionally l. side numb. Pain in head better, roaring in both ears troublesome. Throat ached. It was tiresome to talk, and voice sounded hoarse. Flow profuse. 4th.—In m. felt better, and took at 10 a.m. 100 dr., but vomited it all in a few moments. No headache. No abdominal pain, though flow as abundant as d. before, and I felt very tired all d. 5th.—With exception of occasional attacks of suffocation, and great weakness of lower limbs, felt well. Flow about the same. 6th.—Very tired. Flow less, and continued to decrease till 10th, when it ceased. 13th.—White thin leucorrhœa, which lasted 2 d. Only slight variation from normal was anticipation of menses, once on 26th Sept., the other 22nd Oct., which seemed more abundant than usual, though no pain.

d. Fourth and last trial of drug was made on 3rd Nov., at 8 p.m., when I took 100 dr. Shortly after stood about $\frac{1}{2}$ h. on sidewalk to watch procession, and ground seemed damp; this may have modified proving somewhat. 4th.—At 10 a.m. unable to inspire freely; dull headache in frontal region: slight nausea. In walking, very dizzy. L. arm numb. Throat ached. Loud ringing in l. ear. At 2 p.m. took 60 dr. About 4 p.m. dull pain in back of neck. Lower limbs ached, particularly at articulation of knee-joints. Dyspnœa marked. During e. pain in neck increased; whole head ached, particularly through temples. Head felt dropping in pieces. If I sat up, felt as if floating through air; if I lay down, as if sunken deep in bed. Objects near seemed a long way off. 5th.—On rising dizzy, and head ached violently through temples and on vertex. Noise in both ears and

numbness through all limbs. Nausea slight. Dyspnoea noticed several times. At 7 p.m. took 75 dr. Symptoms all increased, in addition there was dull pain in l. ovarian region, and back of neck was rather stiff. Awoke several times during n., and always with sense of suffocation. 6th.—At 8 a.m. took 145 dr. Headache intensified, dyspnoea great, and neck stiff all m. About noon abdominal pain increased. At 2 p.m. chill and great nausea; chills lasted about 10 m. Neck very painful; pain extended into r. shoulder and down back. Difficult to turn neck to l. At 2.30 p.m. another slight chill, with nausea. Headache and abdominal pain increased; latter greatly relieved by heat. Flashes of blue light before eyes. Everything looked far removed. At 6 p.m. aconite was given, and repeated every 15 m. till 5 p.m., with no relief. At 10 p.m. took 1 teaspoonful of tinct. camph. mixed in proportion of 5 dr. to 10 tablespoonfuls of water, and in about an h. fell asleep. 7th.—Pain in head somewhat better. Neck easily turned. Abdominal pain about same till noon, when it began to grow better. Camph. every h. throughout d. Suffocation at short intervals. Pupils dilated. Throat felt as if clutched. Milky-white leucorrhœa. 8th.—Very tired. No pain. Limbs occasionally numb, and I was dizzy in walking. Some suffocation, with feeling of heavy weight on chest. Leucorrhœa was not much. 9th.—Felt pretty well. 10th.—Well. No symptoms.

Throughout last proving urine seemed increased in quantity. Bowels not affected at any time. Menses up to Jan., 1885, anticipated 3 or 4 d. In Dec., 2nd d. previous to menstruation, milky-white leucorrhœa, not profuse. Otherwise usual health. Appetite excellent all the time. (*Ibid.*)

ZINCUM.

Including the metal; the acetate, *Z. aceticum*, $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}$; the oxide, *Z. oxidatum*, ZnO ; the phosphate, *Z. phosphoricum*, ; and the sulphate, *Z. sulphuricum*, $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$.

I. *Provings*.—1. HAHNEMANN, *Chronic Diseases*, part v of original, vol. of translation. Contains 1375 symptoms of the metal from self and 11 others.

2. Same reports following symptoms as from the acetate :*—First nausea (after 10 m.), then fine needle pricks in throat, then vomiting of bitter sour mucus, causing the pricking to be more severe; then chill in back, relieved by shrugging shoulders, for 8 m. Three h. after eating, eructation with taste of food. Nausea after eating (after 6 h.). Nausea in m., pinching in belly as if he had disordered it by eating improper food. Two h. after dinner feeling in stomach and abdomen as if of emptiness and hunger. Pressure and shooting in scrob. cordis, increased by movement, e. At n. several times urging to stool, which is pappy. Diarrhœa of dark fœces after dinner, frequent watery urine.

* There is no information given in this and the two following pathogeneses as to how the symptoms were obtained.—EDS.

Frequent increased call to urinate and irritation in urethra. Smarting in urethra. Contraction of urethra. When he bends forward a sudden pain in back as if all its strength left it. Red pimples on both knees, causing a tickling voluptuous itching. Exhaustion and weariness on going upstairs. Drowsiness by d., he yawns often. (*Archiv*, vi, 2, 192.)

3. FR. HAHNEMANN reports from same:—Heaviness of head, throbbing headache as if all would come out at forehead. Eruption of pimples on forehead and neck, filled with pus; when opened pus and blood escaped (from injection into urethra). Headache in forehead as if the brain there was raw and salt was strewed in it. Pale face. L. ear as if swollen internally, painful when touched. Tearing pain in teeth, especially when touched. A blister on anterior part of palate, which pains as if burnt. Mouth feels burnt inside (from injection into vagina). Tongue feels rough. Throat feels too narrow and tongue too short. Throat repeatedly during d. as hot as if burnt with alcohol. Food and drink have no taste. Very frequent empty and abortive eructations. Much retching, vomiting of sour stuff; has rigor during and after vomiting. Pressive pain under scrob. cordis. Violent griping in bowels, must lie down. Diarrhœa every h., only during d. On occurrence of menses sensation of a small swelling in scrob. cordis, painful to touch. Much mucus expectorated with a kind of nausea, a.m. Weakness of both arms. Pain in l. arm, which feels very heavy; wrist painful when moved, and at n. knows not where to lay the arm, so many positions cause pain in it; sometimes shooting in arm (from injection into urethra). Drawing in r. arm several times during d., with trembling and loss of power in it. Feels worse p.m. Rigor. Sour eructation and rigor all over. Night sweat. Great anxiety. Frequent alternation of sitting and walking about. Walks about, contrary to habit. Anxious silence, she does not speak a word; and when asked how she is, she replies, "Let me be, I shall soon be better." (*Ibid.*)

4. LANGHAMMER observed:—After $\frac{1}{4}$ h. pressive tearing shoots in muscles of r. upper arm when at rest or when moving. After $\frac{1}{2}$ h. great nausea as though he should vomit, with flow of saliva, like water-brash. After 1 h. pressive pain in ball of r. hand. After 2 h. dull shooting pain in forehead. After 3 h. needle pricks in l. temple. After 4 h. tensive pain in top of r. calf when walking in open air. After 6 h. painful tension above l. wrist. After 10 h. shootings down r. forearm; pressive shooting in muscles of l. thigh when walking in open air. After 11 h. burning feeling of heat in whole face, and redness of cheeks, without thirst, e. After 33 h. severe shoots in frontal region. (*Ibid.*)

5. SCHRETER gives fragmentary symptoms, apparently obtained chiefly from one female prover, or perhaps patient.—1st d. Much leucorrhœa. Wakes often at n.; has anxious dreams about water and drowning. After 3 d. occasional burning in stomach. Heavy anxious dreams. Giddy from m. till n.; she felt like to fall. After 4 d. itching around nipple. After 5 d. confusion of head. After 7 d. heavy weight in both hypochondria. Four well-digested stools during d., with griping in belly. After 8 d. anxiety, m., that makes her restless. Anxiety as though some misfortune had occurred to her; everything appears to be difficult. Wakes frequently at n., and cannot sleep after 5 a.m. After 9 d. acrid leucorrhœa, with burning in pudendum. After 10 d., for 3 d. no stool (after being purged). Itching in

rectum. After 13 d. flow of saliva. After 14 d. like a spasm in chest; it goes at times into stomach and abdomen, 7 to 8 p.m. Eyes feel as though she had wept too much. After 17 d. the menses occur at proper time, but they are preceded by violent toothache in a carious tooth before their appearance and at n.—*No time mentioned.* Out of the last r. lower molar water seems to rise; touching it with the tongue causes violent pain. At same time the tonsils are swollen and painful, especially when swallowing she feels an obstruction; she cannot even swallow her phlegm. (*N. Archiv*, iii, 3, 188.)

6.* In doses of 4 gr. no effect in 15 individuals. After 6 gr., in $\frac{1}{2}$ h. slight nausea in stomach for a few m., followed by vertigo, flying heat, thirst, spasmodic pulse and general prostration; these symptoms gradually subsided and ceased after 6 h. After 8 gr. the same symptoms occurred, and in addition, burning in gastric region, eructation, griping in belly, increased thirst and anorexia. The action lasted 7 h. After 10 gr. there occurred in $\frac{1}{2}$ h. pressure in stomach, headache, vertigo, shooting in diaphragm, momentary feeling of anxiety and palpitation of heart, also tearing between shoulders. After 2 h. pulse very spasmodic. Complete loss of appetite, and frequent bitter eructations. After 3 h. vomiting of a bitter yellow bilious water. After 4 h. liquid, bilious stool, then no stool for 24 h. After 12 h. the provers complained of nothing but prostration and exhaustion, which continued for 24 h. longer. (*WERNEK, Med. Chir. Zeit.*, 1831, iii, 317.)

7. A medical student, æt. 24, robust and healthy, took July 4th, 1831, every 2 h. increasing doses, beginning with 1 gr.; so that in 12 h. he had taken 21 gr. Pulse 80, quiet, moderate, full and strong. After 4 h., having taken 3 gr., felt only slight pressure in stomach. After 8 h. headache, vertigo, empty eructation, some griping in bowels, shooting in diaphragm, pulse spasmodic; towards e. palpitation of heart with precordial anxiety, and formication through all limbs. The pains between shoulders extended down back to sacrum. After supper great inclination to vomit. Very restless at n., pulse continually spasmodic. Towards m. sweat, and the symptoms gradually subsided, but all d. he felt exhausted. (*Ibid.*, 484.)

8. a. WERNEK took May 13th at 8, 11 a.m., 3, 6 p.m. 4 gr. After 2nd dose pressure in stomach, slight eructation, head somewhat confused, pulse smaller and harder. Food had no taste, but thirst was increased, and he hurriedly drank cold water, which relieved him much. After 3rd dose vertigo and prostration of the whole body, ill-humour, great thirst, loathing and burning in stomach, thirst allayed. Pulse spasmodic, small, not quicker. After 4th dose great loathing and pains in stomach, bitter eructation, slight vomiting of watery bile, followed by great alleviation. Very restless n., uneasiness of mind as though guilty of a crime; frequent momentary palpitation of heart; towards m. sleep with perspiration. On waking confusion of head, vertigo, drawing in all limbs. Tongue covered with white coating. No stool.

b. May 14th 9 a.m. 7 gr., and every 2 h. thereafter increased the dose by 1 gr., so that in 10 h. he had taken 57 gr. Soon after taking

* The provings 6—14 were made with the oxide.

1st dose great loathing, burning in stomach, frequent eructation and hiccup, vertigo with flying heat, head very confused, pulse spasmodic. After 2nd dose of 8 gr. no more loathing, but more confusion of head, also great prostration of whole body with much thirst, shooting betwixt shoulders and in diaphragm. After 3rd dose, besides these symptoms, griping in belly followed by 2 thin bilious stools and great alleviation of all symptoms. After 4th dose, symptoms returned with oppression of chest, and here and there oscillatory muscular movements and formication in limbs. After 5th dose frequently recurring palpitation of heart, very great oppression of chest, and after 1 h. copious bilious vomiting with no relief to other symptoms, especially the pains between shoulders. After 6th dose of 12 gr. colic-like retching and bilious vomiting, trembling in all limbs, very small hard pulse, much thirst and burning in stomach. Turgor vitalis much diminished, very pale face, cold hands and feet. The pains in diaphragm and between shoulders increased greatly and extended to sacrum. Supper caused pressure in stomach. 10 p.m. violent hiccup terminating in eructation of bile. 11 p.m. a loose stool, griping in bowels and tenesmus in anus, followed by great relief, but he felt very prostrated and the pains in back continued. Sleep very restless, full of dreams; towards m. general sweat, which relieved headache, and the pulse became normal. He rose late, was very cross, then came on drawing in limbs and sacral pains; after taking soup at noon felt very prostrated. After supper, slight perspiration, whereupon all the ill-feeling went off, and he felt quite well. (*Ibid.*)

9. A woman, æt. 29, of sanguine choleric temperament, took for 3 d. every 2 h. 2 gr., thus every d. 12 gr., in all 36 gr. The 1st d. some pressure in stomach, pulse became spasmodic, bowels constipated. —2nd d. Anorexia, thirst, some palpitation of heart and pains between scapulæ. Very restless n.—3rd d., m., vertigo, pains in head, and great exhaustion. Bitter eructation of yellow bilious water after eating. Later some vomiting and tearing in limbs, with loose stool. The pains between scapulæ and the prostration lasted over 4 d., and ended in general perspiration, whereupon all the symptoms ceased. (*Ibid.*)

10. A healthy black-haired woman, æt. 30, took every 2nd d., in 6 doses, 6, 7, 8, 9, 10, and 11 gr., at 10 a.m. For 2 h. accumulation of bitter sour water in mouth; at n. shooting and tearing on r. side of head above temple. Soon after taking medicine nausea to vomiting, 1 h. afterwards vomiting of water; it is like thin mucus, and she retched twice; this removed the headache. Nausea, with sour taste and flow of sour water into mouth. Trembling of feet, later shooting on r. side in middle of hepatic region. After 3 h. pain in abdomen below navel, tearing from one side to the other until e. After 1 h. severe chilliness lasting till e.; then nausea, eructation, and flow of sour water into mouth; next d. loathing, nausea, inclination to vomit. (BUCHNER, *Hygea*, xiv, 487.)

11. A girl took, e., 2 gr., which caused pain betwixt shoulders, anxiety, nausea, heat, restless sleep with dreams of fire, falling, forgery; then sweat, pressure in stomach, spasmodic pulse. (*Ibid.*)

12. B—, æt. 27, of bilious constitution, took, Dec. 6th, 8 a.m.,

4 gr., next d. 5 gr. Sweetish flat taste; after 5 h. lame feeling in sacrum, extending into hips, and towards e. most in l. side. Throbbing under lower third of l. scapula. After dinner discomfort. Pain in sacrum on turning in bed, n. Slight nausea; on hawking has a tendency to vomit. Sacral and lumbar pain on stooping. Bruised pain in l. deltoid muscle.—Dec. 12th, 4 p.m., 6 gr.; 2 d. afterwards at same time 8 gr. Weakness in bend of r. arm; weakness and prostration of limbs. Increased flow of saliva. Distension of abdomen. Shooting from r. scapula to l. Nausea, so that he must sit down; he feels inclined to vomit, but cannot, at same time eructation and urging to stool. Talking and listening to conversation are disagreeable. Pressure in œsophagus. Frequent formication in l. knee-joint. After 5 p.m. he must go out, but is very unwilling to go out of the house; in society he becomes hot, has fulness and pressure in stomach, slight sweat on head and hands, dislikes drink; vomiting, the mouth becomes full, with distended cheeks, he runs out of doors and vomits twice the contents of his stomach, and something acrid, causing burning in face; throat feels rough for a long time. Thereafter he ate and drank with great appetite. Next d. slight nausea, pulsation in l. natis. Drawing in bones of l. foot. Same feeling in whole r. foot. Dryness of lips. For a considerable time weakness of lower extremities, disinclination for work, depression of spirits. Above pudendum and to l. a red, afterwards dark-blue, boil, with hard areola, which discharges dirty yellow matter. The areola long remained hard and red. (*Ibid.*)

13. M—, medical student, æt. 26, of delicate constitution, took Dec. 6th, 6 a.m., 4 gr. He had tensive and dull pain in sinciput and frontal region; pressive, spasmodic pain in scrob. cordis and stomach. Affection of l. lobe of lungs. Feeling of pressure, spasmodic tension and weight in heart. Tense, rapid, hard, irregular pulse. Ribs of whole l. side of thorax painful and sensitive to touch. L. nipple very tender and painful. Difficulty of breathing, especially with l. lung. Painful feeling in gastric region, causing irritation and spasmodic pressure. Teeth set on edge, especially when bringing molars together; feeling as if both rows were softened and adherent. Painful persistent heaviness and pressure, as if paralysed, in l. inner bend of elbow. Nausea, as if he should vomit, with feeling of malaise in head and thorax. Loathing and loss of appetite for breakfast, after breakfast relieved. Chilly feeling, then febrile movement in the whole body, a chill ran over the whole back. Noon, dull pain around and under navel. Tickling and irritation in m.m. of nose, as if he should sneeze. Breathing through nose stopped, as in severe coryza. Slept all n. till m., with many vivid dreams; on waking pressure and weight in both shoulders, and head slightly confused.—10th, 9 a.m., 6 gr. Spasmodic twitching of laughing muscles and constant inclination to laugh. Persistent spasmodic pressure in scrob. cordis, oppression of whole thorax. Difficult, full, deep breathing. Nausea, confused head, pressure in forehead, inclination to vomit. Spasmodic sensations in heart and lungs. Spasmodic drawing in middle of abdomen and dull pains in belly. Chill running over body. Weakness and relaxation of limbs, bruised feeling in knee-joints.—12th, 9.30 a.m., 7 gr. Heart's impulse

stronger and more perceptible, like palpitation. Confusion and of whole sinciput. Giddiness. Spasmodic pressure in scrob. cor stomach. Oppressed and difficult breathing. Malaise with nausea. Shooting on l. side of thorax, with painful feeling in l. Febrile rigor all over body. Impeded respiration through nose anxiety and oppression. Rumbling and working about in b Shivering, with inclination to vomit. Trembling in limbs and ting of crural muscles; cold feeling in extremities. Increased tension, and pressure in forehead. Spasmodic pain in scrob. Chilly and cold feeling all over body. Frequent flow of wat saliva into mouth and inclination to vomit. Tensive pain in l. pressure and shooting in l. side of chest. Repeated persistent er with painful feeling. Bruised pain in extremities, worst and persistent in l. thigh. Constant chilly feeling and general r Violent pain in hip-joints as if bruised; tension and painful fee movement. Wax more copious and fluid in l. ear, interfering hearing; pulse beats heard more distinctly, they cause rushing r ears. Perceptible loss of strength and general inward unwont fering. Collection of mucus in throat, causing tickling in Loathing at the medicine.—15th, 10 a.m., 10 gr. Irritat Schneiderian membrane, impeded respiration and coryza. Press of both arms, with tension. Spasmodic pressure in scrob. cor stomach. Confusion of head. Slight rumbling in bowels. S through urethra. Contractive and spasmodic twitching of faci cles, with constant sickness and inclination to vomit. Heavi fulness in stomach. Nausea, chill, and loathing. Pain around Attack of chill over whole body. Retching. Painful feeling o body, relieved by rest. After dinner coryza increased, with stop nose and yet discharge from it. Dry throat, with accumula mucus in larynx and constant desire to hawk the viscid mucus that rapidly re-forms and causes irritation anew. Slight pressin and rumbling in belly. Spasmodic pressure in chest and scrob. —Before the proving he felt very well, but since its commen he has lost much strength, and feels his organism very much a (*Ibid.*, 489.)

14. a. MICHAELIS took first 2 gr. daily for 4 d. without He then took 3 gr. per diem, and after the 3rd dose felt press epigastrium, which lasted some time and took away appetite. of 4 gr. caused a sensation like hunger, but soon came on eructations, and no stool that d. Next d. took same dose. Fir was desire to eat, then nausea, also pressure on forehead, he After 1½ h. vomited twice so violently that bile came away.

b. After waiting 14 d. took 2 gr. for 5 successive d. v effect.—6th d. 3 gr., the usual stool did not occur. This continued till the 12th d. On the 7th and 8th had norma irritation in stomach; 9th, 10th, and 11th, constipation and consequent discomfort, bad appetite.—13th d., m., 5 gr. After eructation, thirst, and after 1½ h. a stool, at first firm, then Another stool, p.m., thin.—14th d., m., 6 gr. The effects incre able, no more diarrhœa. Towards e. loss of appetite, felt tir

could not sleep well, and was plagued with great desire to stretch arms. Next d. head confused. 11 a.m., a liquid stool, after which all symptoms went off. (*Arch. f. phys. Heilk.*, x, 123.)

15. H. L. NORTHRUP, æt. 22,* used 2 gr. tablets of 2x trit. of Z. metall. 1st d.—9.15 a.m., took 1 tablet. 4.30 p.m., desire for stool. 6, strong desire for stool; loud rumbling in abdomen; passed nothing but wind; urinated frequently, and passed increased quantity of pale urine during afternoon. 10.30, took 1 tablet. 2nd d.—No symptoms in m. 1 p.m., took 1 tablet. 4.30, face very hot and red while sitting in cool room; skin moist. Pulse 92, full and steady. 5.35, passed urine, which was cloudy as it left urethra, save towards last. 5.45, pulse as before: temp. 99.6. 6, took 1 tablet. 7, pulse 86, throbbing in head synchronous with pulse; head still hot and face flushed; neck and head covered with perspiration, especially behind ears, around nose, and in folds of skin. 9.30, pulse 68 and small; temp. 98.8; heat in head has disappeared. 11.15, sudden nausea, very severe, with vomiting of thin liquid; face pale and cold; nausea lasted 4 m., followed by colicky pains in abdomen, sometimes shooting down into scrotum; testicles feel sore and bruised. Quantity of urine normal. 3rd d.—Slept poorly, dreamed of everything and nothing; felt used up in m. No symptoms until 8th d., when he took 1 tablet at 8.30 a.m. and at 1 p.m. 1.30, eyeballs ached, with stitch-like pain in l. eye. Took 1 tablet at 5 and at 9 p.m. 9.20, itching of nose and scalp, relieved by scratching. During e. throat sore on swallowing. Unusual thirst during afternoon; strong desire for salt and salty things. Pulse and temp. normal. 9th d.—Took 1 tablet at 8 a.m., 12 m., and 4 p.m. 10.55, dull, continuous, slightly throbbing frontal headache, followed by similar pain at root of nose, with sense of fulness. Hands burn, but palms are moist. Head feels full and hot. Pulse 90. Itching under eyes and behind r. ear, relieved by scratching; feeling of weight in forehead: sleepiness and indifference. Twitching of l. sternomastoid muscle. 3.30 p.m., desire for stool; bowels moved for second time. 4.9, sudden frontal headache on walking upstairs. Pulse 88, temp. 99.6 to 100. 6, face red and hot; face, neck, and palms moist with perspiration. 8 p.m., temporary sharp pain in l. parietal region. 10th d.—8 a.m., dull pain in l. chest. 11, slight nausea. 12 m., pulse 92, temp. 98.8; hand placed on forehead can feel pulsations. Hands burn; l. frontal headache; thirst in aft. and e. 11th d.—In m. rather more thirst than usual. No further symptoms. (*Trans. of Amer. Inst. of Hom.*, 1888, p. 159.)

16. a. L. D. LIPPITT, æt. 20, proved same. 1st. d.—7 a.m. and 6 p.m., took doses. 2nd d.—Took 4 doses at intervals. 3rd d.—A slight headache, coming on at frequent but irregular intervals, generally felt when moving or jarring head. It is in a small spot on l. temple, and feels as if artery were beating against a tender place; not severe, nor noticeable if mind is occupied. Not felt after 8 p.m. (Never had a headache of this character before.). Same, after 9 d., took 4 gr. 3 or 4 times a d. for 3 d. No effect.

* See I, 25.

b. Same took repeated 2 gr. doses of 3x trit. of phosphate, without effect. (*Ibid.*, pp. 161, 172.)

17. A. W. GREGG, æt. 22, took metal in 2 gr. doses of 3x trit. On 1st d. two doses. That n. rest was disturbed by vivid dreams. 2nd d.—Took 3 doses. At 8 a.m. a diarrhœic stool, yellowish in colour, and evacuated with a gush. Good n. One more powder on 3rd d., but no further effects. (*Ibid.*, p. 162.)

18. *a.* E. B. FINNEY, æt. 21.* Bowels move easily, but slight tendency to diarrhœa. 1st d.—8 p.m., 2 gr. of 2x trit. of metal. 2nd d.—7 a.m., 2 gr. At 11.30 slight pain at apex of heart. 1.45 p.m., slight griping in bowels, soon followed by gushing stool of thin brown fæces with flatus. Griping pains continued 5 m. after stool. 5, needle-like pain about great trochanter of femur. 8, dry cough from tickling in larynx. Dull feeling in head. Pain in bowels continues at intervals. 3rd d.—Slept well. Very little abdominal pain on waking. 7 a.m., took 2 gr. Cramp-like pains at intervals all d. Once or twice slight pain at apex of heart. Mind dull. Stools loose and brown. 4th d.—Felt well on rising. 7 a.m., took 2 gr. 8, piercing pain at apex of heart, lasting 3 m. 2.30 p.m., dull, used wrong words when talking; chilly. 9, chilliness continues; low-spirited. Went to bed, but sleepless until 11.30. 5th d.—Restless n.; awoke many times. At 12 m. head began to ache, worse in temples. Cannot concentrate mind on work; feels feverish. At 2.30 temp. 99°, pulse 92. Dry cough at intervals all d. 9.30, pain about apex of heart. 6th d.—Cough in m. 10 a.m., abdominal pains. 1.30 p.m., feels feverish. 2.30, temp. 99°, pulse 100. Head heavy and mind dull; sharp pain in region of heart. 7th d.—Sleep last n. much broken. 10.30 a.m., sharp pain again in apex of heart. Dry cough at intervals during d. 8th d.—Slept well. Took 2 gr. at 7.15 a.m. At 12.30 began to feel badly in head; mind was dulled. 9th d.—Felt well all d. 7.15 p.m., took 2 gr. 10th d.—Slept ill, with dreams of work or study. At 11 p.m. got up with feeling as if he must urinate, and was lost in his own room. When thoroughly awake found that the desire to pass water was a false alarm. No further symptoms.

b. Same after 1 week resumed proving of 2x. 1st d.—8 p.m., took 4 gr. No effect. 2nd d.—10 a.m., took 4 gr. 11.45, dull occipital headache: head feels dull. Took 4 gr. at 2 and at 7.30 p.m. No effect. 3rd d.—4 grs. in m. and p.m. No effect. (*Ibid.*, p. 162.)

19. D. M. LANDIS proved 2x trit. of *Z. metallicum*. He took 2 gr. twice daily for 3 d. without effect. Then, after 2 d. interval, he took 4 gr. 3 times on 6th d., and 4 times on 7th. On latter d. felt drowsy all forenoon, with heaviness of head and dull frontal headache. In e. could not read or bear bright light; felt drowsy, and pain in forehead was more intense; stuffed feeling in nose. Frontal headache continued all next d., but not so severely as on previous e. No further symptoms. (*Ibid.*, p. 166.)

20. *a.* W. C. SEITZ, æt. 25, health perfect. 1st d.—Took 2 gr. doses of 3x trit. of metal at 7 and 11 a.m., 3 and 7 p.m. At 1 p.m.

* See I, 26.

vague dull pain in lumbar region, continuing all d., aggravated by lying on back. Urine diminished and highly coloured. 2nd d.—Awoke with no trace of symptoms. Took 2 gr. at 8 a.m. and at 12 m. Lumbar pains returned, lasting all d. At 1 p.m. experienced a headache entirely new in character; beating in frontal and temporal regions; worse on stooping and on being exposed to heat of sun. Urine diminished and nearly blood-red. 3rd d.—No symptoms experienced.

b. Same, 13 d. later, took 2 gr. dose of 2x, repeated every 4th h. Became drowsy in m. before dinner. P.m., gnawing headache, frontal, marked over r. eye. On stooping, headache became beating in character. Urine high-coloured, and warm to m.m. of urethra as it passed. Sleep disturbed by roving dreams. 2nd d.—Slight heaviness in frontal region. 3rd d.—Took 4 doses at intervals of 4 h. Much drowsiness after 2nd dose; still more marked after 3rd. Stupid, would miss letters when writing; dull heavy feeling in forehead. Distress in abdomen, vague empty feeling with discharge of flatus. Anorexia. Dull pain in lumbar region, markedly aggravated while in dorsal decubitus. Some languor and muscular soreness. Urine high coloured and of high sp. gr. 4th d.—Took 3 powders at intervals of 4 h. General malaise, and marked muscular soreness towards e. Dull frontal headache, aggravated by stooping or mental work; inability to fix attention while writing or reading. Headache most marked over r. orbit. Sickening sensation in stomach. (*Ibid.*, p. 164.)

21. C. R. FULMER, æt. 20, health good; takes tea and coffee, and is a smoker. Proved 3x trit. of Z. phosphoricum in 3 gr. doses. On 1st d. took 4 doses without effect. 2nd d.—At 7.45 took powder. 9, slight crampy pains in abdomen and desire to defæcate; stool small and hard. 12 m., took powder. 12.30, very dizzy on rising from desk, where he had been writing all m. The crampy pains troubled him from time to time. 3.30, crampy pains continue, and he has constant desire to defæcate, driving him at times to stool, when he passes only a little hard, fæcal matter, with much straining. 5.30, stitching pains below and to l. of l. nipple, coming and going at intervals of 1 m. for about 20 m. while walking; they ceased on sitting down. Abdominal pains were better for walking; they returned after supper for 10 m. 3rd d.—At 1 p.m. crampy pains returned while at dinner, lasting 20 m. 1.30, sudden shooting pain below l. scapula for 2—3 seconds. 4.30, slight stitching round l. nipple occurred for 14—20 m. while walking; becoming better when he stopped. 5.15, the crampy abdominal pains come and go, lasting only a few m.; still great desire to defæcate with them, but must strain a great deal before any fæces pass. 10, quick and sharp, but momentary, pain around l. nipple while standing. 4th d.—Abdominal pains still come and go. 10 a.m., sharp pains in both sides of head while writing, lasting about 5 m. 10.15, throbbing around r. nipple, transient, but recurring. 1—4, dull pain about r. nipple. No symptoms on 5th or 6th d.; nor, though medicine was taken every 4 h., on 7th—9th d. (*Ibid.*, p. 170.)

22. CHAS. H. WELLS, æt. 29, health good. Sac. lac. test negative. Took several 3 gr. doses of 6x trit. of phosphate without effect. Then, after an interval of two weeks, began the 2x trit. On 1st d.,

at 9.30 a.m., he took 3 gr., and soon began belching a gas resembling sulphuretted hydrogen. At 1 p.m. repeated dose, which made belching more marked, and soon slight disturbance of stomach bordering on nausea was experienced. Later, felt weakness in bowels, as if diarrhoea would come on. Some confusion of ideas. 2nd d.—Passed comfortable n. At 5 p.m. took 3 gr., and soon experienced the belching; then nausea and a diarrhœic stool ensued, with confusion of mind.

b. Same prover, after an interval of one month, took 3 gr. at 8 a.m. No effect. Took 3 gr. again at 12.45 p.m., which was followed by a bad taste, some nausea, and dulness of head and eyes, with disinclination to work. 2nd d.—Slept as usual through last n. Took 3 gr. at 9 a.m. Felt some uneasiness through body, and on lying down after dinner felt cutting pain through chest just left of sternum. This pain continued until he arose, but a sore, weak feeling at site of cutting remained for some time. (*Trans. of Hom. Med. Soc. of Pennsylvania*, 1889, p. 202.)

23. R. H. EDMONDSON, Jr., Austin, Texas, æt. 23, single, medical student. Took 3 gr. of 3x, and subsequently of 1x trit., without effect, save some metallic-tasting eructations after latter. (*Ibid.*, p. 204.)

24. CHARLES E. GROVE, New Britain, Bucks Co., Pa., æt. 25, single, student. Took 3 gr. of 3x trit. at 9 a.m., and in 3 h. had a congestive headache, with chilly sensation all over body, sharp stitching pain about l. base of heart, nausea and "gone" sensation in stomach; pulse 54, somewhat irregular. He was subject to congestive headaches; and all symptoms left him, after a hearty dinner, about 1 p.m. Then, after an interval of 10 d., he took the 2x trit., 3 gr. at a dose, at 8 a.m., 12 m., 4 and 8 p.m. No effects. (*Ibid.*)

25. CHARLES L. RUMSEY, Philadelphia, Pa., æt. 20, single, medical student. Height 5 feet 9½ in.; weight 142 lbs.; constitution good, but subject to mild sore throat on catching cold; temperament nervous; former diseases, varicella, measles, typhoid fever, cerebro-spinal meningitis; takes coffee (in m.); normal pulse, lying down 68, sitting 74, standing 79; normal resp., 20; normal temp., m. 97.8°, e. 98.2°; urine, about 2 pints daily; normal stools daily. Sac. lac. test was negative. At 9.30 a.m. took 3 gr. of 3x trit. No symptoms during d. 2nd d.—Slept well during n. No symptoms during d. 3rd d.—At 9 a.m., natural stool. 1 p.m., took 3 gr. In afternoon had frontal headache; ascribed it as result of close attention to dissecting. 6, 3 gr. 7, the headache has developed into an intense pain at coronal suture; sensation as if head were separated here into two distinct parts. The pain and sensation, as described, never experienced before. Never had neuralgia; probably it was such pains as accompany neuralgia—very acute exacerbating pain. Seems to follow course of frontal nerve. Twitching of eyes, particularly l. 7.30, desire for stool. 7.50, strong desire to defæcate; tenesmus before and after movement; stool made up of small lumps; feeling as if faecal matter slipped back into rectum. 10.15, temp. 99.4° 4th d.—Between 3 and 4 a.m. was awakened by a seminal emission, without dream; arose feeling somewhat as usual, pains about head having disappeared. 9 a.m., same character of stool as last, with less tenesmus. 10, took 3 gr. 3.30 p.m., stool normal.

4, took 3 gr. 6, sensation and pain about head as yesterday, less acute and more constant; no twitching of eye, but occasionally a sharp lancing pain through l. eyeball; though a mild day, and persons are complaining of "how warm it is in the house," has been chilly all day and susceptible to least draught of air; more comfortable walking out in air. 10, temperature 98.4° ; blister on fourth toe of r. foot, which was opened, but it remained sore. 4th d.—Between 3 and 4 a.m. awakened by a seminal emission, again without dream, an unusual occurrence, as he seldom, if ever, had 2 emissions same week; arose with dull frontal headache. 9 a.m., stool made up of very small lumps, with tenesmus; considerable flatus passed per anum during d.; headache has disappeared. 10.30, took 3 gr. 12.30 p.m., while at dinner, severe nausea, no vomiting, passed away in a few m.; chief complaint is constant chilly feeling, and mind is dull. 5.30, took 3 gr. 10.30, not so chilly and feels better. Toe still sore. 6th d.—Feels dull and heavy (effect of New Year's party, perhaps). At 9 a.m. gushing stool of brown fæcal matter; acute pain on crown of head, increasing in intensity, then diminishing and again increasing; not so chilly. 4 p.m., natural stool. No further effects. After an interval of 2 d., at 9.30 a.m. he took 3 gr. of 1_x trit. Has an enervated feeling; has been so sleepy during afternoon and e. that he was compelled to lie down 3 different times; would, at times, find himself asleep in his chair. 2nd d.—At 9 a.m. took 3 gr. Slept badly; eructation immediately after taking powder; on rising from chair had stitching pain through hip-joint, relieved by motion. 3rd d.—At 9 a.m. took 3 gr. No symptoms. (*Ibid.*, p. 205.)

25. Herbert L. NORTHROP, Seymour, Conn., æt. 23, single, medical student. Height, 5 feet 6 in.; weight, 127 pounds; eight years ago had attack of eczema, probably of inherited origin, as father is suffering constantly; temp. sanguine; uses no stimulants; normal pulse, lying 70, sitting 74, standing 78; normal resp., 13; normal temp., m. $97\frac{3}{8}^{\circ}$, e. 98° ; urine between $2\frac{1}{2}$ and 3 pints daily, perfectly normal; stools free, daily movement. Sac. lac. test, frequently tried, has always been followed by itching of skin in various portions of the body.

a. Took 3 gr. of $2x$ trit. of phosph. at 4.30 p.m., 2 h. after dinner. No effects. After interval of one week, proved $3x$ trit. in 3-gr. doses. 1st d.—Took 1 powder 11.30 a.m., $1\frac{1}{2}$ h. before eating. 2.55 p.m., dull r. frontal pain. 7.40, itching and soreness of l. deltoid. 9.30, took powder. 10.15, pain in r. parietal region. 10.30, itching of scalp and forehead. 10.50, itching of r. knee, r. cheek, r. side of scalp, l. cheek. 11, itching of sternum, upper end. 11.14, itching, marked, of r. scalp and r. ankle. 11.43, itching of r. thigh posteriorly, of umbilicus, of l. thigh. 12, intense itching of scalp, r. leg, and r. side of scrotum. 12.15 a.m., took powder. 2nd d.—At 8 a.m., 12.15, and 5 p.m., took a powder. 9.45 p.m., severe itching of l. wrist and r. side of head. 3rd d.—No further effects.

b. Same, after an interval of 3 d., proved 1_x , in 3-gr. doses. 1st d.—At 6.20 p.m. took powder shortly before eating. 6.33, eructations of gas, tasting metallic, or like gas from coal-stove; eructations of same kind every few m. during meal and for some time after. 6.50,

suddenly-appearing sharp itching at l. wrist, quickly disappearing immediately followed by same on r. side of head; this soon disappears and immediately followed by itching of chin. 7.45, eructatio continue, but less frequent; sharp, stinging sort of itch on 8.10, no eructations; acute, stinging, "high-pitched," interrupt in styloid process of r. radius; heart-beating jars all through making glasses on nose pulsate; placing hands together, can feel in fingers; pulse 82, very hard, full and strong. 8.16, itchy scalp. 9.40, occasional eructations. 11, itching, during entire all parts of body; increased thirst; itching invariably relieved by scratching. 2nd d.—No symptoms up to 12 m., when he took powder. Soon eructations and itching, as upon previous e. 12.16 p.m. deep pain in l. half of brain. 12.40, deep, dull pain under sternum if in cardiac end of stomach; head feels awfully heavy, inclined forward, and particularly backward. 12.55, dull, but severe, pain at wrist, lasting 30 or 40 seconds. 1.50, very severe undulating pain in r. leg, outer side, just below knee, lasting 10 m.; soon dull pain in l. half of head. 3, regurgitation of sour fluid, with gas. 4, took powder. Dull steady pain in r. half of head; pulse strong and hard, eye-glasses pulsate, and also felt at end of penis; pulse sitting 4.15, itching and eructations, same as before. 4.25, headache in forehead upon going up stairs. 4.35, headache localised in l. temple severe. 5.21, dull pain deep in r. chest, near sternum. 5.45, matic pain in l. hand; eructations. 6.40, involuntary jerking of r. leg while sitting; colicky pain at umbilicus while eating a little potato and turkey. 7.5, after supper, nausea; desire for stool. Eructations, almost a hiccup; sickish feeling in stomach all e. 8, took powder. 3rd d.—At 1.30 a.m., took powder. Eructations immediately; after sleeping no symptoms. 11.30 a.m. took powder. 12.15 p.m., qualmishness. 12.25, eructations. 12.40, hiccup, lasting 1 m. 2.15, severe, sharp pain in l. side of head, migrating to forehead, continuing as dull pain; itching of face. 2.20, took powder. excessive nausea; strong tendency to vomit; desire for stool; stool, which relieved nausea. 6.30, took powder. 7.8, nausea and eructations. 10.10, loud belching; right-sided headache all e. 2nd d.—At 7.40 a.m., dull pain in r. part of head. No further symptoms. (*Ibid.*, p. 207.)

26. Everett B. FINNEY, Philadelphia, Penna., æt. 22, single, cyan. Height, 5 feet 11 in.; weight, 177 pounds; constitution, nervous; uses no stimulants; normal pulse, lying 80, 92, standing 100; normal resp., 16; normal temp., m. 98.4°, e. urine about 1½ pints daily, amber-coloured; stools daily, but diarrhœic tendency. Sac. lac. test, negative. Proved 3x trit., i doses. 1st d.—At 2.30 p.m., after dinner, took drug. 6 p.m. took drug. No effect. On 2nd d. took drug twice, and on 3rd and 4th d. once, without appreciable effect. Same result followed later at 2x and 6x trits.,—a diarrhœa occurring while taking the former previously. (*Ibid.*, p. 210.)

27. Sarah N. SMITH, M.D., May 9th—13th, 1880, took eve

a dose of *Z. acet.* 6x—about 30 dr. a d. 10th.—L. ear set up a great burning and itching that continued all d.; there was also great itching of scalp on that side. 11th.—Soon after first dose, peculiar tingling prickling in fingers of l. hand; later on same feeling in l. foot, and in $\frac{1}{2}$ h. whole l. side of body was similarly affected, but with increased intensity, especially l. half of spinal column and parts adjacent, accompanied with hot feeling and slight perspiration. Same prickling and tingling in l. side of head, with itching of scalp. Fingers of r. hand were soon affected, and experienced same sensations, but in slighter degree; also r. foot. 12th.—All symptoms less, save burning and itching of l. ear, which is still very annoying. 13th.—Burning and itching of l. ear still, and this m. l. hand and lower arm are quite red, but without much eruption; more or less itching on l. side of head most of the time. 14th.—Last e. and this m. experienced a lame sore feeling in l. hypochondrium when attempting to turn in bed; felt some discomfort again in r. foot, but not so severe. Bowels constipated most of the time throughout proving. 16th.—Itching and burning of l. ear still continues. (*Trans. of Amer. Inst.*, 1888, p. 260).

II. *Poisonings.*—1. A man, æt. 52, swallowed by mistake a wine-glassful of a very concentrated sol. of the sulphate. He was seized almost immediately with pain at the epigastrium and sickness, and came it once to the hospital. On admission countenance was pale, expression anxious, pulse about 70 and small, skin cold and clammy. He still complained of pain and sickness. Bowels acted freely soon after. A mustard emetic was given, and followed by demulcent drinks, with opium and brandy. Towards e. pain and sickness had decreased, and general condition had improved; which it continued to do, though very slowly, for 3 d.; but on the 4th he sank into a very exhausted condition, and died on the 5th. *P.M.*—All tissues of the belly were found loaded with fat, heart especially fat and flabby. Mucous membranes of pyloric end of stomach and of duodenum were reddened and inflamed in patches. No other morbid appearances were detected. (*Med. Times and Gaz.*, 1862, II, 252.)

2. A young lady swallowed (by mistake) \mathfrak{z} ij of sulphate in solution. Countenance immediately became pale, eyes dull, extremities cold, pulse fluttering. She then complained of burning pain in stomach, and vomited violently. Potass now being administered in syrup, pain ceased, vomiting gradually abated, and patient soon recovered completely. (*ORFILA, Tox.*, sub voce.)

3. A man took \mathfrak{z} iv of the sulphate by mistake for Epsom salts, in \mathfrak{v} v of warm water. He immediately experienced a sense of violent distension in head, and was seized with coldness, shivering, and prostration; his features were contracted and of a leaden hue, and he felt a choking sensation with constriction around the chest. Spasms affected the eyeballs and upper extremities; there was tenderness in throat, epigastrium, and abdomen; resp. was 15 and feeble, pulse 60 and languid, and there was incessant vomiting and purging; the mind was clear. Patient recovered, but diarrhoea continued for several d. (*STILLÉ, op. cit.*)

4. TOULMOUCHE found that in 2 gr. doses the sulphate seldom pro-

duced vomiting. In 4 gr. doses it occasioned some, with liquid stools in more than half the cases. Doses of 6, 8, 10, and 12 gr. almost always produced vomiting, and purging about half as often. Doses of 15 gr. caused vomiting in one third only of the cases, and diarrhœa in two thirds. In nearly all there was more or less colic, but very little nausea. (*Ibid.*)

5. *a.* After taking the oxide in doses of (for adults) 2 gr. and upwards a feeling of nausea is sometimes perceived, but seldom to the extent of inducing vomiting. After persevering with the treatment for some d. the medicine is in most cases tolerated, and the nausea and uneasiness produced at first diminish and even disappear. A slight giddiness, attended with the appearance of black specks before the eyes and rumbling noises in the ears, may accompany the nausea. Sleep is frequently produced. (6 cases are mentioned, in none of which had insomnia previously existed.) . . . It is not a little remarkable that oxide of zinc should in some cases produce the very symptoms it is intended to cure, viz.: giddiness and faintness. Sometimes also, though rarely, an apparent increase of the existing symptoms will occur in cases of chronic alcoholism treated with it; but, on diminishing the dose, the unfavourable symptoms at once disappear.

b. C. G., æt. 26, complains of headache and giddiness. Previous to her marriage, 6 years ago, she had been subject to fainting-fits, but since then the affection had not returned. She was treated with small doses of the oxide, and after taking first dose felt very sick, and fainted. After taking a second dose, she again fainted, remaining unconscious for 2—3 m. on each occasion. (MARGET, *Chronic Alcoholic Intoxication*, Lond., 1860, p. 81.)

6. HERPIN, besides nausea even to vomiting in adults, and slight diarrhœa in children, has seen, from long-continued use of the drug in full doses, anæmia and chlorosis supervene in young women. (*Ibid.*, p. 80.)

7. A gentleman took daily, for epilepsy, about 20 gr. of the oxide, till he had consumed 3246 gr. At the end of this time (about 5 mo.) he was found of pale, earthy hue, wasted away, and almost idiotical; tongue was thickly coated, bowels constipated, lower extremities cold and œdematous, abdomen tumid, upper extremities cold and shrivelled and their skin dry like parchment; pulse about 60, thready, and scarcely perceptible. Under purgatives, diuretics, and tonics he rapidly recovered. (PEREIRA, *op. cit.*)

8. In a family which had suffered from lead-poisoning through action of drinking-water on leaden pipes, fresh troubles arose after a pipe of galvanised (*i. e.* zinced) iron had been put in place of the leaden ones. A young lady who had laboured under diplopia* remained well for some five months, when suddenly, after having for 2 d. suffered from a feeling of languor with aching in lumbar region, the diplopia returned. Examination proved the drinking-water to be virtually free from lead, but to contain .58 gr. of carbonate of zinc to the gallon. The diplopia was diagnosed as due to paralysis of the sixth pair. It increased in spite of the disuse of the water, and decided strabismus

* II, 11 of *Plumbum* in this *Cyclopædia*.

was developed. L. eye was more affected than r. With the pain in the back urine was dark and turbid, as it had been when under influence of lead.* Change of air induced slow but ultimately complete recovery. (v. TUNZELMANN, *Brit. Journ. of Hom.*, xxxii, 610.)

9. A younger sister, who 2 years previously had suffered from rachialgia running into what appeared to be incipient paraplegia, but had recovered, began (while drinking the zinced water) to suffer from a return of the rachialgia in an aggravated form, so that she was confined to her bed for about a month on account of the exhaustion produced by want of sleep and almost total anorexia. There was also much photophobia, but no pyrexia. She improved gradually under cimicifuga 1 and 3, but did not recover till water was disused, and she had had a change. (*Ibid.*)

10. The mother† of these two young ladies suffered for some time from pain in lumbar spine, also in region of both kidneys, and latterly also from giddiness and anorexia, with nausea and vomiting occasionally, and a good deal of griping pain at times in abdomen, with tendency to diarrhœa. Urine was dark and turbid, and deposited a large sediment, composed of urate of ammonia, with a few crystals of oxalate of lime, and cells of renal epithelium. In one specimen, sp. gr. 1023, sugar was distinctly present, though in small quantity. (*Ibid.*)

11. In 1870 the town of Melrose, Mass., had adopted for its connection from the mains to the houses an iron pipe lined with a thin and unstable smearing of zinc, galvanised upon the interior, and in most instances when tested found worn off after 6 mo. use. For several months that year Dr. Smith had been noticing a marked congruity of certain peculiar nervous symptoms in some of his patients, mostly young children and delicate women, but in several instances strong men. One family in particular offered, in several of its members, almost a complete picture of this novel endemic. Living high above the town, they had a large cistern, lined with galvanised iron, connected by 70 ft. of 1½ in. pipe of same material.

a. In Nov. two daughters had a persistent angina faucium, with ulceration of pharynx and tonsils. Ulcers were round, sharply defined, with red everted edges; they gradually coalesced. They were filled with light yellow pus, adherent to the base. While convalescing from this, the younger began to develop nervous symptoms. For about 10 d. there was on waking in m. entire inability to move head and extremities, with general hyperæsthesia. After about an h. of rubbing, &c., walking became possible, but with staggering uncertain gait and tendency to fall to l. Eyes had an outward cast; pupils alternately contracted and dilated, generally dilated; falling of upper lids and œdema of lower; objects appeared elongated and at times double; expression vacant and apathetic, or irritable; there was constriction and spasm of œsophagus during deglutition, accumulation of mucus in larynx and posterior nares, with obstruction of both nostrils and nasal speech. Then, suddenly, for 24 h. every appearance of violent spasmodic croup, with difficult swallowing, and it was feared that the child

* Not mentioned then.

† II. 13 of Plumbum.

would choke. Gelsemium r_x , given on e. of 2nd d., quickly relieved these symptoms, which did not recur. There continued, however, a train of obstinate conditions wholly resisting treatment for many d., such as eructations, loss of appetite, vomiting of bile or mucus; offensive diarrhoea, alternating with constipation; diminished secretion of urine, which was once even suppressed for some little time. Pulse, wiry and irregular, was 112. There were for some weeks in e. feverish flushes of heat, with heightening of colour from cervical region upwards and forwards, attended with excitement and crying out to be fanned, and some thirst. Sleep was agitated and unrefreshing, with occasional night sweats. In e., besides flushing, there was entire inability to support the head. There was great emaciation, cachectic look, bluish-white complexion. At this time drinking-water, on being examined, was found to contain 6—20 gr. of oxide of zinc in the gallon. It was stopped, and improvement set in, eventuating in complete recovery by following July.

b. Before the discovery, however, a brother, aet. 13 , delicate and strumous, had been supposed to be suffering from a simple catarrh; but on examination presented an emaciated feeble appearance, the face wrinkled and of the same bluish white as his younger sister. His pulse was found 40 only, and intermittent; there was a dry spasmodic cough and slight epigastric tenderness on gentle pressure. Next d. he complained of fleeting pains in hypogastrium on rising from a recumbent posture, continual nausea, and entire loss of appetite—sight or smell of food exciting extreme disgust. He vomited mucus several times the following n., and bile next m., with extreme nausea, but no symptoms of gastritis—even tenderness on pressure eliciting no complaint. There was pallor round mouth, and contraction of upper lip. Only milk was retained, of which an oz. was given at intervals. There was entire absence of pain or complaint to the end. He vomited again that e. and next m., but passed a quiet n. in sleep. The following e. he vomited once a brown fluid like coffee-grounds; pulse 60; face a little flushed; no delirium or stupor. Next m. he awoke just before light with a call to stool, and after passing about a gill of disorganised blood, sank into a swoon, and died before help could arrive. At the autopsy, the unanimous opinion was that death had resulted from heart-failure, caused by the zinc-poisoning. The stomach, however, was extensively injected, and showed traces of sanguineous exhalation.

c. The following were the symptoms of other members of the family, and of a dozen or more in other parts of the town. (This record is from notes taken during about 6 mo., until the obnoxious pipes were removed by authority, after which the endemic gradually subsided and has never since recurred.) Constant dull frontal headache; headache extending from occiput to eyes; frequent attacks of vertigo, preceded by sharp pressure at root of nose, and sense of drawing together of eyes as if by a cord, followed immediately by excessive nausea, faintness, and trembling of hands as after a wine debauch; sensation of general trembling, without actual tremor; intense pain in brain, almost maddening, followed by excessive vomiting, attacks coming on suddenly; vomiting of clear mucus or more rarely of bile;

vomiting attended with trembling, as in drunkards; ptosis; itching and stitching in inner canthi, with sudden cloudiness of sight; heavy pressure on eyes; constriction and spasm of throat; acute darting pains through all joints, especially ankles, knees and elbows, with numbness of adjacent parts, and exhausted paralysed sensation in muscles of upper arms and thighs, worse on r. side; trembling of feet and difficulty of raising them, and frequent stumbling; excessive nervous moving about of feet in bed for hours at n., even when asleep; nightly itching of soles, calves and thighs, perfectly intolerable; general fornication for weeks, as if under skin, relieved only by rubbing with balls of fingers; deathly sinking at stomach for hours, after eating anything acid; frequent fainting, several times daily, followed by prostration and numbness of different parts of body; severe stabbing pains in abdomen, without diarrhoea or constipation, continuing several hours, and returning periodically. If wine were tried even in minute quantities, as a gentle tonic, it induced nausea, headache, and pressure at occiput, with a vertiginous feeling out of proportion to the amount drunk. (HEBER SMITH, *Trans. of Am. Inst. of Hom.*, 1888, p. 270.)

12. A man, æt. 36, had been a brass-founder for 12 years. At first he suffered from pyrosis, with gaseous eructations. In the winter, when the doors of the workshops could not be kept open, he often had violent choleraic attacks (intense headache, severe shiverings, cramp in extremities and especially in calves, nausea, vomiting, and considerable action of bowels). At this time he came under care of Prof. Botkin. Vomiting had become almost continuous, returning regularly 3 or 4 times after a meal; he had always pyrosis and acid eructations, and complained of dull pain in epigastrium and on r. of umbilicus; a general weakness, more marked on r. side; and habitual constipation, lasting 6, 8, 10 d. He slept badly, and was often disturbed by violent headache and painful cramps in calves; had extreme sensitiveness to cold, and an appetite small, capricious, and at times altogether failing. There was pallor of the mucous surfaces, with disappearance of the subcutaneous cellular tissue, and atrophy of the muscular system, much more marked on r. side, in face as well as limbs. Decrease of sensibility to touch; tickling, on the contrary, was more quickly responded to than in the normal state. Temp. in m. was 36; in e., 36.3. Weight of patient was 45 kilogr. His answers were slow, and he spoke as if in a bad temper. Daily quantity of urine was 550 c. c.; it was neutral, or even alkaline, containing neither sugar nor albumen; but zinc was found in it even 2½ mo. after patient had left his work. First cardiac sound was rough and rather prolonged. Liver was voluminous; stomach considerably dilated, reaching as far as navel, its peristaltic movements at times very appreciable through the abdominal wall; pylorus, hypertrophied, sunken, and moveable, formed a tumour sensible to touch, sometimes to r. sometimes to l. of umbilicus. Under r. false ribs another hard tumour was found, slightly indented, not well defined, painful when pressed; repeated examinations showed it to be very variable in size, that prolonged pressure caused its gradual disappearance, and that it was most evident during the violent gastric crises from which the patient suffered: it was thus caused by contrac-

tions of hypertrophied muscle. The matters vomited, varying from 600 to 2000 grm. daily, gave an acid re-action and a smell of rancid oil. Besides the remains of the food the presence of products of fermentation was proved, such as butyric and lactic acid; also the existence of a large number of sarcinæ and cryptogams. The gas from the eructations was inflammable (hydrogen). (POPOFF, *Brit. and For. Med.-Chir. Rev.*, 1873, ii, 254.)*

13. Dr. HEADLAM GREENHOW has observed in brass-founders, who are exposed to the fumes of deflagrating zinc, an irregular kind of intermittent fever. The attack commences with malaise, a feeling of constriction or tightness of chest, sometimes accompanied by nausea. These are followed in e. or at bedtime by shivering, sometimes succeeded by an indistinct hot stage, but always by profuse sweating. The sooner the latter follows the setting in of the cold stage, the shorter and milder is the attack. Headache and vomiting frequently, but by no means always, are present. The attacks are ephemeral only, but are sometimes of frequent occurrence,—slight causes, such as getting into a cold bed, or any trifling derangement of health, being apt to excite a paroxysm in those already predisposed to it. (*Med. Times and Gaz.*, 1862, i, 227.)

14. SCHLOKOW observed the effects of zinc on the workmen who extracted it from the ore by a kind of distillation, whereby the oxide was deprived of its oxygen by great heat in a clay retort, and deposited as metal in a kind of receiver. Those who had worked at the business for a long time suffered from chronic and obstinate catarrhs of the respiratory organs and disorders of digestion. Enlargements of liver and spleen were frequent, and tendency to intestinal catarrh. The complexion of face and skin is dirty grey, on the gums is a narrow dark line, and the victims look older than their age. Some of them suffer from night blindness accompanied by xerosis conjunctivæ. After 10 or 12 years of this work, the workmen complain of pain in sacrum, and there is increased sensitiveness of lower extremities. They complain that their soles are too sensitive to the smallest unevenness of the floor, and every stone causes them pain; they have burning in feet which disturbs their sleep; they have a feeling as if the skin of their legs was too short, and as if mice came running about on them; they have formication and creeping in lower extremities. Some complain of chilliness in the tibiæ and burning in skin; if a fold of skin is raised up, that causes pain as if cut with a knife. There are various pains in thighs, not very severe. In this stage they generally have the feeling of a girdle or hoop round the body. Later gone-to-sleep feeling, numbness and furriness of legs; they feel their feet cold, but to touch they are quite warm. The sense of touch in the lower extremities is generally lowered, so that they do not feel the ground properly when they step on it. Pricks with a pin are felt in some parts of skin of lower parts of body indistinctly, in others very acutely. Sometimes the dorsum of foot or anterior tibial surface is over-sensitive, whilst the abdominal integuments and genitals have diminished sensitiveness. The reflex irrita-

* Revised from original (*Berl. klin. Wochenschr.*, 1873), of which it is a convenient summary.—EDS.

bility is increased on the greater part of the skin of lower extremities. The knee-jerk is usually exaggerated; blows upon patella and tendo Achillis cause reflex contraction in almost all the muscles of the body. There is usually a diminution of the muscular sensibility, so that the control over some muscles is lost. The patients walk stooping, in order to be able to follow the movements of their legs; when they shut their eyes they soon begin to stagger, and would fall unless supported. In the dark they are quite lost, because then they are not masters of their extremities. But when lying or seated they can move their extremities properly. Later their gait becomes wide, stiff, spasmodic, hurried and uncertain; they put down the whole sole when they tread. They turn and go upstairs with difficulty; with every movement of the legs there occurs muscular trembling, especially in thighs and nates; this is excited by the smallest mechanical shock and lasts a long time. The nutrition and size of the muscles do not suffer; their irritability by induction current seems to be increased. As the disease advances there occurs a paralytic weakness of the muscles of the lower, and lastly of the upper, extremities, shown when attempts are made to lift the legs, and to move them sideways, to bring the knees together; the power of pressure of hand is diminished, and the resistance of the muscles to passive movements is weak. (*Deutsche med. Wochensch.*, 1879, p. 17, 208.)

15. In workmen employed in casting brass the following symptoms occur: Anorexia, pressure and pain in stomach, inclination to vomit, oppression of chest and cough, pain in forehead, tinnitus aurium, prostration, shivering. After 2 or 3 h. there occurs cold sweat, often preceded by great heat. Next m. all these symptoms are gone, but the health of the workmen is usually undermined by the gradual development of asthma and other chest affections. (*BLONDLET, Jour. de Méd.*, 1846.)

16. REBOULLEAU observed in the workmen in a brass foundery, and on himself after he had been several times in the foundery, the following peculiar aguish symptoms: At first feeling of weight and painfulness in hypochondrium and loins, prostration, oppressed breathing, anorexia; later rigor with general malaise, pale, altered face, weak gait, irregular pulse, sometimes nausea and vomiting; at length the pulse became large and full, general heat came on, face became red and animated, the skin warm and moist; the patient fell into an uneasy sleep, disturbed by anxious dreams which exhaust him, until at length copious sweat terminated the attack in from 8 to 10 h. As a rule, the attack begins towards the end of the day's work, lasts all n., and ends in m., so that the workmen can again return to their work. (*Gaz. Méd. de Paris*, No. 40, 1847.)

17. Whilst preparing flores zinci the room was filled with the vapour of the zinc, and caused the following symptoms:—From that d. oppression of chest, vertigo and headache. The next n. sleepless and following d. cough, vomiting and stiffness of limbs; 3rd d. strong taste of copper in mouth, salivation, severe pressure in stomach and pain in bowels. The vertigo was so severe that he could not stand up. After copious stool the symptoms became ameliorated, and fever set in,

followed by profuse perspiration, which removed the morbid symptoms; but general weakness of body remained for 3 weeks. (ELFES, *Rust's Mag.*, xxi, 2, 563.)

III. *Experiments on animals.*—1. According to the experiments of Orfila and others, the sulphate inflames the mucous membrane of the stomach, after having produced active vomiting with epigastric pain. Vomiting is still the most prominent symptom, even when a solution of the salt is thrown into the jugular vein of a dog. (STILLÉ, *op. cit.*)

Zincum iodatum, Zincic iodide, ZnI_2 .

I. *Proving.*—1. JOSEPH RHODES, æt. 24, health good. Proved 3x trit. in 2 gr. powders. 1st, 2nd and 4th d.—Took powder in m., which caused temporary nausea (as sac. lac. does), soon relieved by food. On latter d. repeated dose at 3 p.m., when nausea was followed by burning in stomach and cramp-like pains in bowels. These soon passed off while walking. Doses were repeated on 6th and again on 19th d., with no further effect. (*Trans. of Amer. Inst.*, 1888, p. 167.)

2. H. E. KISTLER, æt. 29, took 5 gr. doses of same 8 times in 2 d. No effect was observed, save, an h. after first, painful undulation from free border of ribs, r. side, upwards to 3rd rib, lasting 10 m. (*Ibid.*)

3. EVERETT B. FINNEY took 3 gr. of same 8 times in 4 d. without any effect. (*Ibid.*)

4. D. M. LANDIS, æt. 24, healthy, took 3 gr. of same 12 times in 3 d. without result. On 4th d. took 5 gr. at 9 a.m., 1 and 6 p.m. In afternoon felt very sleepy, with slight headache, continuing till e. At 5 p.m. felt slight pain in l. lumbar region for a short time. On 5th d. took 5 gr. 4 times. Symptoms of previous d. recurred. On 6th d. repeated dose 3 times. At different intervals felt splinter-like pains in throat. Very sleepy p.m., with headache, which continued till late in e. On 7th d. repeated dose at 9.25 a.m. and 1.30 p.m. Headache between 8 and 9 a.m., beginning again at 3.45 p.m. and continuing rest of d. At 12.30 p.m. cramp-like pain in l. thigh, which continued till 3.45 p.m. On 8th d. pain in thighs again, felt after rising early, but gradually subsiding after 8 a.m. (*Ibid.*)

5. a. JOHN N. YATES, æt. 47, feels well, though dyspeptic, but urine, 29 oz. daily, leaves dark deposit on sides of vessel, and is slightly albuminous. Has stool only every other d. After a negative test with sacch. lact., took 1 gr. of 3x trit. at 7.30 a.m. In 2 h. cold clammy sweat in palms; tremulous feeling in lower extremities, followed by shifting crampy pains in muscles of legs; the same tremulous feeling and muscular pains were present in arms, but came on later in d. At 9.30 a.m. peculiar feeling of coldness in stomach and bowels, with tendency to perspire; pulse was slow, feeble and wiry, about 71; had taste in mouth like carbonate of soda; vertigo, and belching of wind, attended with feeling of coldness in lumbar region. About 3 p.m. these symptoms had all disappeared, leaving tired and aching sensation in legs and arms, and slight neuralgic pains in l. side of head. By 11 p.m. these symptoms began rapidly to disappear; pulse and temperature became normal. Slept well during n. 2nd d.—At 7 a.m. pulse

and temp. normal; experienced slight giddiness in head on rising, with creeping sensation in backs of legs and soles of feet, and aching in lumbar vertebræ. 12 m., these symptoms had entirely passed off, and he felt in his normal condition. The symptoms above referred to were attended with feeling of emptiness at pit of stomach.

b. After an interval of a few d. took similar powder at 7 a.m. Temp. $96\frac{1}{8}^{\circ}$, pulse 71. 10 a.m., felt slight chill, attended with trembling of lower extremities, and nausea. 12 m., felt sinking at pit of stomach with inclination to vomit, which soon passed off. 4 p.m., had cold perspiration in umbilical and lumbar region. 8, temp. $98\frac{1}{8}^{\circ}$, pulse quick and wiry; slight headache and nausea, with inclination to sleep. 11 p.m., went to bed, and slept very uneasily through n. till about 3 a.m., from then till 7 a.m. slept well. He then got up, feeling a little giddy, which soon passed off; had no other symptoms during d., except slight tremor in legs after walking $\frac{1}{2}$ h. 8 p.m., temp. $99\frac{2}{8}^{\circ}$; pulse 80, strong. 10.30, went to bed, with no symptoms to note. 3rd d.—Temp. and pulse normal. No symptoms to report. (*Trans. of Hom. Med. Soc. of Pennsylvania*, 1889, p. 199.)

6. *a.* FREDERICK VAN GUNTEN, jr., æt. 21, single, medical student; height, 5 feet $7\frac{1}{2}$ inches; weight, 140 pounds; has acquired catarrh of nasal mucous membrane, particularly on l. side, no hereditary tendencies, temp. bilious; of stimulants takes coffee only; normal pulse, lying down 76, sitting 80, standing 84; normal respiration 18; normal temperature, m. 98° , e. $98\cdot6^{\circ}$; urine normal; stools usually regular. 1st d.—At 8 a.m. took a 1-gr. powder of 3x trit. No symptoms. At 11 a.m. took another powder. 11.20, passed a rather soft but well-formed stool, preceded by a little flatus. 11.35, beginning of dulness in head. 12.30 p.m., dulness continues. 1.37, had a small stool, well-formed, and again preceded by a little flatus. 2.55, a tickling in throat, giving rise to a dry cough—the more he coughs the worse the tickling becomes. 3.5, dull pains in r. chest. 3.15, tickling still continues; brain seems to be clouded, so that it seems hard to keep mind on what is read. 4, tickling continues. 4.5, passed a stool much smaller than last, and not so much flatus. 5.30, took another powder. No symptoms.

b. Same, after an interval of 4 d., at 11 a.m. took a powder. No symptoms. 1 p.m. repeated dose. 6.25, passed a small well-formed stool with little flatus. 2nd d.—At 8.30 and 11.30 a.m. took a powder. 12.35 p.m. had a stool, but with little flatus. 3.30, took another powder. 6.30, passed another well-formed brown stool, with a good deal of flatus. 8.15, peculiar tingling on r. side of face, extending from zygoma to top of vertex; the skin (in the same region) also feels tense. 3rd d.—Passed a somewhat restless n., having awakened once or twice, feeling as though he could not get rested; this m. feels dull, and does not seem disposed to do anything. At 8.40 a.m. constant tickling of nasal mucous membrane, causing constant ineffectual desire to sneeze; tickling lasted some time. Skin is very dry; and scattered over face can be seen patches where it is scaling, giving appearance of whitish spots. 10.15, took a powder. At varying intervals experienced dull, lancinating pains in r. vertex; during course of m. passed con-

siderable flatus. 3.15, took another powder. 6.20 p.m., passed a medium stool, well-formed, and with flatus.

c. Same, after another 4 d., at 9 a.m. took 3 gr. During d. had several ineffectual efforts to stool, daily passage in m. having been very small. 10.45 p.m., dull lancinating pains in r. groin, worse from walking. 2nd d.—At 10 a.m. took 3 gr. Felt dull all d., did not have animation enough to do anything. 2 p.m., repeated dose. 3.15, tingling in region of l. nipple; constipation continues, having had several ineffectual efforts to stool; during d. there was clear discharge of mucus from nasal passages. 7, repeated dose. No symptoms. 3rd d.—At 9.15 a.m. took another gr. No symptoms. Bowels are a little better to-day, but stool was voided with difficulty, and not large enough for the amount of food eaten. (*Ibid.*)

Zincum muriaticum, Zincic chloride, $ZnCl_2$.

II. *Poisonings*.—1. A woman, æt. 28, swallowed an ounce of a strong solution. Two h. after she was seen by Mr. Allanson; she was lying in bed, on her back, in a state of great excitement. Face was flushed, eyes turned upwards; frothy saliva was issuing from mouth; hands and feet were cold, pulse scarcely perceptible. She was perfectly conscious, and complained of burning in mouth, throat, and stomach. Tongue was found swollen, and buccal mucous membrane red; there was no excoriation. Patient died 4 h. after taking poison. While she survived there was frequent vomiting; but the most prominent symptom was severe pain in stomach and throat. She was quite rational, and could speak till within a few m. of death. Body was inspected 53 h. after death. It showed no signs of decomposition. On opening abdomen, stomach was seen much distended, of pale leaden hue, veins dark and prominent. Under surface of liver, where in contact with stomach, had same pale hue. Intestines were healthy, as were other viscera. On removing stomach, it was found to contain a quantity of fluid, probably some of the milk which had been administered. Coats of stomach were of consistence of thin tripe; they were much thickened at pyloric end; apparently none of the fluid taken had passed the pylorus. Well-marked papillæ, of dirty-white colour, covered whole mucous membrane. Œsophagus was much inflamed, epithelium white and detached, appearing like a false membrane. Lungs and heart were quite healthy. Head was not examined. Stomach, examined 3 weeks later, free from putrefaction, though weather was hot. (PEREIRA, *op. cit.*)

Zincum phosphoratum, Zincic phosphide, Zn_3P_2 .

II. *Poisonings*.—1. A woman, æt. 26, took 8 pills of gr. $\frac{2}{3}$ each for neuralgia. Vomiting occurred 2 or 3 times after 6th dose, and again after 7th and 8th. (ASHBURTON THOMPSON, *Pract.*, xi, 271.)

2. A woman suffering from chronic gastritis, and a young man debilitated by mental strain, took 9 and 7 doses respectively, equivalent to $\frac{1}{2}$ nd of a gr. of phosphorus. They both complained of severe frontal headache, accompanied by frequent stabs of pain, apparently

darting from before backwards to occipital region, but intracranial, and not attended by any disturbance of sensation in the scalp. (*Ibid.*)

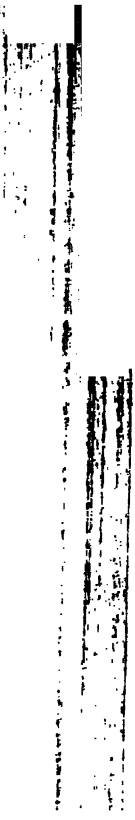
Zincum valerianicum, Zincic isovalerate, $Zn(C_5H_9O_2)_2$.
Result of mixture of sulphate of zinc and valerianate of soda.

I. *Provings*.—1. Jas. A. George, æt. 22, took 10 powders of 2x trit., 5 gr. in each, 10 times in 2 d., without effect of any kind. (*Trans. of Amer. Inst.*, 1888, p. 175.)

2. Everett B. FINNEY proved 1 $\frac{1}{2}$ trit. 1st d.—1 gr. at 7, 3, and 7.15. 4.30, colicky pains, which recurred at 5.15 and 11.5.20, slight pain in l. temple. 5.50, same in l. mastoid process. For most part of d. tendency to erection. 2nd d.—Rose at 6.30 with colicky pains. At 7 and 11 a.m. took 5 gr. 8.15, a strong erection. 4, hard colicky pains, followed by brown watery stool containing fæcal lumps. 3rd d.—Between 4 and 5 wakened by emission, after which sense of weight and constriction in perinæum. At 7.30, 12.25, 3, and 9, took 5 gr. 2.15, strong erection, with dulness of mind and headache. 2.30, 4, 9.15, abdominal pains, on second occasion relieved by discharge of flatus. 9.15—9.50, hard sneezing. 4th d.—Again nocturnal emission. 6.30, rose with abdominal pains. Took 5 gr. at 7, 11, 3, 6, and 9. 2.35, slight pain over r. eye with dull headache. 4.30, drawing pain at umbilicus and sense of pressure on rectum when standing. 5, frontal headache with sense of fulness at occiput. 5th d.—Rose with abdominal pain. Took 5 gr. at 7.30, 10, 2.30, 7.15, 11.25. 9.50 a.m., belched up very bitter fluid. 1.25 p.m., sensation as if very heavy weight lay on chest. 6th d.—Took 5 gr. at 7.30 a.m. 12.30 p.m., began to experience great fulness of head with difficult thinking. 2.30 p.m. evacuation of fæcal matter followed by watery fluid, with pains in belly. 6, again crampy pain in abdomen. 7th d.—All d. tired feeling of brain, as after over-study. 8th d.—No symptoms. Took 5 gr. twice. 9th d.—Took 5 gr. at 7, 11, 3, and 7. 7.30, bowels moved; stool soft and mushy, dark, small. 9, ineffectual desire for stool. 11.30, felt distressed mentally, mind all "mixed up." 7.15, neuralgic pain about heart, recurring at 8.30. Abdominal pains of crampy character at 8.45 and 9.25, and at 10 pain in l. deltoid for some m. 10th d.—At 8 a.m. took 5 gr. 6.30 p.m., felt quite ill, as one would feel when prostrated by heat. 11th d.—Rested badly last n. 8 p.m., cough, dry, produced by tickling in throat. 10.30, took 5 gr. 12th d.—Woke with empty feeling at pit of stomach. Took 5 gr. at 7.30 a.m. and 3 p.m. 5, had spell of coughing with feeling of fulness of chest, no expectoration. 6, slight pain in r. deltoid; fulness of head, especially at occiput. 7.45, another spell of cough as before, with sense of fulness in chest. 9.20, frontal headache. 13th d.—7 a.m., took 5 gr. 8, cramp-like pain about heart. No more medicine and no more symptoms till 18th d., when he took 5 gr. 3 times. 19th d.—Repeated dose 4 times. Some little abdominal pain. On 20th d. took 5 gr. 4 times, and on 21st d. twice. 22nd d.—Passed restless n. 4.30, rumbling and pain in bowels. 6.30, had to get up to stool, which was small, brown, and mushy, discharged with much wind. Pain in bowels

while dressing and after breakfast ; no appetite ; tongue coated white. From 8 to 11 a.m. bowels moved every h., stool being scanty, with much tenesmus. After 11 pain subsided. 5, stiffness of muscles of neck, and dull headache lasting all e. 23rd d.—Slept tolerably well. 8 a.m., some pain in bowels and passage of small stool with trifling tenesmus. 9, ineffectual desire for stool. Tongue still coated, but food enjoyed pretty well to-day. (*Ibid.*)

APPENDIX.



APPENDIX

[Under this heading, besides emendations, we shall give all additional matter which has come to light, or to our knowledge, since the appearance of our previous articles on the various drugs. Reference will be made to these, and the cases related here will be numbered consecutively with them. The same distinctions of type will be observed as in the primary series; but each drug, whether original or derivative, will appear in its own alphabetical place, *e. g.*, Atropinum among the A's, not under Belladonna among the B's.—EDS.]

ACIDUM CARBOLICUM.

(See vol. i, p. 4, 472.)

II. 13. Madame P., æt. 31, suffering from stricture of rectum (probably of syphilitic origin), had linear rectotomy performed by M. Verneuil. To hinder putrid absorption, a catheter was introduced into the rectum and a sol. of carbolic acid injected, of which only a part returned per anum. An h. later, a second injection was practised. Patient, who had recovered well from the effects of the chloroform given, had now fallen asleep again, and was not roused by the injection, nor subsequently could she be wakened to take food. Seeing that she also grew weaker, the nurse called the house surgeon, who found her pulseless, eyes dull and sunken, and breathing apparently suspended, so that he thought her dying. By artificial respiration and other such means she was brought to herself, and vomited contents of stomach. After 2 h. more, however, she fell again into this syncopal state, and could not be rallied. M. Weiss found her, 2 h. later, in almost complete coma, which was interrupted only by inarticulate cries and some convulsive movements of diaphragm. Face was pale, extremities cold, temp. 35.1° , pulse hurried and hardly to be felt; breathing irregular, broken by the diaphragmatic spasms already mentioned. External warmth and subcutaneous ether led to repeated bilious vomitings, and after 2 h. more patient had regained consciousness and began to reply to questions; temp. becoming 36.2° , and breathing deeper and more regular. Vomiting nevertheless continued during following n., as well as great debility. Urine next d. was found brown. Gradual improvement now took place; n. was good; and on m. of

3rd d. patient complained only of anorexia, a little heaviness of head, and some tinnitus aurium; she had also a few diarrhœic stools. Urine was chylous (?), but had lost its brown colour. During the following days patient gradually convalesced, but a pemphigoid eruption appeared on hands, face and ears. (WEISS, *Prag. med. Wochenschr.*, 1878.)*

14. When administered to man in doses of 6—8 gr. dissolved in a wineglassful of water, the following phenomena present themselves:

a. Loss of sensibility in mouth and throat, or feeling of numbness, as when aconite is applied to the lips; this is followed by a cooling sensation, like that produced by mint.

b. Slight nausea, especially if the stomach is empty; this is succeeded by an uneasy feeling in the abdomen, like that felt before an attack of gravel.

c. Slight vertigo, ringing in ears, and partial deafness, judged by the ticking distance of a watch. This vertigo is so great, if the drug is taken just after rising (and so on an empty stomach), as to compel the resumption of the horizontal position.

d. Loss of heart-beat; the pulse, according to our repeated observations on different individuals, losing from 4—8 beats per m., failing also in fulness. Temp. under tongue undergoes no noteworthy alteration.

e. Diarrhœa; this is not invariable, and does not appear till several doses have been taken. If present, it usually disappears on the 3rd or 4th d. of the continued administration of the medicine.

f. After long-continued use of drug, feebleness of heart-beat, muscular debility and loss of flesh occur.

g. On omitting medicine after it has been taken for several d. flatulence usually occurs, accompanied with a feeling of depression, like that felt after the stimulating effects of morphia have ceased. (BILL, *Amer. Journ. of Med. Sc.*, N.S., lxxiv, 45.)

15. I was called about 1 p.m. to attend a farmer. I found him in violent convulsions with trismus, and blood passing from the mouth in consequence of teeth having wounded the tongue. He was quite comatose; face and neck were livid; breathing stertorous; extremities and surface of body cold; pulse scarcely perceptible. I had him put into a warm bath immediately. In 40 m. convulsions ceased, sensibility partly returned, face and neck assumed their natural hue, breathing became quieter, extremities and body were warm, and pulse much stronger. He was then removed to bed, and heat applied to body and cold to head. I saw him again at 7. He was then perfectly conscious; convulsions had not returned; breathing was calm; pulse 88. He had passed about Oss of urine, which was super-acid. He complained of giddiness, but no pain in head; he had pain in face and neck, and much gastric irritation. Next m. he was much better and soon convalesced. He stated that for 3 h. he had been exposed to the fumes of strong carbolic acid, and was then seized with giddiness, which was followed by the stupor and convulsions in which I found him. (UNTHANK, *Brit. Med. Journ.*, 1872, ii, 579.)

16. The acid was applied in too strong solution (15 per cent.) to

* See a similar case in *N. Y. Med. Record*, xv, 378.

phlegmon on the arm. Almost immediately afterwards patient felt violent pains in arm and lost consciousness. She was found throwing herself about in bed, face flushed, pupils contracted, pulse slow; she breathed with much difficulty. Dressing was immediately removed, and in course of an h. patient recovered consciousness, complaining only of fatigue and frontal headache. (*Ibid.*, 1879, ii, 629.)

17. I have lately used carbolic acid injections for ascariæ, using $\frac{1}{40}$ th or $\frac{1}{80}$ th solution. Unpleasant symptoms sometimes follow, lasting perhaps an h.; within 2 m. patient complains of giddiness, ringing in ears, clammy skin, and taste of acid in mouth. Pupils are unaffected. There has occasionally been abdominal pain, and in one or two instances confusion of ideas for the next 24 h. Temp. is unchanged; pulse, if anything, quickened. (PEARSE, in *Ibid.*, 1879, i, 852.)

18. A woman, æt. 30, swallowed 4 c.c. of carbolised alcohol (= $\frac{3}{8}$ grm. of pure carbolic acid). Immediately vertigo, followed 10 m. later by absolute loss of consciousness with cyanosis of face. $1\frac{1}{2}$ h. after regurgitation there was still coma with relaxed limbs, no convulsions; pupils extremely contracted and immovable; cold sweat; respirations slow, regular, with tracheal râle; countenance pale and cyanosed; vomiting; pulse very quick, regular, sometimes extinct during inspiration. Stomach was washed out, but she seemed rather worse afterwards. Urine passed in 1 h. after poisoning was normal, but that passed 15 m. later was of colour of blood; microscope showed no red corpuscles, but spectroscope revealed bands of oxyhæmoglobin. Temp. in vagina was as low as 34° C. The tracheal râle increased; mucus was continually ejected from mouth and nose; tongue was retracted. She gradually recovered; but 8 h. after the poisoning temp. was above normal, there were pains in throat and stomach, extreme hoarseness, and bilious vomiting; urine had to be drawn off, no more hæmoglobin, but some albumen and granular casts, some red globules and renal epithelium. The day after she had circumscribed pneumonia at r. base. She left hospital on 4th d., when vocal cords were still red and swollen and m.m. of larynx injected; and urine was still albuminous, containing granules and uric acid casts. (*Revue des Sc. Méd.*, Oct. 15, 1883.)

19. A man, æt. 37, had daily injections of a 2 per cent. solution for a fatal empyema. Though the injections immediately returned, he always complained of sweetish taste on tongue, slight giddiness, and sometimes headache that lasted several h. Hoping to produce a quicker cure, his wife injected a double quantity of a 3 per cent. sol. Before the operation was at an end the man uttered a cry and fell off his chair unconscious. There was stertor, agitation, groaning, violent nausea, rigidity of limbs save for some transient convulsions in l. arm, pupils dilated and insensible; respiration irregular, laboured, noisy during inspiration; pulse not quick, very compressible, and occasionally intermitting; sensibility almost entirely lost. After 2 h. he recovered consciousness, but remembered nothing of what had passed. He complained of horrible headache, and of nausea, soon followed by vomiting. Vision of both eyes was entirely lost; ophthalmoscope shows very indistinct outline of papillæ, especially r. Next m. nausea was gone, and patient perceived dawn of day. Some h. later he was able to see

outline of objects in room. The 4th d. there was no longer a
tion of sight. R. eye recovered itself more slowly than l.
had heaviness of head, and vomited when he got up. (*Ibid.*)

20. *a.* A man, æt. 30, given to drink, drank off a glassful o
in mistake for whiskey. As his mouth and throat burned, he
with water, and went to a public-house. There he felt ill, an
know what happened. Half an h. after he was found
unconscious, insensible to all excitations, skin cyanosed, limbs
relaxed, pupils contracted and immovable; resp. was labo
jerky, mouth exuding bloody slime, pulse small and scarcel
tible, chest full of large mucous râles. He was bled,
employed and friction to limbs, cold compresses to chest; ber
internally. After 12 h. consciousness returned; cyanosis dim
resp. easy, no râles; burning pain in mouth, throat, and
stomach; copious vomiting; urine black as ink. The 3rd d.
vomits; skin and m.m. of throat and mouth still livid. On
vomiting ceased; tissues less deeply coloured, now of a dull
pain in chest, especially r. side; rusty expectoration. On 5th d
clear; fever, bloody expectoration, violent delirium; dulnes
bronchial breathing at r. base posteriorly. Died 6th d.

b. P.M.—Labial and buccal m.m. of grey colour like
pharyngeal m.m. bright-red, swollen, softened, and covered with pa
of exudation; bright injection of œsophagus, which is erode
places. Posterior wall of stomach marbled with ecchymoses, bu
loss of substance of gastric m.m. Intestines normal. Liver large
fatty; spleen rather large; r. kidney hypertrophied and inflame
Red hepatisation of both lower lobes of r. lung. (*Ibid.*)

III. 5. *a.* Dr. KÖSTER injected $7\frac{1}{2}$ gram. of a 5 per cent. solution
into the r. femoral vein of a dog weighing 10,480 gram. After a few
seconds there was slight muscular trembling; after 10 gram. of same
solution he became restless and whined; after 15 gram. strong trembling
of all muscles, numbness of sensorium, apathy; after 35 gram. febrile
rigor, the breathing occasionally changed to spasmodic, jerking con-
tractions of single or of all muscles; the lower jaw chattered as in
rigor; the reflex irritability was considerably exalted; every loud
noise, every time the table was struck, produced spasmodic twitching.
The pupils would not react, moderately large, latterly slightly dilated.
After 5 m. the trembling abated, then 70 gram. were injected. Af
every new dose the convulsions became stronger; the pupils dilated
their maximum, but soon became more contracted to moderate siz
lastly the dog lay with his limbs twitching, breathing weak, a lar
quantity of saliva flowed from his mouth, the temperature fell contin
ally, after 35 m. to 37.5° , *i. e.* 2° less than at the commencement.
The vein was now ligatured and the dog let loose; the reflex irritabil
seemed nearly extinct, the animal appeared to be moribund, the re-
spiration very superficial, the pulse scarcely perceptible. After $\frac{1}{2}$ h.
the symptoms diminished in intensity; after 15 m. more the dog raised
his head and tried to get up on his fore legs, but always fell down
powerless. At last he got up, his hind legs dragged somewhat, his gait
was staggering. After 1 h. more he appeared quite lively only rather

after 3 h. temp. was 39.4° , after 6 h. 39.6° . The following m. te well except rather weak.

10 grm. of same solution were injected into l. femoral vein of 20 m. The effects were similar to those observed in the first Sensorium dulled; he barked loudly, had violent muscular ng and convulsions, which gradually declined and the barking d to a kind of barking whining. The temp. continued to sink th ensued. Before this occurred, the barking and trembling ing, the pupils became insensible. After a few h. he some- ecovered, during the night had liquid stools. Death ensued 2 h.

25 grm. was injected into connective tissue of back of a dog. animal became very restless, the temp. before the operation was 15 m. afterwards 41.8° . After 10 m. he became quiet but lay ng, the temp. fell to 39.7° . Trembling increased and in e. temp. 5° and towards m. fell again. The following d. the dog was ill, hing, but next d. was lively. After seven d. he died owing to an that developed itself where the injection had been made.

A smaller dog had 3.37 grm. injected below skin of back. The hich was at first 39.1° rose at first to 39.5° and then fell below t degree. After 10 m. trembling which lasted 15 m. pretty 7; much saliva. Lastly he became unsteady on his limbs, fell 7. Next morning was living, but after some d. he died from in the back. (*N. Zeitsch. f. hom. Kl.*, xxiv, 29.)

ACIDUM HYDRIODICUM.

Hydrogen iodide, (HI),

*Proving.**—1. WALTER B. FARLEY took 2 dr. every 2 h. Expe- first effects on e. of 2nd d. About 1 h. after supper had of constriction in region of stomach, with great distress, as if d disagreed. These symptoms recurred after each meal (most pper) for 3 d. more; smoking would relieve them in a few m. of *Amer. Inst. of Hom.*, 1889, p. 376.)

J. A. WAYLAND, æt. 23, took drop doses in water on Feb. 22nd, , 3.40, and 4.30 p.m. Pulse at first 45, temp. 97.7° . About after first dose, nauseating feeling with eructations, and dry cough. After second, tickling sensation behind sternor- ar articulation. At 5 p.m. pulse 54; temp. 98.2° ; chilly up and down back. 23rd.—Took dose at 9.30 a.m., 12 m., m.; after last, suddenly, while studying, felt cold all over. t 4.30 and 9; then chilly feeling up back. Dose at 11.30;ooting pains beneath l. nipple. 25th.—Pains in region of f gripping nature; chilly feelings in all parts of body. 26th.— 10 p.m. 10.30, sharp intermittent pains through transverse 11, colicky pains in bowels, followed by stool. 27th.—3 doses. 1st.—After breakfast darting and stitching pains, dull, beneath

* These were made with a 1 per cent. syrup.

scapula, from r. to l. 2nd.—Dose at 8.30 a.m. 11 p.m., dull darting pain in l. renal region; rust-coloured mucus from post. nares. (*Ibid.*)

3. A. QUACKENBUSH, æt. 26, at noon of Feb. 22nd put 6 dr. in $\frac{1}{2}$ glass water, and took two sips. A few m. after, colicky pains, with eructations and slight desire to vomit; tickling behind sterno-clavicular articulation. Repeated dose at 2.30, 3.40, 4.30. At 6, hacking cough with tickling and strangling behind sterno-clavicular articulations, hands and feet cold, head hot, with slight hoarseness. Repeated dose at 6.30 and 11.30. 7, slight colicky pain in transverse colon, increased by sitting down quickly. 8.30, sharp cutting pain at neck of bladder. 11.30, slight colicky pain at hepatic flexure of colon, worse on lying on l. side, better on lying on r. 23rd.—Repeated dose at 9.30 and 11 a.m. After 2nd dose slight hacking cough, with tickling and strangling behind sternum. 1, chills down back and then over whole body, followed by desire to vomit, relieved by belching wind. At 3.30, mixed 30 dr. in a glass of water, and took this in 4 doses. 10.30, sharp pleuritic stitch at base of l. lung, running round to region of l. kidney, increased by quick movement. He took 2 similar doses on 24th, 26th, and 27th. 24th.—4 p.m., pain in transverse colon, increased by lying down or by pressure. 8, a few m. after dose, sharp cutting pain in l. renal region, also pain in outer side of l. knee, worse on twisting leg. 25th.—3.30 p.m., griping in bowels, followed by diarrhoea (stools dark yellow). 5.45, short, sharp, dry, hacking cough, with tickling behind sternum. 12 p.m., r. side of throat sore; sub-maxillary gland swollen; griping in bowels. 26th.—Griping in rectum, relieved by stool. 11 p.m., sharp pain in glans penis. 27th.—3 p.m., profuse, watery, liver-coloured stool. 28th.—10.30 a.m., throbbing pain in l. ascending frontal convolution of brain, with skin very tender over spot as large as a florin. 6.15, hacking cough, with tickling behind sternum; no expectoration. March 1st.—Sharp pains in iliac and umbilical region at 2 p.m. 2.30, sharp pain at apex of heart, continuous, worse at times, relieved by belching wind; aching in loins for some little time; continually belching of wind having a sweetish taste. 2nd.—Oppressed feeling about heart, relieved for a few seconds by belching wind. 11.30 a.m., sharp cutting pain at umbilicus, worse on lying on r. side, better on l. 6 p.m., eructations of undigested food very acid. (*Ibid.*)

4. Dr. J. C. MORGAN, who reports the above provings, himself tasted the cork of an opened bottle of the syrup on Feb. 19th, 1889. On 21st symptoms began to appear, and continued to do until April when, "as weather became milder," they subsided. [We must content ourselves with referring to this observation.—EDS.] (*Ibid.*)

5. D. LA PLANT began with 5 dr., afterwards increased to 10 dr. doses of same syrup. Woke about 2 a.m. with rumbling and much movement in bowels, without pain. Next d. continued taking medicine; no symptoms till e., when he became drowsy unusually early, so that he was compelled to retire. Awoke again at 2 a.m. with same loud rumbling and gurgling in bowels, preventing sleep for some time. 3rd d.—Breakfasted as usual and went to work, but did not feel well; had a dull headache. At 10 a.m. stiffness of jaws came on, which

rapidly increased. At noon went to dinner, but could not eat on account of pain in maxillary joints. At 1 p.m. jaws were almost set, and any attempt to open them caused extreme pain. Alarmed, and thinking of tetanus, he took some aconite, which relieved at once. In e. face was sore and lame, and it remained so for several d. On 4th d., after dinner, was seized with colicky pain in epigastric region which continued for 30 h.; it was attended with frequent urination. On examination urine showed decrease of urea. During the proving bowels very much constipated (more so than usual). (*Ibid.*, 1890, p. 228.)

ACIDUM OXALICUM.

(See vol. i, p. 45.)

II. 9. B. K., æt. 19, took sixpenny-worth of oxalic acid soon after a lunch of bread, cheese, beer and coffee. In 5 m. retching and copious vomiting, burning pains in throat and abdomen. The stomach was washed out several times; the vomit and washings were bloody. Half an h. later, grave collapse; pulse 48, small, irregular; respiration 10—12, superficial; skin covered with cold, clammy sweat; face livid and features sunken; pupils dilated. Patient opens his eyes when loudly spoken to and then falls back into his apathetic state; constant desire to vomit, but brings up mucus only—no blood. Hypodermics of camphor, hot coffee, brandy. At 8 p.m., 2 h. later, complains of great thirst, burning and stitching in abdomen, and then collapse returned in a most threatening manner, with cyanosis & dyspnoea; livid fingers and toes, and sensation altered in toes and tips of fingers. Stimulants relieved again, and pulse regained some volume; great restlessness with tonic and clonic spasms in upper and lower extremities. Patellar reflexes increased on both sides, a slight touch causing long-continued crampy motions. Achilles tendon reflex and periosteal reflex increased; when merely touching the l. external malleolus, tendon of l. tibialis anticus becomes prominent. Triceps tendon reflex and periosteal reflex of epiphyses of humerus also increased on both sides. Sensorium dull; patient reacts only on loud calls; pupils still dilated. At 9 p.m. spasms diminish in strength and frequency; sensorium more clear, realises that he is in the hospital; severe pains in throat when talking or swallowing; pulse better; patient sleeps naturally, only interrupted by weak clonic spasms in upper and lower extremities. 10 p.m., abdomen soft; desires to urinate, but passes only 100 c.cm. of yellow, somewhat murky acid urine. Sensorium clear and replies freely, though with a hoarse voice and some exertion. 11.30, examination shows complete anæsthesia of tips of fingers and toes, of palmar surface of hands and plantar surface of feet. Incomplete sensibility of leg. Sensation in thighs and other parts of body normal, pulse 80; temp. 38.2° C. Pains in l. lumbar region and both legs: feet and hands feel as if asleep; great thirst, burning in mouth; sleeps but little during night. 2nd d.—Passes spontaneously 150 c.cm. of acid urine, slightly bloody, leaving a thick

sediment; sp. gr. 1016; rich in albumen; epithelia and epithelial cylinders; red and white blood corpuscles; colouring matter of blood; no sugar; small quantities of oxalic acid crystals, amorphous, of envelope and so-called dumb-bell form. After standing 36 h., microscope shows copious, whitish, shining crystals of oxalic acid and of oxalate of lime in many forms—insoluble in acetic, soluble in sulphuric acid. In e. pains in renal and vesical region, a crawling sensation over whole body, especially in both lower extremities. Several times during d. painful spasms in muscles of l. calf; no appetite; tendency to vomit; profuse perspiration on hands and feet; discharges 300 c.cm. of dark, jumentous urine; tongue heavily coated; pulse 84, temp. 38.6° C. 3rd. d.—Urine 400 c.cm., much albumen, many cylinders; sensory disturbances continue; no spasms; dulness in head, patient feels as if he had been drunk. Urine 600 c.cm., no crystals; temp. normal; feet and hands dry. 4th d.—Urine 900 c.cm.; less albumen and fewer cylinders; general improvement; sensory and reflex phenomena disappear; slight gastric disturbances still, but well enough to be discharged. (The lunch taken before the suicidal attempt and the prompt washing out of stomach probably saved the patient's life.) (KÖHLER, transl. in *Hom. Phys.*, Sept., 1889.)

ACIDUM SALICYLICUM.*

(See vol. iv, p. 15.)

I. 15. Dr. A. M. CUSHING took 5 gr. of 1_x trit. daily for 5 d., when following symptoms appeared:—

Nov. 23rd.—Distressing pain in middle dorsal vertebræ, with desire to press back against something. 24th.—Some distress in back during d. 2 p.m., sudden lame pain in l. ankle when beginning to walk. Hard dull pain around body in epigastric region all afternoon. 5, lower bowels greatly distressed with flatulence, which soon passed off. 10, sharp pain in r. eye-tooth, though perfectly sound. 25th.—11 a.m., hard pain in r. arm just above elbow, seemingly round bone, which soon passed off, same kind of pain then coming below elbow. In hard pain in lumbar muscles, near spine. 26th.—In m. on waking from sleep hard lame pressing pain in chest on both sides, worse region of nipples, also worse on r. side, where nipple is sore. At l. foot lame. 27th.—7 a.m., sharp pain in region of floating rib extending to liver and r. iliac fossa. 8, pain and soreness in l. breast and in region of nipple. 28th.—8 a.m., sore pain in both sides of chest just below nipple, with sense of tightness and desire to draw long breath and move arms. 6 p.m., hard sudden pain in middle finger of l. hand; sudden sharp pain in 3rd toe of l. foot nearly compelling him to scream. At times pain in muscles of l. thigh. For several d. hard pain in r. arm above elbow. During whole proving burning sensation in region of heart. A carbuncle appearing on back of neck led him to discontinue proving. (*Publ. of Mass. Hom. Med. Soc.*, v, 30.)

* In vol. i, p. 70, l. 13 from bottom, for "SALICINUM" read "SALICYLICA."

II. 17. A young man of 22, convalescing from pneumonia, was given 5 gr. 3 times daily as a "tonic." He was now taken with severe pain in r. foot, seemingly in toe-joint. He put foot into hot mustard and water, but it did not relieve; suffered all n.; pain then went to above knee, then to shoulder and arm. The doctor gave Dover's powders for the pain, continuing the "tonic." Pain lessened, but at n. grew worse again, very severe and sharp in shoulders and both limbs above knees. Next forenoon pain in bowels, which more Dover's powders did not relieve. At n., pain in l. side about heart; distress for breath; palpitation; could not rest. Was very weak next d., and, beginning to be alarmed, Dr. Donaldson was sent for. He found "congestion of heart," pulse very irregular. The acid was stopped, and nux vomica given, and patient began to improve at once. (*Ibid.*)*

ACONITINUM.

(See vol. i, p. 118.)

The cases of poisoning, Nos. 2 to 4, taken from the *Berlin klin. Wochenschrift*, are referred by that journal to a Dutch periodical, the *Nederl. Tijdschrift voor Geneeskunde*, 1880, No. 16. To this we have not been able to get access. In the *Bull. de la Soc. de Thérapeutique* for 1883, however (p. 3), Dr. Dujardin-Beaumetz mentions the cases, and gives an account of Dr. Meyer's symptoms during life, which the German version omits. They were as follows:—

The toxic effects began to show themselves in $\frac{1}{4}$ h. After 4 h. Dr. Tresling found him pale; pulse small and irregular, but not accelerated; skin cold; pupils contracted. There was sense of burning in mouth, and of constriction from throat to abdomen; patient complained of præcordial anxiety, and of heaviness and weakness of limbs, especially legs. Pupils suddenly dilated, and vision was lost, but it returned as they became once more contracted. Vomiting was excited, but there soon came on acute congestion of head, and therewith convulsions and stertorous breathing. M— then complained of deafness, and of humming now in one, and now in other, ear. After a subcutaneous injection of ether, pupils dilated again, and vision was lost; then vomitings recurred, and prolonged and violent convulsions. A second injection was made, but patient could not be restored to consciousness; pupils did not react to light; respiration became slow and laboured, and spite of electricity more and more difficult; heart grew feebler, and in 5 h. after taking poison M— was dead. P.M. showed great pallor of skin and muscles, while internal organs were strongly congested, save colon, rectum, and bladder, which were anæmic. Heart was in diastole. At certain spots in arachnoid exudation was found, and there was bloody serum in ventricles, and a sanguineous exudation on the choroid plexus.

* Dr. Althaus describes a skin eruption, beginning like herpes but then assuming the appearance of pemphigus, spreading all over face and body, with aphthæ in mouth and fauces, and hæmorrhage from bowels, as resulting from the drug. He does not say how it was given, or in what disease. (*Lancet*, 1877, i, 94.)

A renewed comparison of our presentation of the cases with that in the *Wochenschrift* makes the following corrections desirable:

- P. 124, l. 21. After "colour" supply "when cut," and for "cæcum" read "colon."
 ,, l. 25. For "brightened" read "bright red."
 P. 125, l. 14. For "clear" read "shrill."
 ,, l. 31. For "it is" read "am."
 ,, l. 43. For "occurs" read "occurred."
 The name of the reporter should be "Busscher."

ACONITUM.

(See vol. i, pp. 72, 747.)

I. 40. J. F. B—, in full health, pulse 70 and regular, took 2 dr. of tinct. in water at 11 a.m. 11.5, pulse 78. 11.15, pulse 90, hard and thin; slight rigors along spine, internal heat with external coldness and pallor. 11.25, great restlessness, with numbness of l. arm and oppression of breathing. 11.45, sharp pains in ears, with heat and redness of cheeks; felt anxious and uneasy; desired fresh air. 12, asthmatic breathing, with palpitation. 12.15, drawing pains in extremities; stinging pains in throat, with thirst. 12.30, sight of food causes nausea. 1.20, pulse 84; occasional stitches through chest during inspiration. 3, stitches and soreness in hepatic region, with heat in abdomen; soreness and stiffness of muscles all over. 3.15, pulse 80; perspiration on face and hands without cause; feeling as if diarrhœa would occur. 4.15, urging to urinate; urine scant. 6.30, pulse 75; urging to stool, which was copious, and attended by colic and tenesmus; perspiration increased after stool. 8.45, second call to stool, watery and copious, with relief of all symptoms. Slept well, and awoke in usual health next m. (IBID., *Trans. of Int. Hom. Conv.*, 1881, p. 35.)

41. I have myself experienced violent palpitation of the heart, with much præcordial oppression, 1½ h. after taking ℥xx of tinct. It lasted about 15 m., and recurred at intervals during the following d. (PHILLIPS, *Mat. Med.*, 2nd ed., p. 7.)

42. Dr. E. W. BEEBE, æt. 45; normal pulse 72, resp. 13. On March 26th took 10 gr. of 6x trit. ½ h. before breakfast. No effect. 27th.—At same h. took 10 gr. of 2x. At 10.30 a.m. pulse was 86, at noon 80, at 9 p.m. 86. 28th.—At 7 a.m. took same, pulse 70. 7.10, pulse 72; slight numbness of tongue and fauces. 7.30, pulse 68. 8, chilly while sitting near warm stove; pulse 68. 30th.—Took, at 7.30 a.m., 10 gr. of 1x; pulse 72. 8.45, pulse 92; slight headache; numbness of tongue and fauces. 10, pulse still 92; headache ceased in open air. 12, pulse 78. 1.20, feeling chilly; pulse 76. (*Trans. of Amer. Inst. of Hom.*, 1885, p. 155.)

43. Dr. LEWIS SHERMAN, æt. 41, normal pulse 64. 1st d.—At 8 a.m. took 10 gr. of 6x trit. without effect. 2nd d.—7.45 a.m., took 10 gr. of 2x dry on tongue. Soon after cool numb sensation on

palate, tongue and fauces. 8.15, pulse 76; surface of body cool and pale (these symptoms continued about 2 h.). 5th d.—At 7.30 a.m., pulse normal, temp. 98.6, took 10 gr. of 2x. 8, pulse 74, temp. 98.24°. Numbness in mouth and fauces more marked than before, and lasted 3 h. 7th d.—While having slight bronchial irritation, pulse 68, temp. 98.24°, resp. 17, took 10 gr. of 1x. In 8 m. pulse 66, resp. 15. After 5 m. more, gnawing nauseating sensation in stomach, followed by rumbling in bowels. At 8 a.m., before eating, pulse 84. 8.20, pulse 17, temp. 97.88°. 9, pulse 64, temp. 98.24°. All symptoms better after breakfast. Only mental symptom observed was a slight uneasiness, allied to fear. (*Ibid.*, p. 156.)

II. 14. The patient, Miss M—, æt. 24, took through mistake 3ss of the tinct. aconiti rad., which was followed in 20 or 30 m. by a sense of warmth in stomach, nausea, and oppression of breathing. Shortly after this followed numbness, tingling, and slight muscular weakness. She did not attribute her feelings to the drug, and in 1 h. from the time it was taken (4.30 p.m.) the dose was repeated. She started soon afterwards to walk a distance of two miles, and did not complain until about half way. On reaching her destination she began to stagger, and was soon completely prostrated. Her voice became very weak, and she complained of cephalalgia and lancinating pain in different portions of body, but particularly in joints. I was sent for, and arrived at 6.40 p.m. Learning that the patient had taken a poisonous dose of aconite, I administered the usual emetic, which was swallowed with great difficulty. I sent for Dr. Wm. H. Studley, who quickly arrived. I found the patient in the following condition: Axillary T. 97½; P. 32; R. 10. Pupils dilated, extremities cold, loss of consciousness, extreme pallor of face with expression of great suffering, and there was a twitching of the mouth and eyelids. Emesis was produced. The stomach contained a considerable amount of fluid, which had an odour of alcohol. The retching continued, and her condition each moment grew worse, the pulse becoming frequent and irregular, and respiration more difficult. By consent of Dr. S. I injected hypodermically fifteen mins. Magendie's sol., just after which (not exceeding 1 m.) the symptoms became more alarming still; she having a slight convulsion. There was a spasmodic contraction of the laryngeal muscles, respiration ceased, and the pulse was imperceptible. Dr. S. did not observe me inject the morphia, and remarked that if I had not already done so it was useless to inject it. She was a dying woman; respiration had ceased, the feeblest pulsation could not be detected, the body was cold to the touch, and we had every evidence of impending dissolution. We had lost all hope in the case, but were endeavouring to detect a feeble impulse of the heart, when suddenly and to our surprise the pulse sprang up, about the rate of 40 per m. The laryngeal muscles were relaxed and respiration began. Very soon the cheeks were flushed, and heat returned gradually to the extremities. The thermometer was again placed in the axilla, and registered 98½°. The retching continued, and in ½ h. the pallor returned, there was general muscular tremor, and the pulse became frequent and irregular as before. Ten mins. Magendie's sol. were

injected, and an enema containing 20 gr. carbonate of ammonia and one ounce of brandy. She soon rallied as before, this time recovering consciousness; and complained of cephalalgia, burning sensation in the stomach, and severe pain in different parts of body. At 10 p.m. I injected ten mins. more Magendie's sol., which seemed to quiet her, and at 12 she was asleep. The bladder had been evacuated four times since 8 o'clock.—15th, 6 a.m., temp. 99°; pulse 80. Has vomited only after the enemata, which were repeated at intervals of 2 h. She complained of great muscular soreness, and movement of the body is painful. She is very weak, her grasp being scarcely perceptible. Champagne and mucilaginous drinks were given, and the enemata continued, but at longer intervals. 4 p.m., temp. 99½°; pulse 72. Vomiting has ceased, and but little nausea. Diuresis has continued, and she complains for the first time of pain in region of kidneys, paroxysmal in character, lasting but for a few moments at a time.—16th, 10 a.m., temp. normal; pulse 80. Has rested well since e. before; diuresis diminished; no pain in region of the kidneys; cephalalgia and muscular soreness remaining.—17th, 10 a.m., patient much improved; temp. normal, pulse 80. Has taken food in fluid form with relish. Muscular soreness diminished, and but slight cephalalgia, which remained for several days. Two d. later she complained of a peculiar sensation at the roots of her teeth, and diarrhœa, which symptoms lasted but a short time. The patient gradually improved, the muscular soreness being last to disappear. (O'BRIEN, *N. Y. Med. Record*, Feb. 8th, 1879.)

ADONIS.

Adonis vernalis, L. Nat. Ord., *Ranunculaceæ*.

I. *Provings*.—1. ORVILLE W. LANE, student; health good, takes no stimulants, tobacco, tea, or coffee. Feeling perfectly well, pulse 60 lying, 66 sitting, 72 standing, took 10 gr. of crude plant at 11.40 a.m. 5 p.m., pulse 54 sitting. 7, slight glow of heat over surface; abdomen bloated, hot and somewhat offensive flatus passed repeatedly in small quantity; head feels light; some aching in occiput and nape, with slight stiffness. 8, pain in abdomen just above umbilicus, cutting, not relieved by bending over; sphincter ani feels somewhat lax, as if a purgative had been taken. Later in e. some qualms of stomach, with belching of gas; head aches from occiput around temples to orbits, and across forehead. At midnight, when he retired, these symptoms continued; pulse was 80 sitting. 2nd d.—Could not go to sleep for ½ h. after going to bed on account of rambling thoughts (usually goes off immediately), and began to dream as soon as he closed his eyes. At 7.15 a.m. woke with gnawing hunger, also feeling of weariness and disinclination to rise. Got up at 7.30, but was obliged to lie down again on account of vertigo with faint sickness at stomach; believes he would have fainted had he remained on his feet. Was able to get up at 7.45; took bath and dressed. Head heavy and dull in occiput (not aching), and scalp felt tight all over; tongue coated dirty yellow; slight pain in abdomen, eased by support of hands; temp. 98, pulse 54 lying, 60 sitting, 72 standing; eyes yellow, dark circles round them. 9.3, a large hard, dark-brown stool, expelled only with considerable exertion of abdominal muscles. Faint heavy gone feeling in epigastrium since 2 h. after breakfast, better out of doors. Had heavy dull headache in forenoon, also relieved in open air, and feeling of apprehension as if something would happen. Headache all e.; anxiety proceeding from stomach; noise disturbs him; sense of load at epigastrium and sickening sensation from pressure; stiffness whole length of spine, with sore aching

from 7th dorsal vertebra downwards to last lumbar and outwards to crest of ilium; front half of dorsum of tongue feels sore, as if scalded; intestines feel as if they might break by bending, and bending forward caused pain across transverse colon, as if due to fixed gas; after lying down for $\frac{1}{2}$ h. mouth has a nasty slimy bitter taste; lame, dull, aching pains in thighs, deep in muscles, better on moving about and out of doors. He had had a tired languid feeling, or general malaise, all afternoon; worse now at 9 o'clock, especially when sitting or standing erect; eyes smart and are sensitive to light; no appetite for supper. Unusually susceptible to cold this e. 3rd d.—After retiring last n. kept awake an h. by distressing fulness just below epigastrium, which pressure relieved; when lying on side, abdomen felt as if drawn or pushed outwards. After getting off slept soundly till 6 a.m., but woke with tired aching along entire spine and about shoulders and hips, and gnawing hunger with heavy weight at stomach, which became better after breakfast. 9.30, hard brown stool, passed with difficulty because of its size. 10 p.m., has had few symptoms to-day, only slight dulness of head and general sense of languor. Appetite not as good as usual, and he felt better during exercise out of doors or lying down. For two mornings yet he awoke with same soreness and tiredness of back; and weight at stomach, with yellow-coated tongue, continued during day. By 6th d. he was fairly well. (*Trans. of Amer. Instit. of Hom.*, 1888, p. 142.)

2. GEO. W. PLEASANTON, student; health good, but uses coffee habitually and chews tobacco. Took same dose at 7 a.m., fasting. Towards e. experienced a nervous restlessness, and passed a restless n. disturbed by horrible dreams. These were repeated on following n., but no further effects were observed. (*Ibid.*, p. 145.)

III.—1. The active principle of this plant is a glucoside called "Adonidin." Injected into the crural sheath of a frog, the heart being laid bare, the first effect noticed is a marked increase in the ventricular contractions, followed by slowing. The ventricle looks pale, the auricular appendage and large veins are dilated, and finally the heart stops in systole. The same effects have been observed in the case of the dog and rabbit, a diminution in the number of heart-beats and elevation of the blood-pressure first occurring, followed by an increase in the pulse-rate and blood-pressure; finally the heart beats tumultuously, and the blood-pressure falls. (*Brit. Med. Journ.*, April 10th, 1886.)

ÆTHUSA.

(See vol. i, p. 136.)

II. 1. Joseph P—, æt. 19, applied at hospital 8.30 a.m. He stated that on previous e. he gathered by the hedgeside several leaves of a herb he thought to be tansy. Before going to bed he ate a few of these leaves, and about 3 a.m. began to vomit, and this vomiting continued off and on till he came to hospital. He then complained of nausea and headache, with burning sensation about mouth and throat. Pupils were widely dilated, and pulse very quick and feeble. Patient was put to bed, and no treatment ordered beyond 5 gr. of calomel and an oz. of castor oil. By next m. he was quite well. The lad brought with him a piece of the herb, which was unquestionably fool's parsley. (SUGDEN, *Lancet*, July 14th, 1888.)

ALETRIS.

(See vol. i, p. 210.)

I.—7. a. Miss DE NORMANDIE, Jan. 22nd, took 10 gr. of $\frac{1}{2}$ trit. $\frac{1}{2}$ h. before breakfast. No immediate symptoms, but languor and exhaustion all d., with slight back-ache in dorsal region. 6—7 p.m., extremities cold; head and face hot and flushed;

temp. 99.2; pulse 76 (normal). 8—9, chills passed; face flushed; ears feel as if open through from one to other; head dull; cannot study. 23rd.—Very restless all n.; woke unrefreshed; deaf in l. ear; feels stuffed; backache continued; head ached all d.; dull and oppressed. 4 p.m., r. leg. below knee feels paralysed and numb, cannot bear weight on it (continued 2 h.). 7, feverish, pulse 82; temp. 99; no appetite; headache increased; pulse irregular and intermittent; thirst during fever. 24th.—Restless all n.; early stool, quite painful. 2 p.m., another stool, with colic. 6, another stool, same character, loose and offensive. 25th, awoke well, save for sore throat, which passed off during d.

b. 28th.—Feels quite well; but menstruation has begun, which is always of 6 d. duration and painless. Took 3 gr. of crude substance at n. 29th.—Restless all n.; woke with headache and slight pain in uterine region. Menses, usually free and bright on 2nd d., have nearly ceased; are dark, almost black, and of sour odour. No dysmenorrhœa, but general malaise. 30th.—Restless all n., with many dreams. Menstruating slightly till e. 31st.—Small urgent stool, dark and offensive, causing excoriation. At noon, another stool; and at 4 another, with more pain, and followed by exhaustion. At 8 another stool, but normal. Lips dry and cracked all d. This last continued Feb. 1st, but otherwise she felt as well as usual.

c. 7th.—In her normal state, repeated 3 gr. dose of substance, $\frac{1}{2}$ h. before breakfast. Taste of drug caused nausea, which coffee increased. Felt worn out and tired during d. 7 p.m., slight fever, face burns; temp. 98°, pulse 100; very thirsty; mind clear and active. 8th.—An accouchement at n. allowed her only 2 h. sleep; from this she woke with headache all over and faintness, could not eat, pulse 72, eyes heavy. P.m., backache with dragging in sacral region and leucorrhœa, stringy and colourless (never had this before). 9th.—Same exhausted feeling; cough on waking, tickling, short, dry, hard, then—increasing—became spasmodic but not painful, increased by talking, better out of doors; it forces urine out. Felt well otherwise. Henceforward to 16th she coughed almost incessantly, like whooping-cough; lost her breath with it and became cyanotic; complete inability to retain urine during it. No other symptom. On 18th cough, which had been abating last 2 d., ceased as suddenly as it began on occurrence of menses 8 d. before time (she was regular to the day). Flow was light-coloured, attended by colic and bearing down pains. It continued only 52 h., and was followed by leucorrhœa, white and stringy, till 21st; with, on 20th, general malaise, and (though cough had ceased) still incontinence of urine, especially when walking fast or sneezing. On 21st felt well as usual. (*Ibid.*, p. 157.)

AMMONIUM BROMATUM.

(See vol. i, p. 603.)

I. 4. Dr. J. C. MORGAN took 3x trit. several times daily for 3 d. First symptom noticed was feeling of malaise and fatigue, worse on lying down, relieved after emission of flatus while urinating. Tickling in trachea and bronchial tubes, attended by cough and slight scraping in throat while coughing. Sneezing while moving about in a cool room, or on raising arms. Slight thin discharge from r. nostril, next d. this was thicker. Sensitive to cold air. Chilly feeling in back of chest and nape of neck. Increased mucus in pharynx, causing cough. 2nd d., m., voice changed as from obstructed nose, in a warm room. Walking in damp air, nose smarted as if raw; worse when inspiring. Later, sneezing. In e. cough, dry and irritating. 3rd d.—Woke at 3 a.m. with cough, increased by pressure on throat. Increased discharges from bronchi and nose. Mind more active and resolute. Coughed but little during d., and it was loose. In e., difficult vision and hemiopia, followed by coughing and right-sided headache, which cough

increases. 4th.—Wakened at 3 a.m. with pain from sternum to spine, relieved by changing position. Later, while writing, misspelled words and numbers. Persistent disposition to stoppage of nose in a warm room. Felt timid and discouraged, lacked self-confidence. There was considerable malaise and languor, with nervous restlessness. Desire for external warmth and for hot drinks. Pains in legs at intervals, worse from motion. After a fatiguing walk late in e. irregular action of heart. 1 p.m., whistling expiration, apparently from l. nostril; sticking pains in r. ear. After these symptoms, there occurred for some d. frequent attacks of colicky pain in lower abdomen; also thick discharge from nose.

During latter part of proving there was an irritable feeling under finger-nails, relieved only by biting them; hence this was frequently done. (*Trans. of Amer. Inst. of Hom.*, 1890, p. 225.)

5. About 100 healthy persons, male and female, of various ages, were given doses of the salt, ranging from 1 to 5 gr., 3 times or more a d., in water. The period of its continuance varied from 3 weeks to several months, and the results were carefully noted. In the greater number there was increase in appetite and improvement of complexion; they ate more food, and were able to digest it well—the drug seeming to impart a soothing and comfortable sensation. The action of the bowels was perfectly natural. The circulation was entirely unaffected. In 6 or 7 cases a mild diuretic effect was observed. If the small doses were continued for some time, these effects were not always continued, and in a few persons slight nausea was produced, with impairment of appetite; this was especially so when 4–5 gr. doses were given. In 3 only was there a little headache, with giddiness and lightness of head, but the intellectual faculties were unimpaired. Coincidentally with increase of appetite was a marked clearing of the complexion, especially observable if the face was naturally florid or the skin very red. This redness or floridity became decidedly paler, and the skin assumed a fine transparent freshness indicative of healthy function. Dyingness, slight sallowness, or a heightened complexion became modified or altered, so that a more healthy, slightly pink colour was assumed. These effects were noticed sometimes when the salt had been taken a few d., and the improvement in the skin was so apparent that it but has attracted notice. (*GIBB, Trans. of Brit. Assoc.*, 1862.)

AMMONIUM PHOSPHORICUM.

Hydro-diammonic phosphate, $(\text{NH}_4)_2\text{HPO}_4$.

I. *Proving*s.—1. Dr. C. VOIGT, after taking about 3 gr., was seized in an h. with sense of tightness in præcordia and around chest; nausea; thirst; a hard, small, frequent pulse, and a collapsed state of the circulation. These disturbances were followed by fulness and tension in head; heaviness in limbs; and unsteady tottering gait. (*Bost. Med. and Surg. Journ.*, xxxiv, 308.)

AMYL NITROSUM.

(See vol. i, p. 255.)

II. 22. Dr. G. F. SENTER reports in the *Indiana Medical* the case of a young lady who took by mistake a dessert-spoon nitrite of amyl. A druggist gave an emetic, which acted pro The doctor saw her in 25 m. She was ejecting great quantity fluid from her stomach, which saturated the whole room with a like odour. Her face was greyish-white, her pupils widely dilated, eyes glassy and vacantly rolling in their sockets. Mouth wide open; breathing spasmodic and irregular, a few breaths very rapid and long-drawn, finally, they ceased all rapidity, and were barely perceptible. Pulse was irregular and jerking when examined; soon, however, it became so slow and feeble that it could not be detected at the wrist. The patient presented "a limp, limber, relaxed body imaginable." Skin was cold and suffused with a moist adhesive perspiration, supersaturated with General excitation, with coffee and opium, restored her. (*Boston Journ.*, 1880, ii, 859.)

III. 3. Drs. McBride and Kempster, on two occasions, had an opening in the skull of an etherised rabbit, and—when etherisation and operation have subsided—have administered the amyl. In both animals they saw the vessels of the pia mater and the brain, becoming intensely congested, protrude through cranial opening. The ears were equally hyperæmic. (*Chicago of Nervous and Mental Diseases*, 1879.)

ANACARDIUM.

(See vol. i, p. 263.)

I. 6. I applied directly to the skin of one hand the tin A. orient. In 24 h. a slight redness was visible at point of application. In 48 h. there was heat and itching, and a scarcely perceptible eruption; itching was intensified by warmth and friction, and by cold. In another 24 h. well-marked vesicles were present they did not go on to bullæ. By 4th d. discomfort had subsided at original site; but there were for 2 or 3 d. successive crops of groups of vesicles along the palm and thenar eminence—a circumscribed which I had noticed in former poisoning from same drug. By a week from application, vesicles had dried up, and finally were off, leaving a base faintly coloured even 2 months afterward. C. H. FINCH, *N. E. Med. Gaz.*, xxiii, 270.)

ANILINUM.

A secondary product of coal tar, obtained by treating benzin with strong nitric acid and ammonia. $C_6H_5NH_2$.

II. *Poisonings*.—1. A boy, cleaning an aniline vat, inhaled the fumes, and was suddenly seized with giddiness and became insensible; face and body grew cold, pulse slow and almost imperceptible, action of heart feeble, respiration heavy and laboured. After rallying a little he complained of pain in the head and giddiness; his face had a purple hue, as also his lips, mouth, and nails. This blue colour (as of a patient in the last stage of cholera) continued the next d. (MACKENZIE, *Med. Times and Gaz.*, 1862, i, 239.)

2. Man, æt. 39, was emptying about noon a carboy of aniline into a still, when it struck against the edge and broke, the whole contents pouring over him; none entered his mouth, but the fumes were freely inhaled. About an h. after he broke out into a sweat, and felt quite giddy, and weak in head and stomach. At 11 p.m. he presented the following appearance:—Face and whole body of livid leaden hue; lips, gums, tongue, and eyes of a corpse-like yellow; he was gasping for breath, as though each inspiration would be his last. There were no convulsions, and he was perfectly sensible and able to give a correct account of his feelings; pulse was extremely small and irregular. The only pain of which he complained was in the head and chest. He recovered under stimulants, cold affusion to head, and sinapisms to legs. (KNAGGS, *Ibid.*, p. 583.)

3. R. R.—, æt. 25, swallowed at 8 a.m. 100—120 grm. of a mixture of aniline and toluidine by mistake for coffee. He went to work as usual without telling anyone of the accident, and it was not till 9.45 that his companions noticed that he was dull, immobile, and in a state of stupor. Interrogated, he stated what had taken place, and complained of slight headache. Free emesis was induced, and patient lay down; but 20 m. later grave nervous phenomena appeared. The patient lost consciousness, sank into a coma with general relaxation of the whole system, the head pendent and hanging backwards, the lips black and the face of a violet colour. Contraction of the muscles of the face followed, with risus sardonicus and trismus, so that only with a great effort a few drops of milk could be introduced into the mouth. There were no convulsions or contractions of the limbs; pulse very feeble; coldness. At 10.30 a.m. a few drops of alcohol were put into the mouth, and this was followed by some reaction. At the moment an increased quantity of alcohol and alcoholised tea was given. In order to combat the cold, he was heavily covered with blankets, and vessels of warm water placed around him; the whole body was rubbed with camphorated alcohol. The patient regained consciousness, and the vomiting returned. At 12.30 p.m. two injections of oil were given. At 2 there was again loss of consciousness; the pulse was weak, and the cyanosis still persisted, although in a less degree than before. At 3 clonic spasms of the limbs and complete loss of consciousness; the contractions of the face and jaw had dis-

appeared. The patient was now admitted to the hospital. On his arrival the interne noticed that he was in the deepest coma; the pupils were dilated, with only slight reaction. Two hundred grammes of a deep brown coloured urine were withdrawn by the catheter. Death was considered imminent. The coma lasted during the n., interrupted by frequent convulsive attacks in the limbs. The face was of a violet colour during all this period. In the m. the patient was conscious, and complained only of a violent headache. The face, and especially the lips, were still slightly cyanosed. The sensibility was normal, except along the palate, where tickling did not provoke any reflex action. No paralysis. There was free urination; the urine was still very dark, albuminous, and with an alkaline reaction, while that of the e. had been acid and non-albuminous. No pain in the abdomen; no stool since the attack. There was a strong alkaline odour about the bed, which seemed to come from the patient's clothing. Treatment:—Milk, purgative, bath. On the following days the headache disappeared. The urine was still coloured, and but slightly albuminous. The patient left the hospital in a few d., without any appreciable remaining phenomena, except the anæsthesia of the arch of the palate.

The blood examined the day after the poisoning did not present anything abnormal so far as the configuration of the red globules were concerned; enumeration 4,200,000. The temperature on the same day was 99.6°. The urine of the first day contained A. still unchanged; there was no trace of it in the m., and its alkalinity was due to the carbonate of ammonia. (MERKLEN, *Méd. Contemp.*, 1885.)

4. Mrs. W—, æt. 64, took a teacupful of an acetous solution of A. She had intense burning pain in head and at stomach after swallowing it, and "could not get her breath." She took salt and water, but did not vomit till 8 h. afterwards, when violent emesis and purgation set in, and continued until I saw her, when she vomited stringy mucus mixed with blood. She was almost exhausted; extremities were icy cold, and head cold and clammy; intense pain on pressure over abdomen, which was hard and enlarged; tongue pallid in centre, and very smooth and red at tip and edges; eyes injected; lower lids puffed; she complained of burning pain in eyes, and said, "Oh! my head will burst;" pulse hard, 84; temp. normal; resp. laboured, 44. (ALLEN'S *Encyclopædia*, x, 299.)

5. H. C—, æt. 23, sent for me Oct. 5th, 1886. He was in a state of partial collapse, sweating, and almost pulseless. He had vomited, and had severe diarrhoea, not in any way characteristic. He had been subject to dysentery abroad, and had been drinking on the 2nd. I gave him a stimulant stomachic, with 2 gr. of gray, and 5 of Dover's powder, every 4 h. On seeing him next m., I found that he had revived, and had been sick after every powder, vomiting some blue liquid, unfortunately thrown away. He now showed me an indelible aniline pencil, which he had used on the 3rd to push out a fang of a tooth left after partial extraction on the 1st. On the same d. he was seized with vomiting and purging, and just before I saw him was said to have had an epileptic fit. He recovered in a few d., only some weakness remaining. (PEARCE, *Brit. Med. Journ.*, Oct. 23rd, 1886.)

6. Chronic poisoning by A., as observed in workmen in the aniline factories, has been described by Charvet, Laboulbène, and Bergeron.

a. CHARVET speaks of general nervous symptoms—vertigo, stupidity, muscular cramps and weakness in extremities, hyperæsthesia, anæsthesia, and neuralgic pains, occurring epidemically along with gastric symptoms, and disappearing on removal from the poisonous atmosphere without any other treatment. (*Ann. d'Hyg. publ.*, Oct., 1863.)

b. LABOULBÈNE speaks of a workman who after two months began to complain of pain in penis and scrotum; these parts became swollen, and remained so for some time. One month after this he began to lose sexual power, and complained also of bitter taste in mouth and vertigo. The eyes were irritated. (*N. Y. Med. Record*, xi, 382.)

c. BERGERON speaks of hebetude, somnolence, vertigo, weakness; sometimes epileptiform attacks, tetanic spasms, &c. In the end the workmen fall into a condition of profound anæmia, with discoloration of skin, lilac tint of lips, anorexia, gastric disturbances, &c. (*Ibid.*)

7. LAILLER, in two cases, saw poisoning follow application of the hydrochlorate to patches of psoriasis.

a. In the first case a 10 per cent. solution caused, in 1½ h., vomiting, repeated 10—15 times during n.; incontinence of urine, with a little tenesmus; n. restless; next m. face and nearly whole body cyanotic; pulse 116, small, regular; slight râles in chest; severe pains in heels and calves. A later application of a 5 per cent. sol. caused, in 2 h., headache, irresistible drowsiness, coldness, and dyspnœa; cyanosis very marked; voice very feeble.

b. In the other a 2 per cent. sol. caused, in 4 h., loss of consciousness, lasting 5 m.; deep cyanosis for 5 h., followed by great pallor and cold sweats; resp. normal. Following n. was sleepless; urine high-coloured. (*Union Méd.*, 1873, No. 67.)

III. *Experiments on animals.*—1. The experiments of Schuchhard, Bergmann, and Sonnenkalb leave no doubt on the point that, both in cold- and in warm-blooded animals, this poison acts like other narcotics, by altering the functions of the brain and spinal cord. Muscular contractions and general convulsions, anæsthesia and paralysis of motion, are the symptoms thus caused. The excitability of the peripheral motor nerves, as well as of the muscles, remains intact. The action of the heart is only disturbed in a secondary manner, that is, in consequence of the affection of the muscles concerned in respiration, and the defective aëration of the blood induced by the paralysis. Experiments on frogs show that A. is not a poison to the heart. The question whether it exerts any special or specific influence on the nervous centres for respiratory movements has not yet been solved by any experiments which have been made, although they have proved that aniline death, in warm-blooded animals, happens through asphyxia. (*ZIEMSEN'S Cyclopædia*, xvii, 521.)

Antifebrinum, acetanilid, formed from aniline, $C_6H_5NHC_2H_5O$; with its derivatives, methylacetanilid (exalgine) and monobromacetanilid.

II. *Poisonings.*—1. A student with catarrh took antifebrin in repeated

doses till he had consumed almost 30 grm. He gradually began to manifest symptoms of aniline poisoning; and, although the most prominent symptoms were absent, he complained of inability to sleep, and cardiac palpitation and dyspnoea produced a feeling as of impending death. The characteristic blueness of skin was general over the whole surface, but especially dark on eyelids, chin, and temporal regions. There was no puffiness of face, and the general appearance was quite different from that of cyanosis. On the 3rd d. patient was able to leave his bed, and the blue colour had entirely vanished. (*Chemist and Druggist*, May 31st, 1890.)

2. A healthy young married woman took about a teaspoonful in water, to relieve a headache. Ten m. later she took a similar dose, when, fearing she had overdone it, she took some milk and alum water, and vomited; but immediately afterwards giddiness, singing in ears, throbbing in temples, and dull pain in head, together with feeling of weakness, came on, and face assumed a livid hue. Four h. later face was livid, lips blue, and pupils contracted; but heart, temperature and mental condition were normal. An aperient and stimulant were ordered. Shortly afterwards she became suddenly collapsed, pulse could not be counted, breathing shallow. Stimulants were injected, and in 3 h. she somewhat recovered, when collapse returned; and then an intravenous injection of common salt seemed to act most beneficially. In about 14 h. she was out of danger, but complained of debility and pain in her limbs for a week. (*Lancet*, May 24th, 1890.)

3. A girl, æt. 24, took exalgine to subdue the pains of myelitis—for 5 d. 2 gr., for 2 d. 4 gr., and finally for 7 d. 6 gr., 3 times a d. No relief was given to pain, but after the 14 d. symptoms of poisoning occurred. The first symptoms noticed were blueness of lips and cheeks, and small compressible pulse; she felt sick and giddy, sight was indistinct, and there was feeling of weight at epigastrium. Amyl nitrite was given by inhalation, but this increased the cyanosis. After 5 h. patient vomited, followed by still further increase of cyanosis and delirium, with frothy salivation. Temp. rose to 99·8°, pulse to 144, small and compressible, but regular. She was treated by stimulants, strychnia and digitalis, and in 4—5 h. more symptoms had passed off, save slight cyanosis. (*Brit. Med. Journ.*, Feb. 8th, 1890.)

4. To relieve a severe pain in lumbo-sacral region, a medical man took a gr. of exalgine at 9.30 p.m., and $\frac{3}{4}$ h. later 2 gr. more in a little whiskey. Shortly afterwards he complained of a little giddiness, and several times said that his head felt so large it seemed to occupy the whole room. He continued, however, playing cards till 11, when without warning he collapsed in his arm-chair, prostrate, quite unable to speak or move, and gasping for breath. He continued in this state for over $\frac{1}{2}$ h., when he got slightly better, and said a few words between his gasps; he said he was not strong enough to move, and felt each breath a fearful effort. In this condition he was carried up to his bedroom and laid down; but feeling unable to breathe lying down, was placed in an arm-chair well covered up before the fire. His respirations became painful to witness; he seized and clenched the hands of those around him, and was in many respects just like a man suffering

from a bad attack of asthma. Resp. was 38, gasping and shallow; pulse quiet, rather weak; surface very cold, face pale but not cyanosed. Was relieved in 2 h. after vomiting a little whiskey, but remained sick, giddy and weak, and for an h. suffered from frequent and painful strangury. He then got to bed and slept well, and left for Scarborough the next m. The d. following he was slightly jaundiced. During the paroxysm he felt no pain, but numbness all over, and as though diaphragm had stopped working, and he must go on breathing on his own account at any cost. He is not at all subject to asthma. (*Ibid.*, May 3rd.)

5. Mrs. C., æt. 27, took (for neuralgia) 3 gr. doses of a French preparation of exalgine at 1, 2, 3, 4, and 6 p.m. without effect. At 9 she took 3 gr. more, and almost immediately afterwards felt absolutely powerless. This lasted 5 m., patient remaining quite conscious. She compared the sensation to that of taking chloroform before she was quite "under." At 12.45, pain still being very severe, she took a 7th dose, and in 15 m. had feeling of impending death, could not speak, gasped for breath, pallor intense, dilated pupils; limbs became quite rigid, heart palpitated; she felt utterly powerless, and broke out into profuse perspiration. By aid of fresh air, stimulants, &c., the attack passed off in 15 m., leaving her very prostrate, with ringing sounds in ears. (*Lancet*, 1891, I, 541.)

6. Mrs. G. had been taking 2 gr. doses of same at intervals, for a neuralgic headache, obtaining relief, though sometimes feeling slightly faint; but by mistake an undetermined overdose was taken. She soon experienced a feeling of complete prostration, her limbs became powerless though not rigid, she felt as if she was sinking through the bed, and thought she was dying; there was slight perspiration, breathing was faint and shallow, and she was nearly pulseless. Mustard, heat, and stimulants brought her round, but she felt very weak for many d. afterwards. (*Ibid.*)

7. A lady, æt. 43, for migraine occurring at the menstrual periods was given two powders of 0.25 grm. each of monobromacetanilid. She took one at 10.30 a.m., and, finding no relief, took the other at 11. Her lips were then beginning to look a little blue. At 11.30, 12.15, and 1, the headache being no better, she took 0.5 grm. of anti-febrin. She became very cyanosed, and felt almost intoxicated and very giddy. At 3 p.m. headache grew worse; clothes felt tight and their pressure almost suffocating; she was seized with pain in l. shoulder, starting from cardiac region and extending to tips of fingers, and for a short time lost consciousness, but soon regained it, and felt only giddy; headache persisted. Pulse was at 5 p.m. 108, very compressible; at 11 it was 120; respiration rose to 24 and then to 28, and temp. to 100.2°; a mitral systolic murmur developed at the apex. Nitro-glycerine (grm. $\frac{1}{100}$) increased the cyanosis. Alcohol, strychnia and digitalis were given at frequent intervals, and by next e. patient was practically well. (*Ibid.*, Feb. 8th.)

Fuchsinum, rosaniline hydrochlorate, aniline red, $C_{20}H_{10}N_8HCl$.
II, III. 1. Rosaniline hydrochlorate when perfectly pure is said to

have no marked physiological action. Fabrics dyed with it have acted as local irritants producing eczema; but it is probable that this effect may be due, at least in great part, to the presence of arsenic. When given internally, it has produced salivation, vomiting, diarrhœa; and when injected into the veins it has caused trembling, staggering, albuminuria, and fatty degeneration of the kidneys. These symptoms may possibly be due to the presence of aniline or of arsenic as impurities. It is excreted by the kidneys, saliva, and bile; and probably also by the intestinal mucous membrane.* (BRUNTON, *Pharmac.*, &c., p. 743.)

ANTIMONIUM TARTARICUM.

(See vol. i, p. 278.)

I. 7. (Revision from original.) I took, May 20th, 1842, at 6.30 a.m., gr. $\frac{1}{2}$ triturated for an h. with 25 gr. of sacch. lact., dissolved in a spoonful of water. After $\frac{1}{2}$ h., frequent eructations of air, now insipid, now flat-tasting; afflux of clear flat-tasting fluid into mouth, running out in great quantity, with retching and straining which brought up nothing but a little clear mucus. Easy expectoration of much transparent sweet-tasting mucus. Indescribable malaise in region of stomach and belly, increased in former but diminished in latter by gently laying hand on the parts. Tenderness of abdomen. Sense of weight in stomach, which invades whole abdomen and causes great malaise; this state is relieved in the open air, but aggravated indoors, it is also diminished by eructation. Dull belly-ache in mesogastrium with slight shuddering and goose-skin. For 10 m. slight coldness, prostration, and desire to sleep. Frequent yawnings. After a glass of warm milk at 9 a.m. all these discomforts went off. After dinner, head was painfully attacked, especially in forehead; this lasted $\frac{1}{2}$ h., and there was occasional transient pressure from without inwards, as if towards one another, in temples. By e. all had gone off. (De Moor, *Revue de la Méd. spécifique*, v, 436.)

22. a. I had prescribed for a little boy of 14 mos. a gr. of tart. em. in \mathfrak{z} vj water, to be taken in 3 doses. He had no vomiting or purging, but his belly became large and tense, and his face and hands swollen. Enemata, 3—4 a day, gradually relaxed the belly; the œdema did not disappear for 8—10 d.

b. Dissolving 4 gr. in about \mathfrak{z} ij of distilled water, I took this solution in the palm of one hand and rubbed it against that of the other till both were dry. Some m. after, I felt a slight flat taste in the mouth, which filled with a quantity of water, as when one is on the point of vomiting. I had, however, no actual nausea or sickness. Repeating experiment, and rubbing in only a few dr. at a time, I felt slight nausea during the process. When the sol. was rubbed into the inner aspect

* In presence of the doubt as to the part played by arsenic in fuchsin poisoning we have limited ourselves to the above summary; but the use made of it, not in the school of Hahnemann only (see *Brit. Journ. of Hom.*, xl, 282), to remove conditions of the kidney characterised by albuminuria, requires such a basis. For a case illustrating its power of causing such conditions, see the *Clinique* for Nov., 1881.

of the thighs, no effect resulted. (SAVARY, *Journ. de Méd. de Corvisart*, xxvi, 248, from *Ibid.*)

23. *a.* The effects of tart. em. in health vary according to the doses administered. From 1 centigr. slight general perspiration ordinarily results; after 2 or 3 the sweating becomes copious, or alvine evacuations are produced. From 5—15 centigr. we see nausea, shuddering, pallor, giddiness, salivation, repeated and violent vomiting, with sweat on forehead, obscuration of vision, and involuntary trembling of the lower jaw. When given in larger doses still, it rarely produces vomiting.

b. Whatever be the channel through which tart. em. enters the system, it always produces the same results, *i. e.*, perspiration if its action be slight; stools and vomiting if this is more considerable; general prostration if its full power is exerted. (GIACOMINI, from *Ibid.*)

ACIDUM FLUORICUM.*

(See vol. i, p. 16.)

II. 2. A young lady, in attempting to remove with fluor. ac. some paint from china, spilled some of the acid on her palms and forearms. She at once washed it off with running water, and applied turpentine to the palms. Next d., a few spots on one hand which the turpentine had not reached gave her great pain, which she described as intensely pulsating, like the beat of the heart. The pulsation involved the tip of the thumb particularly; but this had not been touched by the acid, nor was it red and inflamed like those spots which had been, but it was sore to touch, and when pressed there was sensation as if a splinter were under the nail and in the cellular tissue. The whole hand was swollen and hot, and the cold open air felt grateful to it. The throbbing and heat in the thumb continued for about 4 d., and gradually subsided under treatment. (T. F. ALLEN, *N. A. J. of H.*, March, 1886, p. 288.)

ANTIPYRINUM.

Phenazon (Phenyl-dimethyl-pyrazolon), $C_{11}H_{12}N_2O$. A product of coal-tar through toluidin.

II. *Poisonings.*—1. *a.* Two years ago I made a communication to the Academy of Medicine based upon a case occurring in my practice, where most disagreeable effects had followed the administration of A. I quoted two other unpublished cases that had been related to me, and three published cases from English and American periodicals. In the three cases the symptoms noted were: Three times swelling of eyelids to such an extent that eyes were almost closed, and of face so that features were scarcely recognisable. Once swelling was chiefly located in throat, and threatened asphyxia. Five times there was a rash of

* Accidentally misplaced.—EDS.

some kind, generally erythema or urticaria, with troublesome itching. In one case where there was urticaria there was loss of consciousness, which was immediately restored by the hypodermic injection of atropia. In two cases buzzing of ears was noticed. In two also there was violent gastric pain, followed by gastro-enteritis lasting six weeks, it being several mos. before patient entirely recovered. Once there was profound mental disturbance, patient being afraid of becoming insane; and the mental equilibrium did not return entirely for some mos. Hypersecretion, in the shape of running from nose and eyes and excessive perspiration, was noted several times; and once patient felt as though she was stuffed with ice.

b. What I wish to point out now is that I find the symptoms put down to the prevailing influenza are in many cases those described in my paper as due to overdoses of antipyrin, particularly swelling of the eyes, urticaria, and watery discharges. The extensive use of the drug in its treatment is well known. In one case which has come to my knowledge I have no doubt of its having caused death. The patient, an elderly lady, had been treating herself. The symptoms had consisted of cough; a dusky eruption on the body, which appeared swollen; profuse perspiration; troublesome itching and urticaria, chiefly between the fingers; swelling of the eyelids, which were reduced to a mere slit; and fear of impending insanity. Antipyrin had been taken for about 10 d. and persisted in because of the gravity of the symptoms, which, including pains in the limbs and prostration, seemed to point to the necessity of active treatment. Finally a medical man was called in and the drug stopped: but the patient never rallied and died 2 d. later. (JENNINGS, *Lancet*, Jan. 11, 1890.)

2. Two patients, a boy and a woman, *æt.* 10 and 67 respectively, suffered from an eruption after the internal administration of A. The eruption consisted of little irregularly rounded pimples lying close together, and in some places confluent, so as to form patches of greater or less extent, between which the skin was normal, thus giving a marbled appearance to the surface. After about 5 d. the eruption began to fade, and to assume the character of a brownish pigmentation; in the old woman there were some faint evidences of desquamation. Traces of the eruption were still visible at the end of 2 weeks. The eruption was thickest over the body and on the extremities; the extensor were more covered than the flexor surfaces. In the boy there was some *œdema* of the face, but in neither case was there any eruption on head or neck; the palms and soles were not spared. There was some itching in the case of the woman, but the boy did not complain of this. The eruption ran its course and disappeared, although the administration of the A. was not interrupted.* (*Pract.*, Feb., 1885.)

3. A woman, *æt.* 35, was suffering from blood-poisoning simulating typhoid fever. On the 3rd d. of her being in the hospital, temp. being 103.6° (the highest point it had reached), 35 gr. of A. were administered at 3 p.m., followed 3 h. later by half the quantity. At 6 p.m. temp. was 98.4°, patient pale and still, pulse feeble and rapid. She passed a

* Reporter, Dr. Paul Ernst, states that he has observed three other cases of exactly similar nature.

restless n., had diarrhoea and vomiting, skin cool and perspiring. Temp. next m. was 98° . She died in collapse at 11 p.m. In the last $\frac{1}{2}$ h. of her life temp. rose again to 100.6° . (*Lancet*, Feb. 28, 1885.)

4. TUCZEK reports the case of a strong healthy boy, \ae t. 4, who had never had convulsions, rickets, or worms. He had been suffering from whooping-cough, and had taken for three weeks, with marked benefit, 18 gr. of A. daily, when he fell into a condition of somnolence, which had been preceded by lassitude and vomiting, and passed next d. into sopor. In this condition he showed grave motor symptoms—paroxysmal epileptic attacks, some of which were complete, with general convulsions following in regular order, others incomplete, with partial unilateral twitching; contraction of muscles; chattering of teeth; jactitation; a peculiar type of breathing somewhat resembling that known as "Cheyne-Stokes"; cardiac irregularity, and dilatation of pupils. At the same time a macular eruption of scarlet red colour made its appearance, with sub-normal temp. and slow tense pulse. On 3rd d. consciousness returned, the attacks lessened, and from the 4th d. there was no return. The A. was of course discontinued at the outset of the seizure. (*Practitioner*, July, 1889.)

5. In an extensive use of A. in the treatment of whooping-cough, LOEWE met with 3 cases where the action was injurious and attended by alarming symptoms. In one child of 14 mos. a state of great excitement set in after the first dose. The attacks were increased and accompanied by vomiting, the child crying continually, and being thought to be dying. Hydropathic treatment relieved the condition. A second infant, 6 mos. old, after the 2nd or 3rd dose showed cyanosis and collapse, which the same treatment removed. To satisfy himself as to the drug being the cause of these symptoms, Loewe administered a dose himself, when they shortly set in again. In a third child, \ae t. 2, the attacks appeared to be increased by A., so that besides laryngeal spasm and vomiting general convulsions of marked severity followed the use of the drug. (*Ibid.*)

6. To a man of 50, suffering from sciatica, 5 gr. were prescribed *ter die*. The first (and only) dose was taken at 11.30 a.m. He instantly experienced a sensation of tingling and burning in his gums, which rapidly extended to throat and nose, accompanied by sneezing, running from eyes and nostrils, dizziness, complete loss of vision, a feeling as of numberless pins pricking him down each side of the neck, tightness in throat, and dyspnoea. The pin-pricking sensation extended rapidly down the r. chest and abdomen, was particularly severe in r. side of scrotum and r. testicle, and was also felt in legs and feet—severely in r. and slightly in l. He next experienced a sensation as if contents of thorax and abdomen were being forcibly drawn upwards toward throat, and r. testicle toward abdomen; so that, he said, he was "drawn in a ruck," and, being no longer able to stand, fell on the floor. He trembled violently all over, and had cramp in his r. arm and hand. His physician arrived 15 m. after he had taken dose, and found him sitting in a chair, declaring that he was unable to remain recumbent. His face was of a dusky red colour; his nose, lips and eyelids were so swollen as to render his features quite unrecognisable;

he was trembling violently all over, and fingers of r. hand were clenched in the form of a claw. Pulse scarcely perceptible. The symptoms gradually subsided; and next d., save for slight headache and loss of appetite, he had completely recovered. (*Brit. Med. Journ.*, June 15th, 1889.)

7. A lady, sensitive even to homœopathic medicines, took 10 gr. for headache at 6 p.m. In 5 m. she was seized with tingling burning sensation round upper part of mouth, inside nostrils, and in palate, just like cayenne pepper; this was immediately followed by ineffectual desire to sneeze; thin clear water poured from both nostrils. These symptoms ceased as suddenly as they had begun, and were immediately followed by sensation of dryness and burning in l. side of throat, with instantaneous swelling there, and for a few moments absolute loss of voice. The aphonia soon gave way to hoarseness, with much coughing and expectoration which seemed to come from back of throat and nose. With these symptoms there was a lump about an inch thick in l. cheek, just below level of upper teeth. Head perfectly clear, but great nervous anxiety; trembling of limbs and weakness in walking. These symptoms continued till 10 p.m., when swelling in throat was relieved by sleep and hot drinks; but hoarseness was unchanged. At 3 a.m., after further sleep, swelling in throat had almost entirely gone, but same burning tingling sensation was felt in vagina, also nervous pains all over body. She now also had two fainting-spells, with sensation of heart stopping; also throbbing all over body, coldness of hands and feet, and nervous shuddering without chill. After taking a little brandy and water, she slept again, and at 7 a.m. all symptoms had gone save the hoarseness, with weakness. Lump in mouth passed away in $\frac{1}{2}$ h. During the first symptoms, l. corner of mouth showed a tendency to draw down. During d. hoarseness continued, with faintness; frequent passage of clear urine, copious, all the time; tongue white. Had a little delirium during sleep last n., seeing faces. Yesterday she looked at her throat in a mirror, and found it white, with l. tonsil inflamed and swollen. (Bell. soon removed remaining symptoms, though weakness persisted some d.) (BERRIDGE, *Hom. Phys.*, Feb., 1890, p. 89.)

III. *Experiments on animals.*—1. Experiments were made with A. by R. D. Batten, M.D. and E. G. Bokenham, L.S.A. The drug was dissolved in a saline solution and injected into the dorsal lymph sac, or peritoneal cavity, and also administered by the stomach.

a. In the frog, a stage of dulness and quiet was followed by inability to direct its movements—*i. e.* after hopping it frequently fell on its back. Later, when laid on its back, it remained quite still in that position, making no attempt to regain its normal sitting posture. It would respond to slight stimuli, not by effort to escape, but by an apparently purposeless extension of the legs.

b. In guinea-pigs and rats the onset was usually marked by an impairment of voluntary movement and increasing unsteadiness, the animal standing still and swaying from side to side, often at same time shaking violently. This condition would proceed till the animal was no longer able to maintain its balance and fell on its side.

c. The most marked early symptom, common to all classes of subjects, was rigidity of certain sets of muscles. In frogs this usually began in the fore limbs, and extended to the muscles of the back or abdomen; while in the guinea-pig the hind limbs would become suddenly extended and rigid, so that the animal, on attempting to walk, did so only with its fore limbs. The rigidity afterwards extended to the other limbs, the head being drawn back into extreme extension. This rigidity was followed in mammals by peculiar rhythmic movements, the limbs moving very rapidly backwards and forwards, as if the animal were running (although it was on its side). If the use of the fore legs were regained, it performed circus movements by their means, always in same direction, round the hinder legs as a centre. The rhythmic movements alternated with rigidity. Still later the rigidity was less, and extreme irritability came on, a slight tap causing spasm. In severe cases a draught of air or vibration of walking in the room would produce a series of general convulsions. These symptoms appeared both before and behind a lesion dividing the spinal cord, whence it was concluded that the convulsions (in the frog) are of spinal origin. The rigidity and irritability were entirely abolished, *pro tem.*, by administration of an anæsthetic. Respiration was slowed, shallow, irregular, and with frequent stoppages until death finally ensued. At times the rhythm was that of Cheyne-Stokes' breathing.

d. Summary.—Antipyrin appears to act chiefly on spinal cord, and to a less extent on brain and motor nerves. Analogy leads to the inference that the lateral columns are affected, shown by spastic rigidity on using limbs, excessive myotatic irritability, and in one experiment phenomena exactly resembling ankle-clonus. Response to slight stimuli much more marked (*viz.* in excess) than that to painful stimuli (which was lessened). (*Brit. Med. Journ.*, 1889, i, 1222.)

APIS.

(See vol. i, p. 310, 748; vol. ii, p. 725.)

I. 14. A medical man took for an irritation of the throat 13 minims of Apis θ in water, supposing it to be lachesis 6. He was then galvanising a patient. In about 3 m. he felt a violent blow in the occipital region, and began to feel very strange; the sensation so increased that he had to stop what he was doing. He then sat down and noted his symptoms as they arose, as follows:—Swimming sensation; sense of constriction in throat; twitching of muscles and slight trembling; general sensation of fulness and weakness of co-ordinating power, especially in hands; oppression at bottom of sternum; pain down l. ulnar nerve; weight and tension at back of neck; dimness of sight; sense of weakness in upper limbs; slight numbness of l. hand, particularly of ulnar fingers. (This subsequently increased very much, amounted to complete anæsthesia of l. ulnar fingers, also want of power, with incomplete anæsthesia of both hands.) The sensation for which he took the dose ("pain as though an oat-husk had stuck in the hyoid fossa") suddenly disappeared soon after its ingestion, and an

habitual irritability of the bladder was diminished. (*Monthly Hom. Rev.*, xxxii, 451.)

II. 19. In 1877 I was stung by a wasp on the r. cheek. Next d., about 4 a.m., I was suddenly awoke by a burning and stinging sensation in my cheek, and a great soreness and smarting along the course of the lymphatics down into my neck. I found my cheek much swollen and red, and there was a patch of redness about the size of a florin that felt as though it were being pierced with red-hot needles. The temporo-maxillary joint was stiff and painful, and a feeling of soreness ran along the gums to the tonsil on that side of my face. After bathing the affected parts for awhile, I got into bed again, feeling somewhat relieved, and fell asleep; but about 2 h. afterwards I was again suddenly roused, this time by a sense of suffocation and difficulty of swallowing, and a renewal of the former distress with intensified severity. Feeling alarmed, I obtained some hot water, to which I added a few dr. of ledum θ , and fomented the whole of the affected region until the severity of the symptoms abated. During the remainder of that d., and for 4 d. afterwards, the attacks continued to recur in paroxysms of more or less severity. The submaxillary and cervical glands on that side of my face became increasingly swollen and tender until the 4th d., when these conditions began gradually to abate, but in the immediate locality of the wound the pains assumed a more constant character, throbbing, smarting, and burning, with periodical stinging and lancinating, and lasting thus for more than a month, though the wound suppurated and discharged freely. The constitutional disturbance consisted of slight rigors and febrile movements, felt mostly in e. (ROWBOTHAM, *The Organon*, ii, 79.)

20. Mrs. A., æt. 40, not pregnant, for abdominal enlargement and cessation of menses took 15 dr. of tinct., and repeated dose every 3 h. The next m. her second r. finger began to swell (except the tip), the middle joint especially; it was red and hot; there were burning-stinging pains, with tingling extending up arm to body and down r. side and leg to foot; pains were worse from sundown (5 p.m.) to 6—8 a.m., preventing sleep; they were relieved by hot applications and gentle rubbing, or by pinching end of finger, but aggravated by cold applications. Apis in high dilution aggravated; improvement under ledum. (TINKER, in Allen's *Encyclopædia*, x, 307.)

21. Mrs. H. was stung by a bee on l. forefinger. She immediately put her finger to her mouth* to relieve pain by suction; but in a few moments felt a prickling sensation in lips and tongue. This sensation extended rapidly over face, temples, and head, and thence over entire body,—the sensation now resembling the pain in the finger from the sting. A few m. after the accident there was so much tumefaction of face that the eyes were nearly closed, and the lips and tongue were so much swollen as to interfere with speech. There was distressing sensation of fulness in head, patient declaring that her temples would burst. She complained of oppression at chest, and inability to take a full inspiration. Skin was intensely red, and covered with an eruption over entire body except the feet, resembling urticaria, causing distress-

* She had ulcers in her mouth produced by kreosote.

ing itching and prickling. There had been severe rigors. Pulse was 87 and full. The most prominent symptoms were promptly removed by an emetic, and convalescence ensued in a few d. (SPALSBURY, *Bost. Med. and Surg. Journ.*, liii, 285.)

22. Mr. Walker, a bee-keeper, sought to render himself proof against bee-stings, allowing himself to be well stung on the wrist. The whole forearm was affected with a cutaneous erysipelas, and there was disorder of the nerves, accompanied with heat, redness, swelling, and pain. The day after this attack was over he allowed himself to be stung 3 times more on same spot. The attack which followed was less severe, but, as before, he felt a stinging sensation as far up as the shoulder, and he noticed that a lymphatic gland behind his ear had increased considerably in size. By repeating experiment inflammation grew less and less each time, and at last he could undergo stinging with almost complete impunity. (*Lancet*, 1874, ii, 883.)

APOCYNUM CANNABINUM.

(See vol. i, p. 323.)

III. *Experiments on animals.*—1. Some experiments on animals have recently been made to ascertain the physiological action of A. by Dr. J. Rose Bradford, who has most kindly allowed me to quote some of the results he has obtained therefrom. In two of these experiments he used a tincture of the root, one in ten of proof spirit. Dr. Bradford finds that the principal action of A. is on the heart. By it the heart of a dog is slowed down to a very remarkable degree, for, when it is well under the influence of the drug, it beats as slowly as two beats to each respiration, or even three beats to every two respirations. This is a much more powerful effect than can be produced experimentally with digitalis; for before this amount of slowing is reached by the latter drug the vagus becomes paralysed, and the heart beats more rapidly and irregularly. A. strengthens the heart's beat and increases the tonus, so that it stops the frog's heart in systole. It generally stops the mammalian heart in diastole, but a sudden massive dose may stop the mammalian heart in systole. From this it is evident that the action of apocynum on the heart is similar to that of digitalis, strophanthus, adonidin, caffein and spartein, only its power of slowing the heart seems to be greater than in the other members of this group. Its action on the arteries, as shown by changes in the blood-pressure, differs from that of digitalis, for Dr. Bradford finds that apocynum causes no definite rise of blood-pressure, indicating that it does not cause contraction of the arteries.

ARGENTUM NITRICUM.

(See vol. i, p. 350.)

II. 10. On June 23rd a pharmacy boy was brought to the Hôpital St. Louis at 1 a.m. in a state which seemed to indicate imminent death.

He was completely unconscious, without sensation in any part of his body; upper limbs and muscles of face were agitated by convulsive movements; jaws were strongly clenched, eyes turned up, pupils very much dilated and insensible to light. Evidence showing that he had taken nitrate of silver, \mathfrak{ss} of sea-salt was given in \mathfrak{ij} of water every 15 m. After $1\frac{1}{2}$ h. there was sensible improvement; pupils were less dilated, convulsions and clenching of jaws had ceased. The saline solution was continued for 5 h. more. Sensibility was now less blunt, and patient had very severe epigastric pains. It was not till mid-day, 11 h. after admission, that general sensibility of surface returned and patient recovered his speech. At 3 p.m. he fell into profound coma, which state lasted 2 h.; and similar seizures were repeated on 24th and 25th. It was not till end of latter d. that his state became altogether reassuring. Nothing now interrupted his convalescence, and he left on 29th, having only slight epigastric pains. Patient stated that he had swallowed \mathfrak{viiij} of the nitrate, suspended in black currant ratafia. (*Bull. de Thérap.*, xvii, 195.)

11. The following symptoms were observed by Dr. J. O. MÜLLER, probably on patients.

a. After 10 dr. of 6th dil., nocturnal pressive stupefying pain round about the head, especially severe in temples and forehead, with heaviness of whole body, troublesome dreams and nausea. (In a woman, $\text{æt. } 30$.)

b. Pressing, digging headache, with chilliness and great bruised feeling of limbs. (In a young, strong man.)

c. After great itching the previous evening, dryness and weakness of eyes; development of blood-vessels all around, red bundles of vessels distributed here and there, red blood-points, exudation of blood on conjunctiva bulbi. The fingers drawn crooked in a spasmodic way, so that she could not open the hand, which was closed to a half-fist. (In a lady, $\text{æt. } 60$.)

d. Chorea-like spasmodic movements of upper and lower extremities; spasmodic contraction of adductors of fingers; she can hardly separate the fingers, which are pressed closely towards one another; severe pain in sacrum. (In a girl, $\text{æt. } 8$.)

e. For four successive d., always at 6 p.m., attack of fever; general chilliness, followed at a short interval by general heat, the former of long duration, and immediately recurring if uncovered during the heat, the latter accompanied by visible pulsation of the l. temporal artery. Both stages without thirst. After the termination of the attack, which lasted 2 to 3 h., painful swelling of scrob. cordis, with great anxiety. (In a sensitive girl of 20 years.) (*Zeit. des Ver. d. hom. Aerzt. Oester.*, i, 1, 45.)

ARNICA.

(See vol. i, p. 379; vol. ii, p. 726.)

II. 29. A robust lady of 48 took, by mistake, 15—20 dr. of tinct. in a wineglassful of water. The taste telling her what she had done, she swallowed mustard and water until she vomited freely. She seemed very little, if any, the worse for the mishap, till 14 d. after, when inflammation began at inner canthus of r. eye, extending in a few h. to whole l. cheek and side of face, then to r. side. Her general condition became more and more involved, till on the 4th d. she became so ill that she had to go to bed. She felt so cold and shivery that she had a large fire made in bedroom, and put seven blankets and a rug on

to the bed. In 6—7 h. she became warm, and flooding came on (blood dark) so profusely, that as soon as she attempted to rise it came away "all of a gush." The inflammation of the face, which now had many blisters upon it, was at once relieved by the flooding, which lasted 5 d. (She had taken belladonna and rhus.) After erysipelas and flooding had gone, she had irritation of skin—itching wheals like nettle-rash—between her breasts and on the abdomen, and now (five weeks after the poisoning) there is a large crop of them on the thighs. The sensation felt on scratching was "beautiful." Irritation was relieved by bran-water, but not by simple water. Ever since the poisoning, she stated, her sight had been failing; there are no spots before the eyes, but everything seems dim, and now she cannot read without using her husband's glasses (before the poisoning her sight was extremely good). Her pupils are dilated. There was desquamation of the skin after the erysipelas. (Patient was still menstruating every few months.) (BURNETT, *The Organon*, i, 231.)

ARSENICUM.

(See vol. i, p. 396; vol. ii, p. 726.)

I. 34. A. W. W., in full health, pulse 65 and regular, took 3 dr. of 1_x dil.* in ℥ss water at 1 p.m. Immediately offensive taste in mouth, followed by sudden neuralgic pains in r. temporal region. 1.10, painful formication of r. arm. 1.20, oppression of lungs, with asthmatic cough. 1.30, sneezing and catarrhal discharge from nose. 2, slight nausea and weariness. 2.30, copious urine (had been relieved at 12.30). 3, neuralgic pains in l. temple, with nausea and flatulent bowels. 3.30, feverish heat, pulse 85, temp. 99½°. 4, copious urine, with increased weariness and desire to sleep. 5, entire body feels swollen and œdematous, especially hands, with continued heat. 6, epigastric distension, with soreness and aversion to food; slept long and profoundly during n. 2nd d.—General malaise during forenoon; no special symptoms till about 3 p.m., then slight rise of pulse with heat and thirst, attended by weariness and mental depression. 8, drawing and cramp in l. hand, with restlessness and mental activity. Thirst attends. No sleep till after midnight. (Dr. WOODWARD'S provings, *Trans. of Int. Hom. Convent.*, 1881, p. 26.)

35. C. S., in full health, pulse 72 and regular, took 1½ gr. of 1_x trit. well dissolved in water at noon. Immediately occurred distressing nausea, with failure of vision, pallor of countenance, and difficult breathing; followed by cardiac oppression and prostration. 12.30, a painless watery evacuation of bowels, with increased exhaustion. 3, a second diarrhœic stool, with tenesmus. 3.30, feverish heat, pulse 90, much restlessness, thirst, and apprehension. 5, fever continues; face exhibits œdema, especially about eyes. 10, on retiring offensive foot-sweat; could not breathe easily in a reclining position; was restless and sleepless until midnight. This fever continued slightly for a week, showing exacerbations during afternoon and e. During this time there

* Arsenic is not sufficiently soluble to make a real 1st dec. dil. possible.—EDS.

was soreness and tenderness of epigastric region, with variable appetite. Bowels were irregular, alternately torpid and loose; and bodily weight decreased by 4 lbs. (*Ibid.*)

36. Mrs. M. W., in full health, pulse 72 and regular, took 3 gr. of 2x trit. in water at 10 a.m. Soon, burning pains in stomach, with nausea and desire for cold water; pains extend upward to pharynx. 10.10, sharp lancinating pain in head, relieved by cold wet towel or open air on affected part. 10.25, burning pains in eyes, with photophobia, followed by sharp stitches in chest and heaviness on sternum. This was attended by mental anxiety and fear of consequences. 11, felt very weary, but could not keep still; back ached as if bruised, with rheumatic pains in shoulders and hips. 11.30, headache, with soreness of scalp and itching, followed by fluent coryza. 12.10, unusual call to stool; abdomen hard and full; stool offensive and watery. Afterwards ineffectual desire to urinate. 1, slight but irritating leucorrhœa for a short time. 3.45, feverish heat, pulse 84 and intermittent, internal heat and external coldness, followed by external heat, throbbing headache, and thirst. N. sleepless from pain and involuntary twitching of limbs. (*Ibid.*)

II. 83. I happened to call on a friend 10 d. ago, and noticed that his daughter (a young lady of 21) was suffering from what appeared to be an attack of jaundice. I had seen her about a week previously, when her skin was perfectly free from discoloration. I found on inquiry, that she had been taking during the interval, up to the day before my last call, 2 dr. of liq. arsenicalis twice a d. under the advice of a physician, but that her mother had induced her to lay aside the medicine on account of the symptoms produced. These were—unbearable heat in eyeballs, with scalding tears; skin of body feeling dried up; all previous d. extreme languor, with constant inclination to lie down; and loathing of food. There was also œdema of eyelids, which was much lessened, as well as all the symptoms save the jaundice, since the drug had been discontinued. (HARMAR SMITH, *Monthly Hom. Rev.*, xxx, 447.)

84. a. Charles J., æt. 6, was admitted Jan. 11th, 1890, suffering from chorea. He was treated with liq. arsenicalis, beginning with 3, gradually increased to 10 min., 3 times a day. On Feb. 13th the temperature, which had previously been normal, rose to 101°, and slight malaise and anorexia were complained of. The drug was stopped, and the symptoms abated. A few d. later there was weakness in r. arm and in both legs. The drug was resumed on the 26th, 4 min. 3 times a d. A few d. later dark brown pigmentation of the skin was noticed in axillæ, back of neck, and popliteal spaces; this rapidly increased till the whole body was pigmented, except the face, the complexion of the latter becoming at the same time of a pink and white colour. As the pigmentation was presumably due to the A., this was again left off. At this time there was marked paralysis of both legs, chiefly affecting the extensors of the feet and toes; the knee-jerks were absent, and the reaction of degeneration was well-marked—the extensor muscles not corresponding at all to the faradaic current but well to the galvanic. They also showed marked wasting. The

limbs were scarcely at all affected, slight weakness of the r. arm all that was observed.

Patient was treated with small doses of iodide of potassium, and ice was employed. When examined April 28th pigmentation mostly disappeared, and paralysis was much diminished. The amount of degeneration was also less marked, the muscles responding better to the faradaic current. The gait was at this time that of cerebral neuritis, the toes being dropped and catching against the floor, while the heels were abnormally raised; whereas on March 26th the gait was more like that of locomotor ataxy, the legs being raised and stepped out with marked inco-ordination, and there was much difficulty in turning round. (*Lancet*, June 14th, 1890.)

Case. Mrs. A. G—, æt. 23, mother of two children (one alive, the other died three hours after birth), was admitted under my care at Norfolk and Norwich Hospital on Nov. 23rd, 1889. She was brought on a stretcher to the ward, as she was totally unable to walk on her feet. She had enjoyed good health, with the exception of occasional attacks of tonsillitis, which occurred for the second time three years before her admission as an attendant at the county asylum. There was nothing in her family history bearing on her state. The present attack began on Nov. 18th; the only cause that she could suggest was that she had recently been much frightened by a thunderstorm. She was at this time in her seventh month of pregnancy. The attack began with a severe headache referred to the occipital region. This initial symptom lasted 48 h. On the 3rd d. on getting out of bed green vomiting set in, followed by copious watery diarrhœa. This state continued until the 10th d. (Oct. 3rd), when she was prematurely confined, the child surviving 3 h. Within a few d. the patient noticed that the fingers of both hands were numb; this numbness soon extended to the other finger, and when she got up on the tenth day after confinement both hands and wrists were numb and tingled. Within the following week the same sensations were felt in both big toes, and gradually extended as far as the knees. She said she distinctly noticed numbness for some days before the tingling and burning pain began. She soon began to lose power in the hands and legs, and within three days of the beginning of attack could not hold anything in her hands, could not stand even with assistance, but could sit erect all day, and had perfect control over sphincters. Briefly her state was as follows on admission: Loss of power to extend the hand, great weakness of flexors of the wrist. Dynamometer registered, right hand 5, left grasp 10; loss of power of ankle dorso-flexion; slight inability to extend foot at ankle, this involving much pain in the calf muscles. Very little power of quadriceps to extend the knee; hamstrings were in a state of semi-contraction. No muscles supplied by peripheral nerves affected, nor muscles of trunk; sphincters normal; hyperæsthesia of forearm, thigh, and calf muscles, the slightest touch in these regions gave intense pain, the forcible extension of the knee-joint caused much pain in ham-string muscles; there was spontaneous pain in these regions, which kept the patient awake at night. She always lay with thighs and knees semiflexed. No loss

of sensation of the skin to touch or prick of a pin; feet always felt cold but were bathed in perspiration. There was absolute loss of muscle reflex in upper and lower limbs, but plantars were normal.

Six weeks after admission motor symptoms about the same; if anything she had more power in the hands. Muscular hyperæsthesia gone, except in the calf muscles; the tingling pains were confined to the feet, but there was marked wasting of forearms and legs, the latter measured two inches less round the calf than on admission. About this time it was noticed that a number of brown maculæ like ordinary freckles, but larger, appeared on the patient's face and legs; at first they were reddish, but soon became brown. She said she never had anything of the sort before. The affected muscles did not react to a strong faradaic current, nor could I, strange to say, get any reaction with a fairly strong constant current.—Feb. 20th (three months after admission):—For the last fortnight her muscular power has markedly increased. She can knit, but, owing to the numbness in the end of the fingers, she is unable to work with an ordinary sewing needle. She cannot button any part of her dress unless she can see it. She can stand for a few minutes, leaning with both hands on the back of a chair.

Now the diagnosis of peripheral neuritis in this case from the first could admit of no doubt, but I must honestly admit that the cause was a mystery to me until Jan. 25th, when her husband came under my care in the same hospital, suffering exactly as his wife had done on admission. The symptoms were those of alcoholic peripheral neuritis without any history of alcoholism. They were too acute for lead poisoning, and there was no Burton's blue line. The sensory symptoms were more marked than is seen in diphtheritic paralysis. She was in no way connected with indiarubber works, to suggest bisulphide of carbon as a toxic cause. She knew of no exposure to arsenic or copper poisoning. The case was too acute for rheumatic neuritis.

b. William G—, æt. 23 (husband of previous case), a naturalist's assistant, very healthy until two years ago when he had a bite on the forefinger of the right hand from a viper. The hand was much swollen, but he was able to resume his work in three weeks. His work consisted chiefly in rubbing a mixture consisting of four parts powdered arsenic to three parts of plaster of Paris into skins of birds and animals (2 lb. of this mixture would be about sufficient for a bird the size of a goose). He takes some of his work home to a room set apart for that purpose. This room his wife has been in the habit of cleaning out twice a week. He says the powder deposits on his eyebrows, eyelashes, and moustache. He has carried on this work for the last seven years. About one month before admission to the hospital he began to suffer from severe frontal and occipital headache, with vomiting of green fluid, followed by diarrhoea and anorexia. Says his eyes are not sore, but his conjunctivæ are much injected. Five days after these symptoms he noticed tingling in the soles of both feet, and soon after in his hands. He endeavoured to work for three weeks, but then had to give up owing to the weakness of his legs, and the pain in his calves. State on admission (Jan. 25th, 1890): He can flex and extend the wrists feebly. Right gras

12, left 20. On endeavouring to stand the knees collapse owing to weakness of quadriceps. When seated on a chair, with feet on the ground, he cannot raise his toes off the ground, but lying in bed he can slowly flex the knees and ankles. No weakness of trunk muscles or those supplied by the cranial nerves; full control over sphincters. Calves and hamstrings painful; he cannot bear any pressure on them. Lies in bed with knees semi-flexed. Sensation in patches is impaired; conduction is slow. He cannot distinguish two points applied to the skin of legs four inches apart. His feet are always cold, but moist. Patellar reflex slight in both legs; plantars normal; leg muscles flabby, but not markedly wasted. I could not obtain any voltaic irritability of the leg muscles; the right tibialis anticus responded to a strong faradaic current, which did not affect the left. March 1st.—No power of flexion or extension at ankles. No true knee-jerk, but, owing to tenderness of ligamentum patellæ, he flinches voluntarily when you strike. Plantar reflexes absent. Sensation much impaired in both legs; in several regions he does not feel a pin-point. Yesterday had much pain in right knee; there is some effusion into the joint. Temperature normal. Muscles still very tender. Patient drew attention to a couple of brown patches on his thigh. As soon as I heard the history I had 24 h. urine of this patient saved; the city analyst evaporated it down to a small quantity, when arsenic could be easily detected. On March 1st I put this patient on two grains of oxide of silver three times a day, in the hope of forming the insoluble arseniate of silver. He rapidly improved from that date, and within three weeks he could walk up and down the ward without assistance. He was discharged on April 5th; the first case on March 22nd. They both walked to the hospital from their home, a distance of one mile, to see me on April 21st. Mrs. A. G— has slight ataxic symptoms; cannot stand with feet together, and eyes closed; staggers a little when turning round; knee-jerks still absent. All the brown freckles have disappeared. W. G— feels very tired after the walk; front part of foot comes down with a jerk; knee reflexes normal; sensation in feet to skin stimulation delayed, but present.

The close analogy of these cases to alcoholic and other toxic paralyzes would leave little doubt that the pathology is the same—namely, an inflammatory state of the sheath and probably the parenchyma of the peripheral nerves. The moral to be drawn from these cases of peripheral neuritis of doubtful origin is to carefully examine the urine at once for the poisons that are known to produce this state. If I had done this when my first case came under my care, the probability is I should early have arrived at the cause. (S. BARTON, M.D., *Lancet*, 1890, ii, 119.)

86. a. A lady, æt. 56, married, and with a large family, had enjoyed excellent health till 18 mo. ago. Since then she had suffered a good deal from pain, and had been treated for gout and rheumatism. When first seen, Sept. 22nd, 1888, she had an appearance of suffering and an unhealthy, muddy-looking complexion; tongue was thickly coated posteriorly, appetite very bad, there was obstinate constipation, pulse was 110, and temp. normal. For the past few months she had, as described, lightning-like pains down the legs, and suffered at

intervals of 3 or 4 weeks from what seemed an almost typical "gastric crisis." The pain now seemed more fixed in soles of feet, which were found to be completely anæsthetic to pricking and pinching. Sensibility was very much blunted on the dorsum of the foot, and less so up the front of the leg; in latter region muscles were notably atrophied. There was great unsteadiness of gait; she could only maintain the upright position with some difficulty, and swayed sensibly when eyes were closed. In attempting to walk she swayed from side to side, knees were bent very much, and toes turned outward and dropped. On being placed against the wall with heels fixed, toes could not be raised from floor. Skin of legs had a glossy appearance, and there was some mottling. Complicated movements could be performed with both hands, and the grasp was fairly strong. Some of the finger-joints were swollen and painful to pressure; extreme coldness alternating with heat was complained of in both feet, and these symptoms were also objective. Plantar reflex was abolished; the knee-jerks were exaggerated in both legs, and there was no ankle-clonus. The muscles supplied by the anterior tibial nerve gave no reaction to faradism, and only feebly to the galvanic current; but there was no qualitative change. The eyes reacted to light, but did not accommodate for distance; pupils were equal and moderately contracted, and the discs seemed normal.

b. Relief to pain was obtained from static electricity and general electrification by friction. During this treatment one of the gastric attacks occurred. She had severe pain in region of stomach, nausea and extreme faintness, accompanied by a feeling of unsteadiness even when in bed, objects in room seeming to rise and fall before her eyes. These symptoms had quite passed off in 2 d. About this time patient developed a well-marked "writer's cramp" in r. hand, with total anæsthesia of tips of thumb and first two fingers. All symptoms improved under static electricity; pain went and sensation was almost completely restored. She now complained mostly of a feeling of heaviness and stiffness in the legs, especially at n., and as if a board were hung to her feet. By Nov. she had improved so much that she could walk without help, and could raise both feet with heels fixed. There was no pain, and the atrophied muscles had notably grown. The power in the hand had equally increased. All went well till Dec. 15th, when there was a complete breakdown, ushered in by extreme pain and tenderness of r. foot, with a distinct blush on its outer aspect. There was paresis of both feet, with almost total anæsthesia of tips of fingers, and inability to close hand. Extensor muscles of foot were very tender, and sensation of pricking and deep pressure was markedly retarded on sole of foot and front of leg; above knee sensation was normal. Muscles supplied by anterior tibial nerves of both legs gave no response to faradism, and slightly exaggerated reactions to galvanism; there were no qualitative changes. The knee-jerks were diminished. There was also gastric pain and nausea.

On investigation, it was found that patient had been working for nearly two years with some suspicious Indian muslins, which were found to contain A. Dr. Gowers, on being consulted, unhesitatingly

considered the symptoms due to an arsenical neuritis. (*Ibid.*, 1889, i, 1237.)

87. *a.* I prescribed A., in very full doses, for Mrs. —, in order to cure psoriasis of the nails. It was effectual, and she took it regularly for several months. In March, 1888, she reported to me that about the previous Christmas she had suffered a most severe attack of shingles on the r. side of her chest. Her local attendant told her he had never seen a case with so much inflammation. Fortunately for me he had not suggested to her any suspicion as to its having been caused by the medicine. The latter was, however, discontinued, as Mrs. — was suffering from a cold.

b. In this case my patient was strongly of opinion that the A. did not improve her personal appearance. She was greatly distressed by the state of her nails, and willing to do anything for their cure; but she thought that the A. made the whites of her eyes look thick and a little yellow. The blue of the sclerotic, which in her showed through, did not do so as much as usual. A friend who lived with her had assured her that the medicine made her eyes look dull, and that the blue iris became more grey. I could myself somewhat confirm this impression, for Mrs. — certainly looked older, and had a less brilliant complexion than formerly. She was naturally fair and florid. The nails, which had got well when the drug was pushed, had somewhat elapsed during the two months it had been left off. The A. had not disagreed in any other way.

c. By several observers cases have been published in proof that in some obscure manner the skin may be made muddy and dull by the medicinal use of A. I have myself given an extreme illustration of this in the *Pathological Transactions* for 1888. In this instance the skin became earthy and brown, and in some places took on the condition of psoriasis.* Pricking of the eyes and redness of the conjunctiva are also well-known results of A. The patient whose case I have given above, however, is the first who has complained of objective dulness of the eyes. She was an acute observer, and so was her companion, and I have no doubt they were right. It is certain that A. does affect the nutrition of all the tissues, and produces changes—it may be very minute at first—concerning the precise nature of which it is difficult to give any explanation. In arsenical herpes zoster we have a definite peripheral neuritis; but it is far from being the only disturbance of nutrition which we witness in connection with the use of this powerful drug. (HUTCHINSON, *Archives of Surgery*, July, 1889.)

88. F. K. H—, æt. 42, suffering from an acute attack of eczema, took full doses of Fowler's solution for 2 weeks, followed by treble the quantity, until violence of symptoms compelled him to desist. The first symptoms were those of acute gastritis, violent and distressing nausea and vomiting, with burning from mouth to stomach; insatiable thirst for cold water in large quantities, which would be ejected immediately; frequent watery diarrhoea with urging. 10 d. later there was oedema of eyelids and ankles; ruddy bloated look; tongue dry and dirty white, with red, raw-looking edges. Shooting burning pains in

* See vol. ii, p. 726.—EDS.

lower extremities, especially through calves to bones of tarsus through each toe. In addition, formication and soreness of when other pains ceased. Well marked numbness of palms and feeling as though he walked on velvet. Could not stand alone could walk with assistance. Gait was peculiar, legs being sideways and forwards, coming down heel first. Paresis of flexors and extensors of fingers, especially marked in former; complete flexion of fingers could not be performed. There was no history of talc patient, mason by trade, was well before the attack. During attack urine was acid and loaded with amorphous urates, no casts. (HONAN, *North Amer. Journ. of Hom.*, April, 1890,

89. Dr. CLAUDE proved the mineral waters of La Bourboule for persons, 3 men and 5 women, during the last fortnight of July, an exceptionally dry and hot month. Nos. 1, 2, 6 and 7 took an exceptionally full bottle at both luncheon and dinner. Nos. 3 and 5 took only half a bottle each *per diem*.

a. No. 1 (A.) was a healthy man of 36, of nervous temperament, subject to migraines or neuralgiæ, and to looseness of bowels; also to spontaneous involuntary emission of urine if exposed to damp cold, from strong odours (as of turpentine), or to mental excitement. Damp weather caused cystitis with him. In the summer this disappears; and he is good and regular, and the nervous pains are rare. His eyes are sensitive to certain shades of red and violet.

He first remarked that the beverage seemed warmer than natural, requiring the addition of ice. Thirst then came on and increased day by day. This symptom showed itself in all the other patients to a greater or less degree. His appetite, which was a moderate one, suddenly increased, and by end of 4 d. had become voracious. His sense of taste was blunted. Digestion seemed to go on very well, and from 2nd d. stools became softer and more frequent, at the end of 5 d. towards end of proving—being quite liquid, and passed 8—10 times a day, and 3—4 times by n. Urination also became more frequent and more copious, especially at n. He felt no fatigue, and was more lively and inclined to action than usual; he seemed to himself stronger and breathed more freely. Sight was keener, and there was no photophobia. All this was up to 5th d.; but now his disposition became peculiar, and he had causeless fits of anger. Brain was active, could not fix mind long. Taste was now extinct, and he could not distinguish salt from sugar. Light distressed him, and his eyes were as in fever. Breathing was free and deep, but pulse became more frequent especially at n., reaching 110—120, with occasional lively palpitation of heart. Appetite was yet more canine, and diuresis augmented. Micturition now became frequent during d., also about 3 p.m. Urination occurring nearly every 10 m., and preceded by pressing and almost insupportable desire, with no subjective symptom indicating the cessation of passage of urine. No albumen or sugar appeared in his urine, or in that of any of the patients which was examined. On the 9th d. an amount of urine passed at n. was nearly 4 litres. On 10th d.

* These waters, though containing carbonate and chloride of sodium, owe their activity mainly to the appreciable quantities of arsenic they contain.—ED

became more uneasy, but vesical tenesmus was less intense, and micturition less frequent and copious; the stools still very watery, but less frequent. At 8 p.m., at the dinner table, he complained of great photophobia, followed by severe lancinating pain in both eyes; on raising the hands to press upon the lids was seized with sudden pain at the heart and violent palpitation. He could not speak, and seemed suffocating; he ran to the window, raised it, and drew in great breaths of fresh air. This lasted 5 m., when he was found by friends pale, trembling, and with dark circles round the eyes. After a few m. of repose, he quite recovered, and returned to table. 11th d.—The polyuria nearly ceased, and diarrhœa less. At dinner-time he again suffered from an attack similar to the one of the preceding e., and as brief, but more severe. The water was not tested again, and the urinary symptoms gradually disappeared.

b. No. 2, man of 72, muscular but stout, of gouty and rheumatic diathesis. Stools normal. In contrast with A, he passed urine but twice a d., in m. and e., in spite of the fact that he drank nearly 4 litres of water and wine a day. The taste of the Bourboule water excited no particular attention in his mind, but on the 4th d. he felt his appetite much increased. He walked with greater ease, breathed more freely and deeply, and felt improved in health in every way. On 6th d. the stools had become somewhat softer, and micturition somewhat more frequent. His sleep became more sound and refreshing. He was delighted with the effect of the water, and continued it for some time. On leaving it off felt feeble and depressed, and digested and urinated with difficulty, so that he returned to the waters again.

c. No. 3, also æt. 72, robust, with rheumatic history. On 4th d., without premonitory symptoms, suffered from diarrhœa and diuresis, and d. Appetite was increased, but this did not compensate for the inconvenience noted. Desisted from drinking the water.

d. The remaining patients were all women.

D., æt. 26, married, subject to hæmorrhoids.

E., æt. 26, lymphatic temperament and nervous.

F., æt. 22, sanguine temperament.

G., æt. 25, rachitic history, 4 mos. pregnant.

H., æt. 21, lymphatic, health good.

With the exception of H., all suffered from habitual constipation.

D. and E. had increase of thirst and appetite; stools occurred daily. These two effects lasted more than a month after the experiment, which was continued 6 d., and was stopped on account of troublesome diuresis. Other symptoms were slight.

F. had same symptoms, but on 10th d., at middle of intermenstrual period, suffered from free and burning leucorrhœa. Discharge was colourless, viscid, staining linen grey and stiffening it. The water was tried for 2 d. longer, and on stopping it, the leucorrhœa, very unusual with her, quickly ceased.

G.—On 2nd d., disappearance of morning sickness, which did not recur. The action of the bowels became regular and more frequent. Continued the waters for a week. (The morning vomiting had occurred in the morning while fasting, or after a cup of coffee, and consisted of

mucus and ingesta of the preceding d. It was accompanied by slight pyrosis, but aroused no strong movements of expulsion.)

H. took small amounts of the water for 15 d., but with absolutely negative results. (*Bull. de la Soc. Méd. Hom. de France*, xxii, 469.)

III. 17. The following conclusions, restricted to the production of paralysis in cases of poisoning by A., are cited from the inaugural dissertation of Dr. Conrad Alexander at Breslau.

a. The symptoms of arsenical poisoning in man point to the fact that they are attributable to the action of this drug on the peripheral nerves and muscles, and are due to the production of multiple neuritis.

b. In certain instances it is possible in rabbits to produce permanent paralysis by A., in the posterior limbs especially, and accompanied by a high degree of muscular atrophy.

c. In paralysed animals, degenerated and atrophied nerve-fibres are to be found in the small muscular nerve branches, and in the nerves of the subcutaneous connective tissue, accompanied by hæmorrhage into and swelling of the perineurium. The spinal cord of such animals is perfectly normal.

d. Experimental observations seem to warrant the assumption that arsenical paralysis in man is similarly produced.

e. The muscular atrophy produced in animals poisoned by A. is not of neurotic origin, but is entirely independent of the nervous system.

f. This muscular atrophy is in the case of rabbits not a fatty degeneration but a coagulative necrosis, generally accompanied by the formation of calcareous deposits.

g. Degeneration of nerves and muscles is, in all cases of paralysis occurring in animals poisoned with A., probably due to the production of disturbed action in the capillaries of the nerves and muscles. (*Monthly Hom. Rev.*, xxxiv, 370.)

ARSENICUM SULPHURATUM RUBRUM.

Realgar. Arsenious sulphide, As_2S_3 .

I. *Provings*.*—I. Dr. NEIDHARD took, Dec. 30th, 2 gr. of 2nd trit. in m. A loose small evacuation during d. at an unusual hour, and another one in e. General heaviness of whole body; sleeps longer, and is more difficult to rouse. Very vivid dreams. Heavy pain in forehead. Pain in bones of l. upper arm, more towards m. on waking. Heavy sensation and gnawing in region of stomach. 31st.—10 a.m. Took a powder of 1st trit. During that day and next had very little appetite, and sometimes aversion to food. Jan. 2nd.—In e. on returning home, felt symptoms of derangement of stomach, great weakness, and trembling all over. 6th.—Took another dose of 1st trit., with little or no effect. 20th.—1 p.m., took a powder of 2nd trit. After meals indisposed for mental or physical exertion. Slight drawing pain for a short time in l. spermatic cord. Feb. 6th.—Took

* For these provings, never before printed, we are indebted to Dr. Neidhard.—E.C.

another powder of 2nd trit. without experiencing any effect. (*Communicated.*)

2. Dr. PRESTON, of Providence, R. I., took a powder of 1st trit., and felt for first 24 h. rheumatic pains from r. shoulder down arm, as if in bone, with paralytic feeling for 3 d.; also considerable pain in r. hip, with lameness in leg. (*Ibid.*)

3. a. Dr. A. LINDSAY, of Roxbury, took, Nov. 17th, 5 gr. of 1st trit., but could perceive no effect. On 19th, at n., took another dose of same. Slept better than usual; had bitter taste in the mouth on waking. Dec. 3rd, at n., took a powder of 2nd trit. Towards n. on 4th felt very cold and chilly, even before a hot stove, for 3—4 h. He did not sleep so soundly as usual, was restless, and had many dreams, waking often with dull pain in forehead over eyes, extending to vertex (nearly to organ of "self-esteem").

b. A friend of this gentleman, to whom he gave a dose of the same trit. at n., was very sleepy before he took it, but very restless after taking it, and could not get to sleep for 2 h., often waking with dull pain in head. (*Ibid.*)

4. Dr. HOWARD took a powder of 3rd trit. at 8 a.m. on Dec. 20th, but felt no effect till 11, when he experienced general malaise and chilliness, with pain across forehead. This pain lasted until he went to bed, when it left him during his sleep. 21st.—Took a second powder of same on rising. Felt no effect until an h. after breakfast. Fulness and weight at pit of stomach; low-spirited, and no disposition to talk all day; ate but little at dinner-time; disagreeable feeling in the stomach lasted until 8 p.m., when a burning sensation set in, which increased every m., and from 10 till 9 next m. was so intense as to deprive him almost of his breath. He found no relief in any position; he lay on his back all n.; could not rest a m. on either side. He rolled on the bed, sat up, and groaned incessantly. Feet and hands cold; trembling of whole body; twitching and jerking of lower extremities; anxiety and fear of death; his stomach felt as if he had coats of fur in it. Pain extended from cardiac extremity to l. hypochondriac region; took nux vom., chamom., colocynth, without the least relief; cold drinks increased burning in stomach. He sent for Dr. Gardiner, who told him that he had poisoned himself. Pulse depressed and thread-like; face pale and livid; could not bear the least pressure on region of stomach. Took acon. every h.; felt relief on second dose. From that time was better. Next d. very weak; much soreness over whole extent of stomach; had stool of pure bile, and urine of saffron colour. This colour continued for 5 d. The discharge of bile also continued for 5 d. Stomach still felt weak; appetite better. Whole mucous membrane lining mouth and throat much inflamed; both lips also inflamed, as well as the l. side of the tongue; conjunctiva of l. eye very much inflamed and puffed out. Large bluish spots appeared over epigastric region, abdomen, and thighs. Excessive thirst continued for 3 d. (*Ibid.*)

5. Dr. J. C. RAYMOND, Utica, N. Y., took, April 15th, when in usual health, a powder of 1st trit., at 10 p.m. Observed no effect. 17th.—Took another powder of same. 18th.—Sensation as if a

coryza were about to set in, sneezed several times during d., with tingling in the right nostril. Increased heat of head and face, with feeling of fulness and heavy dull sensation in head. Coldness of hands. During afternoon dull pains in bowels, with feeling of fulness extending across them in hypogastric region. 19th.—5 p.m., severe continued pain extending deep into brain in r. frontal region, also to r. ear, very much aggravated by stooping and exercise, relieved by application of cold. Sensation of fulness and pressing outward in r. ear; a snapping sound in ear corresponding to pulsations of temporal artery; sensible pulsations of arteries of r. side of face and head. Scarlet redness and burning of upper half of l. ear, with tingling similar to that produced by a frost bite. Ear felt hot to touch. These symptoms continued until he fell asleep at n. Sneezed several times during d. 20th.—Occasional sneezing, dryness and tingling of l. nostril, with thin white discharge from r. nostril. Took a powder of the 1st trit. at 10 p.m. 21st.—Numbness and prickling affecting inner side of r. calf, heel, outer side of foot and little toe, commenced at 6 a.m., and continued more or less severe until noon of 22nd. Slight numbness of forearms and hands with heaviness; he dropped several things which he took hold of; sneezing occasionally with thin white discharge from both nostrils. 25th.—6 a.m. took another powder. Felt nausea, p.m., no inclination for supper; during e. felt a dull heavy pain extending from pit of stomach to back, with sensation of weight in stomach. 26th.—P.m., violent itching of third toe of l. foot, producing occasional pain of muscles of foot and leg. 27th.—3 p.m., severe pain affecting inferior third of l. tibia, pains commence at the lower point of malleolus internus and extend upwards in shaft of bone. The pains are momentarily relieved by changing positions of foot and by friction with hand on affected part. They continued severe for 3 h., after that lighter, until relieved by sleep. Took another powder at 10 p.m. 28th.—7 p.m., a very unpleasant quick beating extending deep into l. ear, with pain, scarlet redness, and heat of upper half of ears. Ear felt full with pressing outwards. 29th.—Awoke at 5 a.m. with sharp cutting pain, commencing between the cartilages of the 5th and 6th ribs, extending inwards and upwards deep into chest. Pain was so sharp that it did not admit of the slightest motion, and he was obliged to suspend respiration as much as possible. Pains continued for $\frac{1}{2}$ h. Took powder of 1_x trit. at 9 p.m. 30th.—After rising in m. felt a heavy pressing pain extending from point of os coccygis to anus, with soreness of the os; the pain is increased by efforts to evacuate bowels, and when passing water; bearing down would produce a heavy sickening sensation. (These symptoms continued 3 d.). 4 p.m., dull pain in r. frontal region, which increased in severity, and became a sharp throbbing and shooting pain extending to r. occiput, aggravated by motion and stooping. Heat of head and face, redness and heat of l. ear. The symptoms continued until relieved by sleep. May 1st.—Sharp cutting pains in l. abdominal region after each meal, aggravated by walking, relieved by firm pressure with hand upon affected part. Free discharge from nostrils, thin and white. 2nd.—Same symptoms as yesterday. Took another powder of 1_x at 10 p.m. 3rd.—Discharge

from nostrils less, and thicker. Occasional sharp pains, which appear to affect base of heart, impeding respiration. Hoarseness with accumulation of tenacious mucus in the throat. 4th.—Hoarseness, at times intolerable itching in throat; the irritation induces a short dry, expulsive cough. Enlargement of r. tonsil, inflammation of throat with deep redness. Occasional pains and raw feeling. Took another powder at 10 p.m. 5th.—Symptoms as yesterday. P.m., headache similar to that of April 19th, with additional symptom that pains were in whole frontal region, but most severe in r. The inflammation of the throat and coryza continued a few d. longer, and passed off. Occasional sneezing during entire proving. The majority of the symptoms manifested themselves p.m. (*Ibid.*)

6. PATRICK McNAMARA, my waiter, made a proving of Realgar. He was so good-natured, that notwithstanding the strongest provocation, he could never be made angry. He merely smiled. After the exhibition of Realgar, he often became cross, and showed more temper than he ever did before. On April 3rd he took at 9 a.m. 3 gr. of 3rd trit., and at 10 p.m. he took 5 gr. 4th.—Had a pain commencing in back of head (below "philoprogenitiveness"), and extending thence around sides; sometimes dull and sometimes sharp. Pain commenced about 7 a.m.; head felt much heavier than it had ever done before. He felt very well in aft. At 9.30 p.m. took 6 gr. 5th.—No effects from second dose. Did not feel the head symptoms any more. 6th.—About 1 p.m. thighs and legs felt itchy. The itching seemed to leave in about 2 h., and about 5 the anterior muscles of the thighs felt sore in descending stairs. About 9 legs and thighs began to itch again. Head felt better to-day than it had for a long time before (curative). At 9.30 p.m. took 5 gr. 7th.—Has been very cross all d. Has a better expression in the countenance than before; it used to look dull, but now looks bright. Last n. dreamed a great deal. Most of the dreams were pleasant. The medicine seems to exert a curative influence upon him. (*Ibid.*)

ATROPINUM.

(See vol. i, p. 546.)

II. 12. Mr. A—, æt. 26. Of $\frac{1}{2}$ gr. of sulphate dissolved in 15 teaspoonful of water, a teaspoonful was (by mistake) administered every $\frac{1}{4}$ h. until $\frac{1}{2}$ gr. had been ingested. Pulse was 145, temp. 100°, respiration 42; face congested; he was extremely restless, very talkative and silly. He answered questions correctly, however, when addressed; but would soon pass into an hysterical condition with delirium. Dryness of throat, with burning; intense, throbbing headache; disordered vision and pupils widely dilated. Micturition frequent and copious. Soon after doctor had entered patient vomited profusely, complaining of loss of sight; there were slight convulsive twitchings of facial muscles with trembling of limbs. Would sleep for a few m., then wake with a start or scream, throwing himself across the bed. He would plead not to be buried alive or burned, and was calmed with

difficulty. Emetics, followed by stimulants and opium, were given freely, together with cold bathing. The next d. he still suffered with a sore throat, which was red and congested. Intense, throbbing headache, especially in frontal region, and scalp extremely sore to touch, "feeling as if separate hairs were tied tightly together." There was double vision with bright flashes before eyes, pupils still largely dilated; lids red and sensitive, feeling as if pepper had been put into them; deafness, with ringing in ears. Great thirst, but nothing tasted good, and nausea and vomiting followed every attempt at drinking. Mind was fairly clear, respiration still hurried, pulse fast but strong; restlessness still a prominent symptom, with trembling of limbs and feet, feeling as if heavy weights were attached to them. Complete retention of urine compelled use of catheter for it for 2 d.; and bowels were constipated, perhaps from the opium. It was a week before patient fully recovered. (B. F. CHURCH, *Publ. of Mass. Hom. Med. Soc.*, ix, 67.)

13. *a.* On Feb. 26th of this year a lad \ae t. 12 , who though healthy was of slightly nervous temperament, was sent to me by Dr. Phillips, of Warwick, as he was suffering from defective vision, and the use of the eyes for study caused headache. It was easily recognised that hypermetropic astigmatism was the cause of all his trouble, and, in order to estimate accurately his error of refraction and thoroughly paralyse his accommodation, I ordered two or three drops of two grains to the one ounce solution of atropine to be instilled into the eyes three times within an hour on the Thursday morning, and again three times during that day, three times during Friday, and once on Saturday morning, on which day he was to visit me for correction. This would make ten instillations, spread over two days. When he was brought to my rooms on Saturday he had all the symptoms of atropine poisoning, staggering and unsteady gait, dryness of throat and tongue, picking at imaginary objects in the air, talking, or rather muttering, incoherently, smiling, and occasionally laughing outright to himself. I was able to rouse him to attention for a few minutes, so that he would answer questions and do what I told him; but he soon relapsed. The face was slightly flushed, but there was no rash; pulse small and rapid. Pupils were only moderately dilated, and responded but slightly to light. The mother assured me that she had most carefully used the drops as directed, but as the lad had seemed strange the previous afternoon she stopped using them, so that they had only been put into the eyes eight times in all. I ordered him at once to be taken home and kept as quiet as possible. Milk diet and small doses of Dover's powder were the treatment, but throughout the day he continued to get worse, and in the evening tetanic spasms came on with delirium; in fact, he became so bad that, as I was absent from town, another medical man was called in. He at once recognised what had happened and quieted their fears, and in a few days the little patient got all right, but it was a week or two before he became well enough for me to correct his astigmatism.

b. The second case was that of a remarkably healthy old gentleman, named J. K.—, \ae t. 73 , who consulted me on March 5th prepa-

ratory to an operation for cataract. Being wishful to see if the cataract was mature up to the periphery, I instilled three times, in about twenty minutes, two or three drops each time of a 2-gr. to the ounce solution. The pupil dilated readily, and after finishing the examination I noticed that he spoke thickly, and did not answer questions readily. He got up to walk and fell back into the chair and soon became almost unconscious. Paralysis was so complete that he was quite helpless, and had to be carried to the cab, his face becoming suffused, and the body covered with an erythematous rash; pulse so rapid that I could scarcely count it. I ordered the same treatment, and in a few days he recovered, but had no tetanic spasms whatever. (S. MATTHEWS OWENS, *Lancet*, 1890, ii, 443.)

14. I prescribed for a child of 3 mo., suffering from whooping-cough, a mixture containing gr. $\frac{1}{800}$ of the sulphate in a fluid drachm. The mother gave the child a teaspoonful early the next m. In a few m. it turned a deep red, "like scarlet fever," over its face and the upper half of its body; the perspiration was checked, and the skin became hot and dry. This continued for 5 h. Next m., at my request, she gave only half a teaspoonful; the same effect was produced, but lasted only 2 h. On the 3rd m. she gave only 4 dr., and this time without any effect; but 6 dr. on the following d. produced the redness, though it only lasted $\frac{1}{2}$ h. (6 dr. of the sol. were found = 15 min., which would contain gr. $\frac{1}{800}$ of A.) No narcotism was produced by any dose. (SADLER, *Med. Times and Gaz.*, 1868, i, 391.)

15. A man drank by mistake \mathfrak{z} i of a 4 gr. to oz. solution. I saw him 15 m. afterwards, at 12 m. He was lying down, being unable to stand; face was flushed, and there was intense vertigo, but he was able to talk, and said distinctly that he knew he must have taken the drug. Pulse was 140, resp. correspondingly increased. The countenance wore a peculiarly anxious expression; eyes were wide open, and he shaded them with his hand, not liking the light; pupils largely dilated. There was formication all over the body, and tingling at the end of fingers and toes; tongue was moist to sight and touch, but the man said it felt "as dry as a chip," and the throat seemed almost as if its sides were stuck together. Hallucinations of sight and hearing were also present, but were soon forgotten. (SEWALL, *M. H. Rev.*, xxvi, 426.)

AURUM.

(See vol. i, p. 496.)

II. 9. A man, æt. 66, gilder of picture frames, spare, muscular, of acutely sensitive nervous temperament. In June, 1865, suddenly and without cause or premonitory symptoms, was prostrated with pain in lower spinal column, lasting 30 m., and then ceasing. 2 d. later was attacked again with similar pain, but causing more prostration, profuse perspiration, and nausea. This lasted 24 h. Again, 2 d. later, by similar pain, but located over the course of l. sciatic nerve in the hip.

This periodicity continued, pain never commencing in daytime, always ceasing at sunrise, and usually beginning after falling asleep for an h. or two. Pain worse in decubitus, relieved by standing upright or walking. This went on for nearly two years. For first 12 mo. general health continued good, but then want of sleep began to tell upon him, and under "active treatment" in a hospital he got much worse; legs and body swelled; there was obstinate constipation; and nerves became so acutely sensitive that motion was torture, and a mere touch on the ankle knocked him down. Dr. Smith found him in March, 1867, suffering from great hypochondriacal depression of spirits, longing for death, restlessness, impatience of contradiction and irritability; there was shaking of head, stoppage of nose, jerking twitches in l. buttock, painful stiffness in hip. Remission of pain in d. and e., recurrence at n., pain lightning-like, darting between hip and ankle. Could bear to pound on the affected thigh with fist, but still a slight contact when unexpected had felled him to the floor. (HEBER SMITH, *Trans. of Amer. Inst. of Hom.*, 1869, p. 262.)

BAPTISIA.

(See vol. i, p. 512.)

I. 14. Dr. SUTHERLAND, after taking, Nov. 18th—22nd, 3, 4, 5, 8, 12, and 20 dr. of tinct. without effect (a frontal headache experienced on 22nd he ascribed to working in a warm room with vitiated air), on 24th, at 4.30 p.m., took 30 dr. Tendency to pressure in frontal and temporal regions, especially during and for a short time after moving about, was noticed during e. Dec. 1st, at 11 a.m. took 40 dr. Same sort of fulness in the head 3 h. after dose; it went away before 4.20 p.m., when he took 13 dr. more, but nothing followed. After waiting awhile to see if remote symptoms would appear (which they did not), on Jan. 16th, at 4.15 p.m., he took 150 dr. It left after swallowing a hot disagreeable sensation in fauces and throat, causing secretion of thick saliva with desire to swallow. At 8 p.m. took 100 dr. more in a little water. Felt a little sensitive to cold air, but this was not long lasting or very uncomfortable. 17th.—Was conscious of discomfort in l. frontal region on first awakening, but it had gone off $\frac{1}{2}$ h. later when he got up. 18th.—An abundant unformed but fæcal motion at 9 a.m., with some tenesmus. During d. felt some lameness and soreness in r. lumbar muscles, especially when bending forward. About 3 p.m. an extremely small motion, consisting of about a teaspoonful of tenacious blood-streaked mucus. 26th.—At 11 a.m. took 350 dr. in a little water. For a short time after swallowing it throat in region of larynx was irritated, roughened as if scraped; at 8 p.m. pulse 92, temp. 99.5° (these are the maxima noted in health). 27th.—On rising from stooping, decided but transient vertigo. No further change. Feb. 6th.—At 1 p.m. took 400 dr. Felt slightly giddy for $\frac{1}{2}$ h. (? alcohol). No further symptoms noticed; and pulse did not rise above 84 that e., or temp. above 99.25° . (*N. Engl. Med. Gaz.*, xxiv, 566.)

15. G. H. I. took 12 doses of 3—25 dr. on as many days. After 20 and 25 dr. he had slight frontal headache, worse in a warm room, relieved by food, cold air, and motion. No other effects. (*Ibid.*)

16. Miss A. G. C— took 5 doses of 5—12 dr. Her symptoms were slight rheumatic pains in extremities; slight frontal headache several times on waking, passing off after getting up; dryness and soreness of fauces, lasting greater part of time of proving. Maximum temp. was 99.2, pulse 96 (average being 84). (*Ibid.*)

17. S. H. S., after 3 and 5 dr. doses without result, took on Feb. 4th, 8 dr. He had flushed face; pulse, 69, temp. 98 $\frac{3}{8}$ °. 6th.—Took 28 dr. at 3 p.m. In course of next h. cheeks felt hot, and he had feeling of pressure in epigastric region. Pulse was 72, temp. 98 $\frac{3}{8}$ °. (*Ibid.*)

18. Mr. H. S—. In this case the medicine behaved in a most eccentric manner, doses of 3 dr. sending temp. up to 100°; 8 dr. doing the same one d. and not again; and so on up to 18 or 20 dr. He tried to obtain a reproving, but could not. (*Ibid.*)

19.* Mrs. BEDELL, medical student, on Dec. 13th, 1878, on rising in m. took 5 dr. of tinct., and after 10 m. 15 dr. more. Following this was a faint dull pain at base of brain, which gradually increased. Ten m. later took 20 dr.; pain in occiput extending down neck very marked. In 5 m. took 60 dr. more; pain increased, and pulse rose from 72 to 90, and was strong and hard. Rigors and short flashes of heat rapidly alternated. Breakfasted at 8; during which she felt repeated chilly sensations down spine, although room was warm. "In $\frac{1}{2}$ h. after breakfast I took a teaspoonful, and went to college. Pain in back of head and neck constant. Pulse down to 80, and very feeble and wavering, although face was flushed a purplish red (altogether unnatural and commented upon by several students), and there was intense heat throughout entire body, except feet, which, though not cold, did not burn as my hands did. The most marked symptom now was the headache, which was unlike any I ever had (and headaches are of rare occurrence with me). The pain in forehead was circumscribed to the frontal eminences, so that I felt as though I had two distinct headaches and the head felt in three sections, as though r. and l. lobe and cerebellum lopped away from each other (not 'scattered about' as the books say of Baptisia). Mental symptoms were sluggish stupor, dulness; took notes automatically, yet took good notes, although I felt a decidedly 'besotted' sensation as if under alcoholic stimulant, after its proper stimulating effect had ceased. At dinner, persons at table remarked my purplish flushed face, also injected conjunctiva and pupils greatly enlarged. In afternoon I took 1 teaspoonful three times; $\frac{1}{2}$ h. between the first two doses, an h. between 2nd and 3rd. Previous to this the frontal headache had ceased, although the pain at base of brain continued all the time. After this, however, the frontal headache returned with increased severity, and with the same duplex sensation more marked.

* The following five provings were made by students of the Boston University Medical School, at the suggestion and under the supervision of Dr. Conrad Wesselhoef, to whom we are indebted for their MS. record.—EDS.

The headache now extended to roots of nose. The congestion and purple appearance of face increased and was attended by nose bleed. A peculiar constricted sensation in the throat with heat (but no pain) caused me to request my attending physicians to examine my throat; they reported a highly congested appearance of the mucous membrane of the fauces, of a purplish colour which streaked up into roof of mouth; somewhat more marked on l. side than on the right. A $\frac{1}{2}$ h. before tea I added another teaspoonful of the remedy. This did not increase the severity of the frontal headache, which had again subsided into an endurable state; but was now followed by a marked degree of vertigo, sinking at stomach, uncertain staggering gait and feeling of great prostration. My mind, however, seemed unusually clear, so that in e. at our usual 'quiz,' I felt remarkably bright (this, however, is only comparative brightness, as I had grown very sleepy and dull every n. over our books). Now mind, on the contrary, was clear and receptive, and I not only was not sleepy at bedtime, but was unable to sleep at all until 2 o'clock, and then my sleep was full of unpleasant and frightful dreams, amounting almost to nightmare. Before bedtime, however, a most distressing nausea occurred, which resulted in violent retching, followed only by eructations of wind, and expectoration only of frothy viscid sputa, slightly streaked with blood (probably due to the severe retching). The headache returned, and this with the burning heat added to abnormal condition of wakefulness accounts for not sleeping. A symptom, however, which I desire especially to emphasize is the staggering uncertain gait, with great weakness and prostration. The m. following I found the colour of the menstrual flow changed to a chocolate brown, and it was extremely fetid (I am never subject to any abnormal sensations or conditions during menstruation). A diarrhœa supervened, stools extremely offensive and very dark. Much pain and flatulence, and general tenderness of abdomen, especially with stitches in r. hypochondrium and tenderness in r. iliac region. Through the d. the colour of the menstrual discharge was restored, and diarrhœa ceased. At n., however, the diarrhœa was renewed, much worse than in the m., several stools following rapidly and attended with great pain as from hæmorrhoids, and burning in the rectum. Diarrhœa continued also on 2nd m. On d. previous, however, although I had ceased taking the medicine I felt generally sick, unable to study, and with an actual longing to lie or sit down all the time. A boarding-house bed was transformed into a positive luxury. The open air relieved the headache and the sinking at stomach. I have omitted to mention that unusual and offensive exhalations from the body were remarked several times during the proving. The diarrhœa still continued up to the present writing (e. of 16th), not profuse, but quite frequent and with a continuation of sensation of hæmorrhoids, and extreme fetor. Nothing is more unusual to me than such a tendency, and nothing in the diet could have occasioned the condition." (*Communicated.*)

20. Mrs. F. H. STANFORD, Dec. 5th, took at 9.38 p.m. 5 d. of tinct. 10.10, burning beating pain in base of occiput, worse on pressure. 11, pain in occiput gone. Great rolling of wind, as of mucus,

relieved by eructations ; great urging to stool, which is wind and fæces, the last coming away in small pieces. 6th.—8 a.m., tongue coated whitish brown, pink edges, red tip which feels burning, sides of tongue show mark of teeth ; great urging to stool, with small stool in small pieces, smelling badly. 1 p.m., took 10 dr. 3, painful light feeling in upper part of r. side of head, passing off in a few m. with rumbling pain in r. side of abdomen, with urging to stool, which smells badly, first wind, then a small difficult stool in lumps, with intermittent flow of urine, which was burning. (The apparent trembling of nerves with which I was troubled is relieved.) 4.30, severe cutting pain in region of ileo-cæcal valve, relieved for the time by eructations, but it returns. 5, took 10 dr. 5.15, flying pains in r. upper molar teeth—had them during afternoon. 5.45, gradually increased tickling in r. side of throat, causing coughing ; cheeks feel hot. 6.20, tongue same as this m., but showing imprints of teeth more plainly ; lips feel dry and hot ; thirsty, but the cold water gives disagreeable feelings in abdomen ; tickling in throat, which passed off to sore feeling, which is now gone. 7, continuous creeping chills, especially in lower limbs, which feel cold in a warm room ; urging to stool, which increases on standing, stool first flatus, then loose fæces, small in size and small lumps, which smell badly ; tenesmus and burning and pricking in rectum ; urine hot. 11, took 10 dr., which caused burning in throat. Did not sleep well, woke frequently, troublesome dreams. 7th.—7.15 a.m., took 10 dr. Tongue as yesterday, with a strawberry look at base. Doubling-up pain in abdomen. 8.15, rumbling and great desire for stool (natural evacuation having occurred at 7.20). 1.45 and 4.30 p.m., repeated dose. 8th.—7 a.m., repeated dose. This m. cheeks feel hot, tongue same as yesterday ; frequent pains in abdomen passing up to stomach ; pulse 92. 10.30 a.m. and 2.35 p.m., repeated dose. 9th.—8.15, took same. Sleep had been full of dreams. Nasty little pains in upper parts of abdomen with a lumpy difficult stool ; cheeks feel hot ; tongue same as usual ; pulse 96 ; lips parched. Feel thirsty, but do not care to drink ; hands hot and dry, sometimes perspiration on palms ; legs feel weak on walking upstairs. 11.20 and 1.30, repeated dose. Great desire for stool, but could not pass anything. 7.45, pulse 84, full ; cheeks hot ; hands hot. Took 10 dr. In a few m. soreness in back part of fauces. Slight return of pains in upper abdomen. 8, eructations tasting of the medicine, with passing of flatus per anum. The passage of flatus relieves the pain. Pressure on abdomen is not painful, but is not comfortable. Ate dinner at 2 p.m. ; have now no wish to eat, indeed cannot ; mouth sometimes sticky, sometimes flow of saliva ; increased action of heart ; pulse 88, more thready. 11.30, throat sore ; pulse 72, feeble ; can hardly count it. Took same. 10th.—Sleep full of dreams ; could not feel pulse ; woke early, and could not sleep again ; aching tiredness between shoulder blades. Mouth clammy, tongue parched. 11, throat felt sore. 3.30, pulse 80, full. 11th.—Felt slight pains in abdomen to-day. One small stool this m. ; later, desire but ineffectual efforts for stool. The wakeful feeling passing away, the tired weary feeling. 13th.—Has been feeling more and more low-spirited since the last date ; bowels sluggish, with frequent

intermittent pinching pains in abdomen ; urine frequent, passing little at a time ; pulse 76 ; lips parched ; cheeks hot. A fellow-student at 10 p.m. found pulse 60, very intermittent ; she said tongue was streaked red down centre, with yellowish-brown on each side, red edges, showing marks of teeth ; feels very low. 14th.—Woke with feverishness ; cheeks hot ; lips dry ; tongue as yesterday ; hands sometimes hot and dry, then hot and moist. Desire for stool as soon as up, with a return of the small pinching pains after stool, which is the same as at first. Heart's action quicker, can be felt all over chest ; pulse 80. 15th.—Feverishness less this m. than yesterday. Heart's action seems much more audible and tumultuous, and throbbing of carotids uncomfortable when lying down on either side ; this was felt every m. since taking medicine. The strawberry appearance of tongue seems to gradually approach the middle. 16th.—Action of heart on waking same as yesterday. Drank a cup of coffee this m. No return of pain in bowels. (Mrs. S. adds :—" Twice I had pressive feelings in both hips near sacral region, followed by watery leucorrhœa ; whether that had anything to do with the medicine I cannot tell.") (*Ibid.*)

21. Miss E. H. LANE, æt. 29, general health excellent. Dec. 15th took (a.m.) four 10 dr. doses, with 1 h. intervening between them. Felt soon after taking first dose needle-like pain in region of bladder, which continued during d. Eyes felt injected, were painful, and it hurt to close them, as if they were inflamed. Face was very much flushed. Felt dull, and ideas were confused ; when talking could not think quickly of the right word to use. Did not feel any more marked symptoms till next e., when she felt a sinking at pit of stomach, and a peculiar dizziness after closing eyes, as if she were revolving about herself. Next m., upon rising, was extremely dizzy ; could not possibly walk straight ; was nauseated and obliged to lie down again. In course of an h. rose again, but was dizzier and sicker than before ; but after vomiting about a gill of bright yellow, very bitter-tasting bile, felt better ; drank a cup of coffee, and went out of doors, which made her feel much better. Through d. had piercing, somewhat prolonged pains in the l. side of head ; and in m., while vomiting, and a while after, had colicky pains in hypogastric region. (*Ibid.*)

22, 23. Two male students took small and large doses (up to ʒij) of tinct., consuming ʒj in 2 d. and ʒij in 4 d. respectively, without the slightest effect. (*Ibid.*)

BARIUM.

(See vol. i, p. 519.)

II. 15. I was giving B. muriat. 3x to a girl of 8 for hypertrophied tonsils, a saturated 2 gr. tablet every 2 h. After taking it for 3 d., at breakfast the child suddenly threw her plate full of food against the wall, affirming that she could not help doing so. Her mother watched her during the d., and noticed these jerkings continue and increase,

while she looked "foolish." The medicine was stopped, and I saw her next m., when I found slight twitching of the facial muscles, and decided jerking of arms and legs; all markedly worse when she was looked at closely. The expression of her face had changed, but I should call it listless rather than foolish. The drug was not resumed, and the untoward symptoms passed off inside of 3 d. (S. A. JONES, *Hem. Recorder*, vi, 6.)

16. A man swallowed by accident 70 or 80 dr. of a solution of the chloride (strength not stated). He had soon after profuse purging without tormina, then vomiting, and $\frac{1}{2}$ h. after swallowing the salt excessive muscular debility, amounting to absolute paraplegia of the limbs. This state lasted about 24 h., and then went off gradually. (CHRISTISON, *op. cit.*)

III. 5. a. Dr. Campbell introduced 12 gr. of the carbonate into a wound in the neck of a cat. It excited on the 3rd d. languor, slow respiration, and feeble pulse; towards e. the animal became affected with convulsions of the hind-legs and with dilated pupils, and death followed not long afterwards.

b. In all the animals which in Dr. Campbell's experiments were killed by the application of the muriate to wounds, the brain and its membranes were much injected with blood; and in one of them the appearances were precisely those of congestive apoplexy. (*Ibid.*)

6. Ten gr. of the nitrate were given to a rabbit by the mouth. It died in an h. Dilatation of pupils is noted during life, and, *post mortem*, brain, lungs and liver congested; stomach inflamed and rotten; rectum very much congested. (WOODMAN and TIDY, in JONES, *loc. cit.*)

7. Five gr. of same were given in same manner. In 2 h. convulsions, violent purging, dilated pupils. Died in 26 h. Brain was found normal; lungs and liver congested; stomach inflamed and very rotten. No apparent change in small intestine, but rectum was very much congested. (*Ibid.*)

8. Thirty gr. were given to a small terrier. In 2 h. insensibility, with vomiting, purging, and convulsions, pupils dilated. Died in about 4 h. Brain was normal; lungs, liver, stomach and duodenum congested; rectum intensely so. (*Ibid.*)

9. Ten gr. were given to a dog. No marked symptoms for 17 h., then violent convulsions, vomiting, and purging; and, after 28 h., paralysis. He recovered in 4 d. (*Ibid.*)

10. Twenty gr. were given to another. There was vomiting and purging in $3\frac{1}{2}$ h., and convulsions in 6. He recovered in 2 d. (*Ibid.*)

11. A large dog was given 60 gr. In 8 h. he had convulsions and purging, and passed a large quantity of urine. In 23 h. paralysis of hind legs occurred. He recovered in 2 d. (*Ibid.*)

12. To another 120 gr. were given. In 1 h. there were convulsions, purging, and vomiting. He had great thirst, and voided a large quantity of urine. Death in $2\frac{1}{2}$ h. Brain was normal; lungs, liver, kidneys, all the intestines, especially the rectum, were deeply congested. Bladder was empty. (*Ibid.*)

13. HOPPE-SZYLER had found that a dog, which died 2 weeks after administration of the carbonate, presented "numerous hæmorrhagic

spots in the lungs, the tissue of which was breaking down." Onsum sought to show that the poisonous action of these salts is primarily on the lungs, the symptoms always commencing there, respiration becoming quicker and less deep and inspiratory murmur inaudible; heart's action at same time being more frequent. Afterwards restlessness is noticed, with loss of power, which at last amounts to paralysis. The carbonate was given to a rabbit in increasing doses. When the quantity amounted to 3 gr. daily, symptoms first appeared. In 5 h. after poison was swallowed the animal was found lying motionless, with respiration much quickened. Sensation appeared to be diminished. The dyspnœa and paralysis increased; temp. fell; and in 6 h. the animal died. Small coagula were found in the branches of the pulmonary artery. Portions of the lung substance were firm, not crepitating, and redder than the normal tissue. Miliary ecchymoses were found on the surface of the lungs, and also in the stomach. (S. A. JONES, *loc. cit.*)

14. A solution containing 0.25 gr. of the chloride was injected into the jugular of a dog. After 12 m. arterial pressure was slightly increased, and in 1 h. action of heart was slower. 0.50 gr. was now injected. In 10 m. slight diminution of pressure, heart's action fluttering. In 14 m. pressure had increased by 1 in. one gr. injected. 11 m., pressure diminishing, with fluttering action of heart; 14 m., pressure increased again, heart's action slower and very irregular, two or three quick beats and then a number of slow ones. 2 gr. injected. 12 m., action of heart arrested; resp. continued irregular for 1½ h. It then became intermittent, and ceased 2¾ h. after heart had stopped. On opening thorax auricles were contracting vigorously, and continued to do for some m. Ventricles were still, and did not contract when irritated. The l. cavities contained scarlet blood. Five m. after thorax had been opened its muscles commenced contracting, and continued in motion for 15 m. (Experimenter has seen these spontaneous contractions as late as 45 m. after death from B., in the penis and scrotum of a dog.) (BLAKE, in *Ibid.*)

BELLADONNA.

(See vol. i, p. 526; vol. ii, p. 728.)

I. 20. A. W. W., in full health, pulse 65 and regular, took 2 dr. of tinct. in ʒss of water at 9 a.m. 9.5, pulse 78. 9.10, pulse 90, irregular and uneven; pulsation of carotids; fulness and throbbing in head. 9.20, heat of face without redness, afterwards flushed and swollen; sharp pains in cheek. 9.35, painful twitching in arms, soon followed by restlessness and stiff neck. 9.50, mouth dry; thirst; constant desire to swallow; after drinking pains in stomach. 10.30, throbbing headache with heat; pulse 90, hard and full. 11, palpitation while in exercise, with laboured breathing. 12.30, no desire for food; throat sore when swallowing. 2, cramp-like pain in abdomen, extending to spine; occasional sharp pains in hypochondriac region.

3.45, very sleepy, but unable to sleep because of itching; scratching causes erythema. 4, pulse 84; occasional bitter eructations. 4.30, desire to urinate, urine scant and dark, followed by slight stool and colic. 6.30, pulse 80; perspiration on upper parts; congested feeling in pelvic region, with excited sexual desire. 8, called to stool, which was watery but scant, attended with tenesmus. 8.30, overcome with sleep; slept profoundly till late in m., awoke with dull headache and languor, no appetite for breakfast. (WOODWARD, *Trans. of Int. Hom. Convention*, 1881, p. 37.)

II. 18. I was summoned in great haste to see a child of 3, who had whooping-cough, and to whom, 1½ h. previously, 3 homœopathic pilules of B. had been given. On my arrival, a few m. afterwards, I found the child comatose, pupils widely dilated (iris a mere circle), pulse scarcely perceptible, respiration gasping, and skin bathed in perspiration. Under stomach-pump, sinapisms, and gr. $\frac{1}{8}$ of morphia hypodermically, patient so far recovered in about ¼ h. as to be able to swallow a little beef-tea with port wine. A few m. later I observed twitching of r. eyebrow, and both eyes jerking to r. side; then muscles of r. hand and leg became implicated, there being about 4—5 spasmodic contractions to the m., synchronous with the jerking of the eyes. L. side was wholly unaffected. I kept patient partially under influence of chloroform for over an h., when spasms relaxed; I then administered a warm water enema, which brought away a large quantity of extremely offensive fæces. Child by this time was quite conscious and extremely thirsty. A second attack came on about an h. later, but was subdued by the chloroform in ¼ h. I gave another $\frac{1}{8}$ gr. of morphia, after which child fell asleep and remained so for 2 h. He had no return of the muscular contractions; and pupils were regaining their normal state, though eyes were occasionally turned to r. side. Three d. afterwards child had completely recovered save for some slight aphonia. (BROWN, *Lancet*, March 17, 1883.)

19. A strong healthy girl of 16 swallowed a quantity of linimentum belladonnæ about 3 p.m. On admission at 4 face was flushed, tongue dry, and gait unsteady. She was drowsy, pupils partially dilated, breathing regular, pulse 98. About 7.15 pulse was found to be 120, and temp. 105.6°. Vomiting and diaphoresis were induced, with temporary improvement; but an h. later the thermometer indicated the very high temp. of 107.4°, and pulse went up to 160. An h. later she died, with temp. in axilla of 105.6°.* (*Brit. Med. Journ.*, March 27, 1886.)

20. Dr. SHULDHAM was called to see a patient suffering from "erysipelas." He found a patch of bright redness on l. cheek, which was also very much swollen, eye being completely closed; a vesicular eruption was scattered over the cheek, which was rough to the touch. On r. breast, and above and below it from clavicle to 8th rib, was a similar rash, less brightly red. R. eyelids also were œdematous. Patient had complained of great irritation of skin and general feeling

* "In 9 cases of poisoning by B., recently observed in Germany by STRATTER and STRASSMAN, the temp. was distinctly raised in every instance" (*Brit. Med. Journ.*, Oct. 9, 1886).

of discomfort before appearance of rash. Pupil of r. eye was slightly dilated; pulse small and weak, 70; headache was complained of, and throbbing of affected cheek. It seemed that a belladonna plaister had been, 3 weeks ago, applied to a small tumour in r. breast. After wearing it 10 d. great irritation of skin had occurred, and a red rash appeared at edges. Plaister was not removed, irritation increased, and rash spread from breast to neck, r. arm, and face. Under opium speedy improvement occurred, skin desquamating. (*Monthly Home-Rev.*, xvii, 38.)

BELLIS.

(See vol. i, p. 571.)

II. 1. A lady, æt. 45, of nervous temp., took by mistake for neuralgia a dose of the tinct. "It produced," she writes, "marked swelling of eyelids, and large patches of scarlet flushing over forehead and cheeks—very conspicuous indeed, but at the same time without heat or burning. The appearance was like violent erythema, but there was no rash. As the d. went on it grew paler, and next m. there was a sort of peeling of the skin—a dust brushed off it, as it were, when rubbed. The swelling of the eyelids, chiefly of the l., lasted longer than the patchy redness. There was that m. a sudden peculiar wide-awakeness—more than a common waking—before 3 a.m., and do what I would I could not get to sleep again. And yet it was comically pleasant, my head felt so clear and my wits so lively." (*Hum. World*, 1890, p. 447.)

BISMUTHUM.

(See vol. i, p. 579; vol. ii, p. 729.)

III. 4. Drs. DALCHÉ and VILLEJEAN have been conducting a series of experiments upon dogs to demonstrate the symptoms of acute and chronic poisoning with B. They employed subcutaneous injections as the readiest means of introducing the drug into the system.

a. Their summary of acute poisoning is as follows:—A bluish-brown or black shining line appears at edge of gums, and patches of a similar colour on inner surface of cheeks and under surface of tongue. In very acute cases gangrene develops. Albuminuria, enteritis with bloody dysenteric stools, and hepatic congestion with increased secretion of bile, were also induced.

b. In the more chronic cases, after repeated injection of doses of grm. $\frac{1}{4}$ to $\frac{1}{2}$, the following conditions developed:—Ulceration of inner surface of cheek, slight at first and like a mere scratch, gradually developing a brownish border and appearing also on tongue. The ulceration was always most marked at line of contact of teeth and cheek or lips, the exact shape of a tooth being sometimes marked out. Sometimes small local sloughs occurred, and in one case gangrene

ensued and cheek was perforated. Whole mouth was inflamed; and gums were red and tender, and easily bled. In one case, in addition to the stomatitis, a paralytic condition was induced. At first the l. hind leg became gradually weaker and weaker, and would not support the weight of the animal; undoubted atrophy of thigh accompanying this. Sensibility was difficult to estimate. Then the l. foreleg was affected, and finally the r. hinder extremity. The tendon reflexes were present, and pupils remained active. At the autopsy of this case no nerve lesions were found, but the spinal cord was not examined. Stomach was full of bile; large intestine inflamed; kidneys and liver congested. In the kidneys, albuminuria during life was associated with glomerulitis discovered at the autopsy. (*Bull. gén. de Thérap.*, cxv, 404.)

BORAX.

(See vol. i, p. 584.)

II. 6. *a.* In our first cases we commenced with 30 gr. in the 24 h., and pushed it, as fast as we could, up to 180 gr.; but we had to suspend the medicine very frequently owing to gastro-intestinal disturbance—slight vomiting and abdominal pain, with sore lips and tongue. In the later cases, therefore, we have been content as the maximum with 30 gr. 3 times a d. after meals. Even thus its administration is attended with certain unpleasant symptoms. The most constant of these is an affection of the lips, which in its most typical and fully developed form results in swelling, chiefly of the lower lip, upon which small vesicles make their appearance, and become larger by coalescence; the contents then become milky, some of the vesicles burst, while others dry up, and the result is a scaly chapped condition of the lips, resembling that commonly seen in cold weather. Other cases develop the chapped condition without the previous formation of vesicles. In 2 cases the tongue became sore and denuded of epithelium at one or two points; 2 had slight eczematous patches on the skin close to the angles of the mouth, in addition to sore lips, and one—a little girl of 4—had also an inflammatory condition of the mucous membrane of the nose with slight purulent discharge, and psoriasis guttata scattered over trunk and extremities.

b. Another case developed a curious erythematous condition of the hands. Fingers, backs and palms of hands, and lower fourth of forearm, were of a bright red hue, and looked slightly swollen; the redness disappeared on pressure, and there was no pitting. The parts affected gradually became more dusky, so that in a few d. they were almost purple in colour, and about this time a few bright red patches, looking almost like extravasations, but disappearing on pressure, made their appearance on his face. Tongue also became very red, sore, and denuded of its epithelium in several places.

c. Another case developed an eruption of small punctiform papules, resembling the condition seen in sudamina more than anything else. The eruption was scarcely perceptible at times, while at other times it

would be more marked, intensely irritating, and accompanied by redness of skin, which looked a little swollen, and was sweating. The parts chiefly affected were the palms and soles, but patches were also seen on parts exposed to friction, such as waist, neck, axilla, &c. After the condition had lasted a week or more, very slight desquamation was observed on palms and soles.

d. Another had an abundant crop of small papules all over face, especially on forehead, below eyes, and along naso-labial folds, after he had been taking drug for 10 weeks. Associated with the papules was a reddish-coppery, petechial eruption, which did not disappear on pressure. No discomfort was complained of.

e. A considerable number of the patients became somewhat emaciated and pulled down physically after they had been on this treatment for any length of time; but in no case was there any sign of mental depression.

f. A young woman of 25 was attacked with pleurisy while taking the drug. The symptoms were pain, short hacking cough, and rise of temp.; and a well-marked friction rub could be heard on auscultation. At no time was there any evidence of effusion, though there were several relapses after the first manifestation of the disease. The patient had never had a similar attack before, and as no history could be obtained of the usual causes of pleurisy, it might be suggested that the affection of this serous membrane was similar to that which we had seen in skin and mucous membranes, and depended on the biborate of soda. (RUSSELL and TAYLOR, "Treatment of epilepsy by biborate of soda," *Lancet*, 1890, i, 1061.)

BROMOFORMUM.

(See vol. i, p. 603.)

II. 1. A boy of 4, suffering from whooping-cough, had been ordered bromoform in doses of 3 dr. *ter die*. In the absence of his mother the boy got possession of the bottle, and drank some of it. Shortly afterwards he asked for food and seemed quite well, but suddenly the mother observed that his face was quite pale, and that he staggered. Dr. Sachs found him apparently lifeless, face of corpse-like paleness, pupils dilated *ad maximum* and reactionless, lips cyanotic, pulse not to be felt, and extremities cool. Subcutaneous injection of ether, with cold douches on chest and back—child being in a lukewarm bath, brought him round, and in a few hours he was able to answer questions, and on next d. was well. (*Therap. Monatsheft.*, Dec., 1890.)

BRYONIA.

(See vol. i, p. 619.)

I. 25. A. W. W., in sound health, pulse 65, regular, at 8 a.m. took 5 dr. $\frac{1}{2}$ dil. in $\frac{3}{8}$ ss of water. Immediately darting pains in palm

and fingers, followed by sharp pains in scapular muscles. 8.5, slight pains above r. eyeball penetrating brain. 8.7, aching pains in stomach with distension and backache. 8.12, eructations and passage of flatus. 8.20, loud rumbling in abdomen with nausea. Pulse 65. 9.30, felt weary without cause, legs weak, head dull and inclined to ache. 10.16, sneezing and watery coryza, limbs ache as if he had taken cold. 11.30, sneezing and coryza continues. 4 p.m., r. eye burns and weeps, finally becomes swollen and injected (no external cause). Pulse 65. 5, became quite irritable and impatient, had considerable thirst and languor. Pulse 65. 6, first urine since m. (unusual), it was scant and strong, muscles of face stiff and sore, eye painful and sensitive to light. 8, pulse 78, weak, with slight palpitation of heart when exercising. 9, pulse 86, chilly and hot by turns, thirst continues, with headache and weariness; urinated copiously. 9.30, breathing heavy and laboured while at rest; no cough. 2nd d.—Sleep was dreamful and troubled; urinated twice in n. (unusual); wakened with backache and headache, soreness in epigastric region on moving. Pulse 70, weak; no desire for breakfast. 8 a.m., urgent call to stool, mostly flatus. Called to stool again at 9 and 12, loose but scant, followed by debility and headache until e. (IBID., *N. Y. Med. Times*, 1883.)

26. H. C. B., in full health, pulse 72, regular. 7 a.m., took 10 dr. I_x trit. (unknown) in ʒss of water. Immediately dull stitches in back; soon after felt weak and trembling without cause. 7.8, dull throbbing headache, want to lie down and rest. 7.20, sight of food causes nausea, was relieved by lying down. 8.30, slight pains in chest on deep inspiration with occasional cough when exercising. Pulse 72. 10, called to stool with colic (unusual). 11.30, very sleepy, slept heavily $\frac{1}{2}$ h. (unusual), wakened with rheumatic pains in limbs, r. testicle tender and swollen. Pulse 72. 2 p.m., could eat no lunch on account of nausea. 5, slight exercise produces perspiration (unusual), afterward chilly. 6, pulse 90. Feverish, with backache, headache, and thirst. 7.40, free urination and urging to stool, ineffectual. 9.30, called to stool, copious and loose with colic, repeated again at midnight. (*Ibid.*)

[The reference for I. 2—20 was accidentally omitted after I. 2. It should have been "*Oest. Zeitschr. f. Hom.*, vol. iii."]

CACTUS.

(See vol. i, pp. 655, 749.)

I. 7. Dr. CONRAD WESSELHOEFT proved drug in 1873. "I was then 39 years old, in good bodily health, making allowance for weariness from night work and general practice. The preparation used was a tincture, one ounce of which was given me by Dr. C. M. Weld, who obtained it directly from Dr. Rocco Rubini during a visit in Italy. Jan. 7th, 10 a.m., took 5 dr. of tinct., watching pulse; felt no effect beyond the natural slight acceleration experienced during self observation. 8th.—Took 20 dr. at 10 a.m.; this was followed by accelera-

tion of pulse, and a perceptible but not disagreeable flush of warmth of head and face. The heart's action was of course synchronous with the pulse, but not abnormally perceptible. 9th.—Took 30 dr. The result was the same as the d. before; and so on each succeeding d. until the ounce of tincture was used up, when I perceived nothing worse than a rather agreeable flush, acceleration of the pulse, cerebral stimulation, &c., as after a glass of wine, and no other effects. Thinking that the alcohol might be the only cause, I repeated the experiment with pure alcohol (diluted with water) in doses rising from 20 to 40 drops (of pure alcohol to the dose), and perceived precisely the same effects as those following the cactus tincture, and no others." (*Communicated.*)

8. Mr. F. H. PRITCHARD consumed $\bar{\text{z}}$ iv, in large and small doses, and at long and short intervals, with equally negative results. (*Ibid.*)

9. Miss C. A. HURD proved 10th dil., drop doses, m. and e., in water. Had cold in the head and sore throat before taking medicine. April 10th, 1874.—Headache early in m.; dizziness through d. Pulsating in brain, with sensation as if brain were too large for its cavity, and would force the bones apart. 11th.—Lassitude on rising; headache in e.; colic pain in epigastric region in e., a slow gripping pain lasting $\frac{1}{2}$ h.; dizziness through d.; roughness and soreness of r. side of larynx, causing cough without expectoration when lying down in bed, worse when lying on r. side. 12th.—Cough on waking in m., with raising of thick yellow mucus; dizziness with dull heavy ache in forehead over eyes. Hoarse harsh cough p.m., with hoarseness and expectoration of heavy brownish-yellow mucus in e., and with some nausea. Darting pains in l. lumbar region when lying on l. side. Soreness in larynx on r. side, and in bronchi. 13th.—Loose cough, with expectoration of clear transparent mucus in m. and through d. Hoarseness, with slight aching pain in the lungs, most in r. Drawing pain in forehead from without inwards; drowsiness when sitting down; weariness of mind with utter inability to study. 14th.—Cough on rising in m., with frothy expectoration of transparent and yellow mucus. Headache in front, dull, heavy, with drawing pain in forehead. General lassitude and weariness. Cough in e. from roughness of throat, especially when reading aloud; loose, with expectoration on lying down in bed. Cough after midnight persistent, preventing sleep, worse when lying on l. side. 15th.—Dull pain in forehead during forenoon, worse after a long walk, better after eating. Hard drawing pain, alternating with boring and tensive pain, in r. half of head p.m., lasting an h. Cough, with expectoration of yellow mucus and soreness of throat. Intense tearing pain in forehead and r. side of head, extending into r. face, late in p.m. and in e.; coughing increases pain in head; pain in teeth of upper jaw. Lying on l. side prevents sleep. Waked by coughing at 3 a.m., cough continuing at frequent intervals till m., preventing good sleep. Lying on l. side causes continual coughing. 16th.—Headache through d., decreasing towards n. Some pain in lungs. Some cough, with expectoration of frothy mixed mucus, white and yellow. No cough through n.—sleep quiet and refreshing. Have taken no medicine since the m. of the 15th. (*Ibid.*) [This lady died in less than 2 years from scirrhous of ant. mediastinum, involving both lungs. In view of this, and of the catarrhal condition in which she commenced her proving, we have given it in small type.—EDS.]

10. Another lady student took tinct. in drop doses m. and e. On April 23rd, slight headache in forehead p.m., with heaviness and pain in eyes. Heaviness of head in e. Irregular action of heart, sense as of bubbling from l. side of heart. Weak feeling in wrists, with little faint darting pains among bones of joint. 24th.—2 dr. in m., and 3 dr. at n., without effect. 25th.—5 dr. in m., 6 dr. at noon, 7 dr. at n. No result. 26th.—10 dr. at noon, 11 dr. at n. No effect.

27th.—13 dr. in m. Severe cutting colic pain 2 h. after taking the medicine, with painful evacuation of loose stool. Severe ache in forehead, p.m. Lameness and pain in last joint of r. thumb. 14 dr. at n. No effect. 28th.—14 dr. in m. Some heavy headache during d. Lameness and pain in thumb gone p.m. 15 dr. at n. No effect. (*Ibid.*)

11. DAVID D. HUDSON proved C. in 1874, doses not stated. (He knew what he was taking, which the other provers did not). Frontal headache; steady, and convergent towards a point between frontal eminences. Heavy and dull feelings in head. Sense of confusion in brain. Running at nose of clear, colourless, viscid mucus, soon after taking first dose. Keen, piercing pain in posterior thoracic wall of l. side. Thoracic oppression, worse on l. side. Palpitation. Very great excitability of heart's action, aggravated by walking, and by physical or mental exertion. Great fulness of chest, and continual laboured breathing. Inspirations insufficient and unsatisfactory, hence frequent sighing respiration. Grasp upon heart, with dizziness, laboured breathing, and suffocative feeling. Weakness of voice, rendering speaking difficult, reading more so. Oppressed feeling and pain in heart, pain constant and crushing. Increased appetite and undisturbed digestion. Aching in hips, ankles, and feet. Feet dry and hot. Intense weariness throughout muscular system. Intolerable tired feeling. Sleepiness, yawning. Sleep at n. unrefreshing. Dreams; working hard in dreams, and very tired on waking. If spoken to when dreaming, would answer rationally but retain no recollection of it. Nervous sensitiveness and excitability. Mental excitement aggravates the thoracic oppression and pain in the heart. Apprehensive, unsettled. Communicative, but rather sensitive. (*Ibid.*)

12. a. Mrs. OSGOOD took (date unknown) 1 dr. of 1st dil. m. and e. for 7 d. Pulsative or drawing pains in different parts or the whole (seemingly the surface) of brain in frontal, occipital, and parietal regions. Pressure in eyes (gradually increasing during last 2 d.). Dull—sometimes vague—pains in abdominal region. Considerable increase of nervousness in arms and hands (natural to some extent). General heat and perspiration; great sensibility to heat. Sensations such as follow intemperate use of spirits. Vertigo and general bilious feeling. Stiffness, soreness, and uneasiness in back of neck, such as I have experienced from chills and fever. Sensations like tobacco sickness (save nausea). Pains (rheumatic, I should describe them) in arms, not severe. General indolence.

b. April 22nd, 1874, commenced taking 3 dr. tinct. at 1 and 6 p.m. and 1 and 6 a.m., 12 dr. per d. 22nd.—E., after 2 doses, felt indefinite disturbance in bowels, increasing to slight pain, with some flatulence; after midnight, having taken three doses, pain in both temples as from external pressure, not severe; very slight vertigo. 23rd.—Noticed no abnormal sensations before noon, when what I can only describe as a bilious or fever-and-ague head returns; same as experienced in last proving, only less in degree as yet; abdominal disturbance increased, with distinct but not troublesome pain, and greater degree of flatulence. 24th.—Have experienced no noticeable symptoms up to noon to-day except general unpleasant feeling in head.

25th.—Increased dose to 4 dr. No effect save occasional slight vertigo.
26th.—4 dr. doses continued with no effect. Bad taste in mouth after sleep, tongue covered with whitish coating; this last has occurred from the first. On 27th dose increased to 5 dr., and on 28th to 6 dr., with no effect. (*Ibid.*)

13. Mrs. WHITCOMB proved solution of 2 dr. of tinct. to 100 of alcohol, taking from April 8th 1 dr. m. and e. 9th.—Constriction, with stinging pain, in region of heart, lasting but a moment, about noon (unusual). About 5 p.m. feeling of suffocation, lasting but a short time, but occurring several times for an h. or more. Mind clear, but inclined to irritability. 10th.—Darting pains in muscles of the legs, above knees and about hips. Nervous. The same feeling of suffocation and slight palpitation. 11th.—In m. between 8 and 9, quite a severe pain in muscles of l. leg, above knee. Nervous irritability; pain about vagina and uterus, with a good deal of yellowish discharge (unusual). 12th.—Quite severe pain, a.m., through thighs and muscles of limbs, extending to small of back, a feeling as though about to menstruate (although not expected). The same nervous irritability, and occasional suffocation; for a moment a stitching pain in r. side, in region of r. heart (I should think). (*Ibid.*)

14. MARY L. SWAIN, April 16th, just before breakfast, took 1 dr. of tinct. in teaspoonful of water. 8.30, sense of great pressure through temples, which continued about 10 m. Throat during d. felt furred, constant irritation there during p.m. Repeated dose at n. 17th.—Same dose upon rising in the m. In about 1 h. a fit of sneezing. Peculiar feeling in throat continued. Watery discharge from nose when walking out of doors to-day. Discharge from head through passages of throat, having consistency but no colour. Sneezed several times during p.m. A pain in r. lung during afternoon, situated just to r. of sternum, a throb coming at intervals. Repeated dose at n. 18th.—Awoke to find throat somewhat inflamed. Discharge from head, white and pale yellow. Sneezed immediately after morning dose. Latter part of d. pain as of heavy pressure in chest over sternum, for space about size of hand, similar to feeling caused by clothing that binds tightly; it produced an extreme sense of nervousness. Sneezed several times during d.; some unpleasant feelings in head at times. 19th.—Quite long fit of sneezing before rising in m. Cold in the head. Consistency but no colour in what passed from nostrils. Continued pressure in chest, producing great nervousness, so that I was unable to sit in one position long at a time. Sneezing continued through d. at intervals. (*Ibid.*)

15. a. Mr. H. H. CUSHING. (Died of tuberculosis 2 years later, but was apparently well at time of proving.) Took 3 dr. of tinct. In 10 m. cold creeping and pressure over fissure of Sylvius. In 15 m. tendency to eructate; feeling in head continues. In 34 m. constriction in l. side of frontal bone and around eye, followed by pain in malar bone. Took 7 dr. In 7 m. flush of heat in l. scalp, followed by pressure and constriction at end of sternum. In 17 m. empty eructation. In 20 m. faintness and empty feeling at stomach. In 30 m. burning in stomach and bowels. Took 10 dr. In 7 m. twitches and burning in muscles of cheek. Strong pressure over whole head. In 9 m. tendency to eructate. In 15 m. creeping over l. head. In 22 m. burning in scalp (l.) and general uneasiness. In 24 m. burning in stomach; continued burning and griping in abdomen; eructation. In 30 m. tensive cutting pains in abdomen and around stomach. In

40 m. constriction over heart and laboured breathing. Took 12 dr. In 7 m. constriction at end of sternum ; tendency to eructate ; laboured breathing ; hard griping in abdomen. In 12 m. creeping over top of head ; hands hot and dry ; pain in sternum, worse on walking. Took 20 dr. In 5 m. burning over whole abdomen. In 8 m. heavy laboured breathing ; heat in head. In 30 m. severe cutting headache, l. side, with contractive pain in l. eyeball. In 35 m. heat in l. temple.

b. Took 1 dr. In 10 m. slight pressure on top of head and slight eructation. In 15 m. distending pain of abdomen. Again, after taking 1 dr., in 5 m. congestion of blood to head, with oppression on chest ; and, in 20 m., short, sharp pain at pit of stomach, repeated at intervals. The head symptoms were varied by cold creeping over the fissura Sylvii, l. side ; by headache in l. temple ; and cutting and crawling and pressing ache in l. side of frontal bone. Took 2 dr. Pressure as before, coming in 4 m. ; feeling as if l. parietal bone were pressing on brain. In 10 m. cold creeping sensation in same place. Took 3 dr. In 3 m. prickling in l. hand, not very decided, nor repeated. Some contraction of eye-ball, and pressure on forehead. In 8 m. pressure on l. side of head near top, as of a blunt instrument. In 12 m. the pressure extended as if there were an indented line made in the bone. Took 4 dr. In 3 m. pain in l. groin. In 7 m. contraction of eyelids ; sharp, cutting pain l. side of head. Took 5 dr. In 6 m. darting pain in r. temple. Took 6 dr. In 10 m. pressure on top of head, with pain over l. eye. In 17 m. continued swallowing. In 20 m. eructation, and feeling of emptiness—as of faintness from hunger—in stomach. Cold creeping in head. Took 8 dr. In 3 m. stitch in r. side of sternum. Took 10 dr. In 8 m. contractive pain in l. side near 7th rib, and at end of sternum. Pressure on top of head. In 10 m. pain over heart and at costo-sternal articulation on walking. In 18 m. shooting weakening pain in outer side of leg, just below knee. Took 12 dr. In 10 m. contractive pains about l. 7th rib. Rather laboured breathing. Pulse slow and irregular. In 12 m. pressing pain in middle of sternum. In 15 m. crawling pain in temporal bone, front of l. ear. (*Ibid.*)

CAFFEINUM.

(See vol. ii, p. 313.)

II. 3. A single woman of 30, being exceedingly nervous from loss of sleep and somewhat immoderate use of stimulants, was advised to take a 2 gr. powder of citrate of C. By mistake she took 3 gr., and impatiently repeated the dose several times, so that within 1½ h. she had taken 18 gr. (She took also—getting no relief—a ¼ gr. morphia pill before she began to feel the effects of the C. ; but it does not seem to have played any material part in the phenomena that ensued.) She passed a restless, wakeful, and almost delirious n. Respiration and heart's action were hurried and irregular. Reflex excitability was marked for a time, when general muscular weakness supervened ; and

towards m. she fell into a state of stupor, in w
 Extremities were cold; there was clammy
 and slight paresis of muscles of hands and fe
 pulse 55, and somewhat irregular; resp. 1
 pupils but slightly contracted, responding rea
 persistent contraction of flexor muscles of fin
 of extensors, especially of thumbs and great
 spasmodic action of muscles of calves, whi
 termed cramp-like pains. She vomited occa
 of warmth, with whisky by mouth and atr
 dermically, she rallied, recovering conscioun
 complained of severe paroxysmal pains in ab
 colic; also of dimness of vision, with a b
 time, becoming quite delirious, partly due to
 out of bed and endeavoured to walk across r
 stand on her feet, reeled like one intoxicated
 vertigo, with feeling of numbness in soles;
 for an attendant close at hand. A certain tr
 of both hands, with tremors of tongue, 1
 excessive, with dryness of mouth and tongu
 of ice. There was no headache whatever,
 supra-orbital region. Speech was somewhat
 at times thick; and there was also some
 Heart's action was diminished in rapidity, an
 Urination was frequent and copious. Ab
 arrival she complained rather suddenly of se
 extending upwards and gradually implicat
 chest and neck; when a sudden and severe co
 of marked tetanic character, abdominal and
 retracted and rigid. Eyes were suffused, and
 of great pain; resp. was entirely checked, an
 with jaws quite rigid, and fingers firmly contr
 by a second convulsive seizure of the same
 Chloral and k. brom. were now given, which
 and from this time forward patient graduall
 thesia, and the paresis of hands and feet, did
 the 5th d. (*N. Y. Med. Journ.*, Sept. 19, 1

CALCAREA HYPOPHOSPH

Hypophosphite of lime, Ca₂

I. *Provings*.—I. Dr. A. R. BARRETT, I
 friend, each took 1 gr. of the 2x trit. The
 in both provers, within 1 h. and lasting 1 h
 dull heavy pain, pressive, on top of head acros
 frontal and occipital bones; the pain grad
 grew correspondingly more depressed in feel
 fulness and sensation of oppression around he

out whole thorax and head, the veins of hands, arms, neck, and head standing out like cords; no flushing, no perceptible increase in pulse; dyspnoea, must have windows open; profuse sweat all over; limbs perfectly powerless; unable to rise from chair or move either arms or legs in the least, gradually unable to speak except in a low monotone, evidently from muscular inability. Total loss of all desire and inability to move or make any muscular exertion. Symptoms were about $\frac{1}{2}$ h. reaching this point, lasted about $\frac{1}{2}$ h., and then began gradually to pass off. As they did so, pain left vertex and passed to forehead, pain extending from r. to l. temple throughout whole frontal bone, a dull pressive pain; the muscles gradually recovered power; cardiac sensations passed away, leaving only sense of mental depression. No pains except above. Subjects both between 35 and 40, weigh 120—125 lbs.; light complexion, nervo-sanguine temperament; both in good health. When the symptoms had passed off, lips were dry and cracked as from fever, considerable thirst; pulse normal (75—80) or slightly weak; temp. normal. (*Hahn. Monthly*, Sept., 1879, p. 539.)

CAMPHORA.

(See vol. i, p. 684; vol. ii, p. 730.)

II. 27. a. P.m. on Sept. 15th Miss X. was brought to my house, and had to be partly carried indoors. Her hair and dress were disordered; face duskiely suffused and perspiring; breathing slow and shallow, with tendency to sighing; pulse rapid, small, and compressible. She was in a semi-conscious state, with eyes half closed, and if placed in a sitting posture her head and body inclined to fall forward and to the side; but if roused and spoken to loudly she attempted to sit upright, raised her eyelids for a moment, and responded rationally, but in the unformed, halting accents of a person labouring under the effects of drink. Her breath smelt of camphor. Her sister stated that they had lunched together at 1 on coffee and bread and butter, and afterwards were doing some shopping. She had a slight cold, for which she had been recommended to try camphor. She had provided herself with a piece as big as an almond, which she had begun to chew and swallow in minute portions. Some 20 m. after she suddenly complained of feeling giddy and queer; and they had barely time to get into a shop they were passing when she fell down in a quasi-faint. After restoratives she rallied somewhat, but began to talk excitedly, and endeavoured to sing or hum snatches of tunes, paying but little heed to those about her. Her face was flushed and its expression peculiar; her sister said that but for knowing she never drank any wine or spirits, and for their having been together all the forenoon, she would have thought her under the influence of drink. As the hilarious excitability was gradually passing into a state of stupor, the sister became alarmed, and had her conveyed to my house.

b. I gave 20 gr. of zinc sulphate, which was followed by free vomiting. After waiting 15 m. I gave ℥xxx of sal volatile in a small cup of strong black coffee. Her breathing and circulation improved;

her face, from being flushed and dusky, had become somewhat pale, expression being more natural; and she gradually sank into a light slumber. In $\frac{1}{2}$ h. more she took another dose of coffee and ammonia, and by 4 was sufficiently recovered to be removed to her own home. She was somewhat light-headed and giddy, but only complained of a burning pain at the pit of the stomach, which had disappeared by the next d. (W. R. RAY, *N. Eng. Med. Gaz.*, xxii, 236.)

28. I was called at 10 p.m. on Feb. 23rd, 1886, to see a young gentleman, æt. 19, "in a fit." I found him on the floor in convulsions, his face and neck dusky, and foam flying from his mouth. The pulse was full, and the pupils dilated. The shirt was immediately loosed, and cold affusion used, with the result that the convulsions ceased, and he became quieter. After 5 m. retching began, and the small quantity of fluid that came up smelt strongly of camphor. Ten m. later I got him up, and, by dint of firmness, persuaded him to go up to his room, undressed him, and put him to bed. There he expressed himself as quite comfortable, and only sleepy. I ascertained that my patient, who is a teetotaler, had a cold in the head, for which he had sought advice of a druggist, who recommended essence of camphor. A half-ounce of Rubini's essence was given him; and, about 7.30, he saturated a large lump of sugar, spilling a little of the camphor in the process. Not content with this he took, at 8.30, about the same quantity in water, went to the smoke room, and smoked two pipes of tobacco. At 9.30 he began to feel giddy, and to be losing his self-control; he talked incoherently and excitedly, ran upstairs, and fell on the floor "in a fit." Two other members of the family had thirteen drops between them, and there remained in the bottle exactly eighty drops, so that two and a half drachms have to be accounted for; and I conclude that my patient must have taken almost two drachms, if not quite—a large dose from which to recover so rapidly. With the exception of a bad headache, my patient was quite well the next morning, and ate a good breakfast, but his cold was no better.

An interesting point in this case was that, from 9.30, when the poisonous action of the camphor began to assert itself, until 11.30, when he really first regained consciousness, he was entirely unconscious of all that he did or said; and yet resented the application of the cold water, both by speech and action; answered my questions intelligently as to pain, &c.; walked upstairs, and assisted in preparing himself for bed; and when there, said he was comfortable. In the m. he assured me that he had not been cognisant of my visit. (EAST, *Brit. Med. Journ.*, 1886, i, 542.)

CANNABIS INDICA.

(See vol. i, p. 713.)

II. 7. Dr. G. A. R.—took $\frac{1}{2}$ gr. of extract while suffering from hemicrania. Not long after he suddenly realised that he had become wholly oblivious of his surroundings, and knew not how long he had been so. Then he had a peculiar light feeling in head. His knees

felt like frictionless hinges, and his legs a weight of lead; there was a strange feeling of numbness all over body. Next had a feeling of great satisfaction with himself and all the world, laughing without cause. Time passed slowly; 1 m. seemed like 15, intervals between words spoken in conversation seemed like a m. in length. At times he forgot the presence of his companion. In answering remarks, he forgot the beginning of a sentence before he ended it. His eyes were wide open and staring, and he had a vacant expression in his face. During these times of forgetfulness he had also violent shiverings. In driving home the horse seemed 20 feet away from him. The sides of the street seemed blocks away. Although the temperature was below 0° F., he did not mind it as much as usual. When he retired he slept soundly. The effects of the drug lasted until noon of the following d. During the m. he found it difficult to concentrate his mind, even on the reading of the newspaper. (*Monthly Hom. Rev.*, xxx, 429.)

8. a. A patient, who some years before had had syphilis, came to me Dec. 16th, greatly alarmed, declaring that he again had a syphilitic eruption. I discovered, on examination, that the cutaneous surface of the lower portion of the abdomen, back, hips, and thighs was covered with lesions in groups, which he could not avoid scratching, even when subjected to inspection. These lesions were hot, irritable, pea-sized, flattened, rose-coloured boutons, or urticarial papules, with scratch lines evident between them. With a half inch lens I could discover no central punctum, though here and there were minute blood-scales on the summit, the result of the wounds inflicted by the finger-nails. I suspected that the disorder had originated in the bites of the *cimex lectularius*; and, when questioned, the patient admitted that he had recently slept at a country inn, where he had been greatly disturbed during the night, as well as his fellow traveller who shared his bed. He then remembered that each had discovered the eruption in the morning. These accidents subsided in a few days, after an alkaline bath and the application of a lead lotion. The incident is mentioned here in order to illustrate the fact that I was dealing with a patient whose skin was peculiarly susceptible to irritation.

b. On 8th Jan. last, Mr. F. again called upon me in alarm, insisting that, this time certainly, he exhibited the evidences upon his skin of a fresh explosion of syphilis. Upon examination, I discovered that the surface of the scalp, face, ears, neck, chest, dorsum, abdomen, and extremities, including the palms and soles, was covered with an eruption of strictly disseminated vesicles, nowhere arranged in groups, in various stages of development.

c. DR. L. A. DUHRING, of Philadelphia, recently described, in a clinical lecture delivered at the Hospital of the University of Philadelphia,* the peculiarities of a bullous eruption, due to the iodide of potassium, occurring in a patient affected with eczema. The description given of the lesions is admirably exact, and it is interesting in this connection to note the points of resemblance and dissimilarity between the induced phenomena in the two cases. In the following particulars the eruption in the case of the two patients displayed similar features:

* *Medical and Surgical Reporter*, Aug. 4th, 1877, p. 89.

the vesicles were generally elevated above the surface of the skin from one-half to two lines, were roundish in shape, tensely distended by their contents, and contained a clear serous fluid, no blood or pus. They were, when mature, well-formed, persistent, showed no disposition to rupture, even when firmly pressed upon, and were yellowish-gray in colour, having a glistening look due to the external surface of the capsule of each. They were implanted upon a slightly reddened base without peripheral areola, and existed in every stage of development to complete maturity. When ruptured (some had been purposely ruptured by the patient himself), a moderately large drop of clear serum exuded. The integument upon which they were seen was neither œdematous nor infiltrated. But in the following particulars the eruption in the case of the two patients differed: in that here reported, the lesions varied in size from pin-point to small split-pea, and were in no case larger. They did not coalesce so as to form bullæ; indeed, were not closely packed, as interspaces of a diameter of two inches could be occasionally observed. There were hence no coalition septa, nor were puncta to be seen imbedded in any, like boiled sago grains. They were slightly acuminate rather than flattened, and in no instance umbilicated. When first examined, none were in phase of retrogression, and were thus neither shrivelled nor macerated. The incipient lesions were not suggestive of miliaria—the condition in which minute vesicles appear upon the surface, like scattered seed-pearls. On the contrary, the papular origin of each was quite distinct, many papulo-vesicular forms showing upon the lower extremities. The eruption was symmetrical, but yet more abundantly developed upon the upper than upon the lower segment of the body.

d. When the eruption subsided, as it did to a marked degree in a few days without treatment, the vesicles shrivelled without bursting, and left neither ulcer nor scab, merely a light desquamative crust of yellowish-red hue, which left, after falling, a transitory hyperæmia of the surface. The patient complained of a moderate degree of itching, which in no sense compared with that from which he suffered when affected with the pruriginous boutons described above. He readily controlled the effort to scratch, and even complained, when his scalp was handled, of a certain degree of tenderness and soreness there. Here, as also upon the legs, palms, and soles, were many abortive lesions, but several fully-developed vesicles could be seen upon the scalp. The facial vesicles presented a peculiarly livid appearance during the time of this examination. It was due to the intense mental agitation of the patient, the surface of the skin of the face being engorged with blood. He had not forgotten his old syphilitic papules in the same locality, which betrayed his secret to many unskilled observers.

e. The disease was readily differentiated from *eczema* by the fact of the permanent character of the vesicles, and the absence of any evidence of dermatitis. The failure to recognise the "boiled-sago-grain" appearance, and the absence of sweating, excluded *dysidrosis*—the disease which Drs. Fox, Liveing, Tay and Tweedy have of late been vigorously discussing in the *British Medical Journal*.* The

* *Vide Nos.* for Dec. 8th, 15th, and 29th, 1877, and of Jan. 5th and 12th, 1878.

absence of concentric arrangement, as pointed out by Dr. Duhring in his case, forbade confusion with *herpes iris*. The absence of fever and failure of development into pustules excluded the supposition that the disease of the skin had been induced by either *variola* or *varioloid*, though unquestionably there are forms of the last-named disease, such as the so-called "horn-pox," which it would be difficult to differentiate, especially in cases where there had been no precedent febrile state. The straw-coloured "stuck-on" scabs of *impetigo contagiosa* were not observed. Uniformity of lesion, absence of itching with nocturnal aggravation, and the extent of the disease, were not characteristic of *scabies*, while the distribution of the lesions precluded the possibility that they were induced by *zoster*.

f. An important question remained: Were the lesions produced by syphilis? I had no hesitation in deciding that the eruption was in no way associated with the syphilitic diathesis undoubtedly present in this case, although I am aware of the fact that my position on this point will probably be disputed by many. My reasons for this decision may be briefly given as follows:

(1) Vesicular lesions are rare in syphilis. Lancereaux,* in his voluminous treatise, devotes but little more than one page to their consideration. Bassereau observed, in all, but twelve cases. I can recall but two cases of distinctly and purely vesicular syphilis, observed during more than fourteen years' experience of the disease, and in neither of these were the lesions similar to those described above.

(2) The character and behaviour of the vesicles in this patient were not those peculiar to the specific forms. In the three varieties described in most of the text-books ("varicellar," "eczematous," and "herpetic"—inexact terms at the best) there is usually a history of either faint umbilication, transformation into pustular lesions, areolæ of congestion or inflammation, segregation into groups, localisation in or about the hair follicles, indurated and copper-coloured base, sequence of scabs, scales, ulcers, or cicatrices, or obscurity of cause. Without particularising, it will be seen that these were not phenomena noted in the case under consideration.

(3) The patient in this instance had survived that period of syphilis in which we look for superficial, symmetrical, and short lived cutaneous manifestations. It is true that Wilson has described a corymbiform vesicular syphilide, occurring as a late symptom in tertiary or neoplastic stages of the disease. But in his patients the lesions were small red papules, vesicular at the summit merely, occurring in patches made up of more or less concentric segments of circles.

g. For these reasons it seemed to me that the eruption in this instance could have been produced only by some of the irritant ingesta. The patient had not taken the potassium iodide for several months before the occurrence of the disorder. Just prior, however, to the discovery of the lesions of the skin, a friend had given him, for the purpose of relieving pain in the chest, two of the gelatine-coated granules manufactured by Messrs. McKesson and Robbins, of New York, containing each a half grain of the extract of *cannabis indica*.

* *Traité de la Syphilis*, Paris, 1874.

He had taken these in the evening, and soon after, commencing to feel drowsy, he had retired to bed. He passed the night in a heavy, dreamless sleep, having been much exhausted during the previous day by necessary attention to his business. In the morning the eruption was perceptible over the surface of his body.

h. In a few days, as has been already stated, without the administration of other remedies than a gentle laxative, the eruption entirely disappeared. The patient remained at rest in his house for three days, merely dusting some finely powdered starch over those portions of the skin exposed to the air or undue friction of the clothing. (J. N. HYDE, *N. Y. Med. Record*, May 11th, 1878.)

g. In the course of the m. I had prescribed for a gentleman of the age of 48 a mixture containing twenty minims of the Pharmacopœial tincture of cannabis indica for migraine and lassitude. He was of an excitable temperament, nervous about himself, and particularly anxious not to be laid up just then, on account of some important business engagements. In the early afternoon I received a telegram, asking me to see him at his residence as soon as possible, and then learnt that after leaving my house he had gone to the city, had had the prescription made up, and had taken "a dose." Very shortly afterwards he had felt giddy and faint, and had had great difficulty in reaching the underground railway even with assistance. He had complained of much palpitation and anxiety, and said he was almost unable to stand. After telegraphing to me, he had gone to bed and fallen into a deep sleep. When I saw him he was excited and nervous, although saying he felt better than on going to bed; the pulse was still rapid and compressible, but there were no indications of any other disturbance of the nervous system; upon being reassured about the cause and prognosis, he speedily became quieter, and complained of hunger, got up, dressed, and went down to dinner. I was at first much puzzled at such marked effects from an ordinary dose, but upon asking to see the medicine bottle found the explanation. Having no glass at hand when taking the medicine, he had recklessly drunk from the bottle and had swallowed about two doses and a half, equivalent to about fifty minims. He has since taken the ordinary dose on several occasions, not only without any toxic effects, but with marked relief of migraine and of the ordinary symptoms of business worry. (NESTOR TIRARD, *Lancet*, 1890, i, 723.)

10. a. Dr. SMYTH WILLIAMS took C. i. for neuralgia, in fluid extract. Getting no effect from 20 dr., he took first ʒss and then ʒiiss—latter dose as he went to dinner at 6 p.m. After dinner he went to his study to work. "All at once," he writes, "it seemed that I saw the letters I was looking at in a somewhat indistinct manner. They were faintly marked, and wavering, as if they moved about over the page. Looking around me, the room seemed as if filled with mist. My head felt as if floating in air. My heart beat with unwonted force and frequency; I took out my watch and succeeded with much effort in counting my pulse, which I found to be 120; I could hear and feel the heart. I now first thought of the C. i. After a few m. the sight cleared and the mind regained its lucidity; but the cardiac symptoms

increased, and the heart at length reached 150 beats per m., these being, however, less strong in proportion. I began to feel oppression and malaise, and, having sent for a colleague, went to bed. My friend vainly tried to count my pulse, so rapid and thread-like had it become. I myself felt as if my heart were compressed and bloodless, vibrating with extreme rapidity, and ready at any moment to stop. I felt, however, quite calm."

b. Vomiting was induced by the finger, and digitalis and veratrum viride administered. This was about 8 o'clock. The heart now gradually quieted down, and at 9 pulse could be counted, and was found 130. An h. after he fell asleep, and did not wake till m., when he felt well but weak. It was 2—3 d. ere his heart regained its natural action. It should be stated that the organ had some degree of hypertrophy, compensatory of a mitral lesion, and accordingly beat normally at the rate of 90 per m. (*Therapeutic Gazette*, Jan., 1885.)

CANTHARIDINUM.

(See vol. ii, p. 18.)

II. 1. A farmer, æt. 36, suffering from chronic suppurative ostitis of the humerus, received from a charlatan for the supposed gouty pains a powder, which he took at one dose, in beer, May 25th, 1875. During the d. he was seized with nausea, vomiting, lumbar pains, and afterwards with colic; towards e. there was considerable looseness of the bowels, and during the night profuse sweats, with exacerbation of the pains and vesical and rectal tenesmus. Weakness rapidly became extreme, and death occurred early on the m. of the 26th. At the autopsy was found greenish coloration of the abdomen, with post-mortem ecchymoses on the back; upon the cheek and ear of the l. side were dusky spots as large as a pea, with the consistence of leather to touch and on section. The genital organs were without morbid appearances. The stomach was found dilated by gas, and contained 150 grm. of a greyish-brown, foetid liquid, in which were present small, hard, yellow masses; in the pyloric cavity was bright inflammatory redness; elsewhere the mucous membrane was unaffected, but the vessels were greatly injected. There was redness and tumefaction of the duodenum and of the neighbouring portion of the jejunum, but no ulceration; vivid injection of the mesenteric vessels. Within the peritoneum was an effusion of a sero-sanguinolent fluid amounting to about 150 grm. The great venous trunks were found filled with dark but liquid blood; the arteries were empty; kidneys congested; bladder empty and normal, but the vessels of its neck were engorged with blood. In the pleural cavities there were almost 100 grm. of sanguinolent serosity, with some cretaceous deposits at the apices. Within the pericardium was a brownish serosity to the amount of 90 grm. The vessels of the brain were filled with a dark-coloured fluid blood; a slight amount of serosity within the two ventricles. The small bodies found in the stomach and on the coats of the intestines were

made up in great part of brilliant scales of a blue colour from the elytra of a coleopterous insect of the genus *Meloe*, the species being very probably *M. proscarabeus*.* (*Viert. f. gericht. Med.*, Oct., 1875.)

CARBO VEGETABILIS.

(See vol. ii, p. 23.)

II. 1. May 20th, 1875, Mrs. J. L. C. came to me very much alarmed about herself, with a remarkable train of symptoms. Her first complaint was of an alarming numbness in all the external parts, which she feared threatened paralysis; also a peculiar mental weakness and confusion, as well as general weak and faint condition of body, especially in m., preventing rising till late. She complained of rheumatic pains and lameness, worse in arms and thighs; stopping of breath; palpitation, and anguish in all vital regions. I soon saw that there was no paralysis, or danger of it; but probably some drug-action. I therefore went through a systematic examination of the case, with the following result: Great anguish, especially in e.; restlessness; irritability. Ideas slow; confusion; memory lost periodically. Oppressive headache above eyes, with nausea; vertigo on slightest motion of head. In eyes itching, smarting, burning; near vision; twitching of eyelids. In ears, ringing, humming, pressure. Face pale; drawing and tearing in facial bones; twitching of upper lip. Drawing and tearing pain in teeth; looseness of teeth, soreness of gums, also of tongue. Difficult deglutition; pain in throat when coughing. Aversing to meat, very marked and continued; appetite lost; taste bitter; simplest food causes distress; heartburn; constant nausea, with tremulous feeling. Pain in hypochondria, as if from a bruise; pressure and cramp in lower abdomen; constipation, with soft stool. Urine diminished; frequent urging to micturate. Oppression in lungs and heart; palpitation. Painful stiffness from neck down entire spinal column; feeling as if wrists were too short; feeling of numbness in hands and feet, and these, with knees (which are stiff), "go to sleep" all the time. Formication all over skin; burning; chilliness, with flashes of heat. Very drowsy in d.; falling asleep very late at n.; frequent starting in sleep, with strange fancies.

After getting this remarkable train of symptoms, I said: "You have been taking carbo vegetabilis to excess; your symptoms present a complete picture of it." She then acknowledged that she had been doing so. She had begun with eating bits of charcoal for heartburn, and "to sweeten the stomach"; but latterly she had been in the habit of triturating it in a mortar to an impalpable powder, and taking it in that form, about half a teaspoonful 2 or 3 times a d. On discontinuing the charcoal the symptoms all disappeared in a few d. (G. NELSON SMITH, *Am. J. of Hom. Mat. Med.*, ix, 183.)

* As cantharidin is the active element in all these blistering beetles, we give the above poisoning under its heading.

CARBONEUM SULPHURATUM.

(See vol. ii, p. 29, 731.)

II. 11. *a.* A man, *æt.* 32, was admitted into the Salford Royal Hospital on March 3rd, 1888. In April 1887 he began to work in the "curing-room" of an india-rubber factory, where he was compelled to inhale fumes containing a large proportion of bisulphide of carbon. He had always enjoyed the best of health until the beginning of his present illness; had been a total abstainer for 16 years, and had never smoked or had syphilis. Soon after commencing work in the factory he began to suffer from headache, giddiness, and drowsiness; tongue was dry, and taste of bisulphide constantly present. These symptoms disappeared (as they usually do) in the course of a few weeks. At beginning of Jan. 1888 headache returned, and was accompanied by delirium and illusions of sight; he was compelled by frequent attacks of giddiness to take to bed on the 10th. So-called "rheumatic pains" were then felt in knees and ankles, and face and hands became yellowish in colour. He was also subject to attacks of unconsciousness coming on suddenly and without cause while he was in bed. About end of Feb. legs were noticed to be weak, and lower halves of legs felt numb. Sexual desire was abolished. On admission into hospital delirium and other cerebral symptoms had disappeared. Patient could neither walk nor stand without support; but on being well supported on each side, he was able with great effort to drag the toe of one foot about 3 in. in front of the other foot. As he lay in bed there was distinct drop-foot on both sides; he could barely move the toes, and could not perform dorsal flexion on the ankle. He was able to raise the heel from the bed slowly and with difficulty; the legs could be adducted forcibly, but abduction was weak. No wasting could be detected. The knee-jerks and the plantar and cremasteric reflexes could not be obtained, and there was no ankle clonus. Almost complete loss of sensation as regards touch, pain, and temperature existed below middle of leg. On squeezing calf-muscles some pain was complained of, not confined to parts pressed on, but described as shooting upwards and downwards. The functions of bladder and rectum were performed naturally. Upper extremities were perfectly normal in every respect. Faradic contractility of muscles of legs was somewhat impaired; with the galvanic current muscular contraction was normal, and contraction occurred with a weaker current on cathodal than on anodal closure. No vaso-motor or trophic disturbance was present. Taste and smell were normal; but patient complained of weakness of vision, interfering somewhat with reading. His colour vision was not tested till March 15th, when it was found perfect, and the range of vision was found normal on both sides. (By this time, however, the defect of sight had almost disappeared.) The pupils reacted to light, and the discs were healthy.

b. The only treatment adopted was rubbing, and the internal administration of quinine. Improvement set in almost immediately.

On the 23rd anæsthesia had almost entirely disappeared on l. side. On 29th he could walk unsupported; knee-jerks were active on both sides, but r. foot and leg were still slightly anæsthetic. He was discharged April 18th, walking well; and on June 18th presented himself with both legs quite strong, and no anæsthesia to be detected anywhere. There was, however, no return of cremasteric or plantar reflex. He returned to the factory, but obtained employment in a room where he was not exposed to the bisulphide vapour. He felt quite well when showing himself Sept. 21st, but a considerable amount of anæsthesia was found involving r. foot and lower third of leg; and cremasteric reflexes were still absent. He acknowledged that when the wind was in a certain direction the fumes generated in the "curing room" were blown into the room in which he worked. (EDGE, *Lancet*, April 7th, 1890.)

12. CHANGARNIER describes the following cases:

a. A man presented himself with all the symptoms of alcoholic amblyopia. He was, however, a temperate man, and not a smoker. He had worked for 8 mo. where sulphide of carbon was employed. He had noticed a cloud before his eyes for about 6 weeks. His vision deteriorated daily and, after 12—15 d., he could not read. All objects appeared yellow. Ophthalmoscope revealed nothing abnormal. Visual field showed a centre scotoma for red and green. He was treated with eserine locally and potass. iod. internally, and recovered.

b. A man of 42 had worked in sulphide of carbon 11 mo. Vision had commenced to fail 1 mo. before he was seen. Symptoms, treatment, and result were as in former case. (*Lond. Med. Record*, 1886, 310.)

CHELIDONIUM.

(See vol. ii, p. 61.)

II. 24. The symptoms I experienced from frequent—about hourly—1 dr. doses of the 3x dil. continued during 3 d. were: On whole surface of face an agreeable visible glow of heat; a transient cardiac pain; sharp pain under sternum; great anal flatulence every n. on lying down; on getting into bed sharp spasm in chest, together with oppression of breathing and much cardiac anxiety (have no organic disease); awful dreams; thighs itched; neuralgic pain in neck and l. ear; back, in renal region, felt weak and painful; sacrum painful when in bed; cold feeling in stomach after food. On 4th d. felt very queer; pharyngeal angina; pustule like an incipient boil on hip. 5th d., much pain during previous n. in sacrum and rectum; blood passed at stool (never occurred before); spasm under sternum at n. again. ("AGRICOLA," in *M. H. Rev.*, xxxiii, 763.)

CHINA.

CHINA.

(See vol. ii, p. 118.)

1. 17. C. F. S., in full health, pulse 60 and regular. Took 10 of tinct. in water at 8 a.m. Soon distension of stomach and repeated watery regurgitations. 8.10, warm perspiration on face and hands without cause. 8.25, fulness and rumbling in abdomen with griping; passed much flatus; perspiration continues. 8.45, copious urine. 9-30, stool urgent and loose; increased saliva; tongue whitish; skin moist all over. 10.30, pulse 80, thin and irregular; feels restless and uneasy; occasional twitching of limbs. 11, head and face hot and congested, veins full and swollen. 11.15, fluent coryza, with sneezing and lachrymation; slight photophobia. 12, pulsating headache with heat; cold hands and feet; repugnance to food. 2, pulse 84, full and hard; headache continues; palpitation of heart after slight exertion with oppressed breathing; slight chilliness, increased by drinking. Aching in sacral region, extending down thighs, with languor; abdomen distended; ineffectual desire for stool. Sleep dreamful at n.; awake with languor, coated tongue, and anorexia; urgent call to stool soon after rising. (WOODWARD, *Trans. of Int. Hom. Convention*, 1881, p. 3)

II. 3. On 3rd July, 1878, Dr. L. M. Yale asked me to see a case of loss of sight, of which the following history was obtained:—Mr. B., æt. 50, a man of very intemperate habits as regards the use of alcohol, had been accustomed for years to drink enormously of brandy and whiskey at intervals; but there were periods of varying length from one to three or four months, of total abstinence from intoxicating drinks. Mr. B. was told that the use of the tincture of cinchona would relieve him from his periodic craving for alcohol. On June 24 of this year he began its use, with a view of correcting his intemperate habits. On that day, as well as on the 25th, 26th, 27th, and 28th he continued to take the compound tincture* in ounce and two our doses, at short intervals, literally drinking it as a beverage from a quart bottle, in which he had caused an apothecary to place as strong preparation as possible. On the 28th, although he had taken none of his ordinary alcoholic stimulants, his clerk thought from his conduct that Mr. B. had been drinking heavily. Dr. Yale estimates that during these days the patient took an amount of the tincture which would be equivalent to 125 gr. of an alkaloid of cinchona. Mr. B. has no recollection of any occurrence after the 27th. He is confident that he took no alcohol, except that contained in the preparation of cinchona during these days. This, however, may be doubtful, for the clerk at the hotel to which he went, when in what proved to be a semi-conscious state, on the 28th, states that while he lay in bed he was constantly ringing the bell for liquor. It is possible that during this time some doses of alcohol were added to those of cinchona, although Mr. B. does not believe this to be the case. On the m. of July 1st

* This tincture contains also some bitter orange-peel and a little serpentaria; they do not seem to have played any part in the poisonous action exerted by
—Eds.

was seen by Dr. Hills in the absence of Dr. Yale. He found the patient stupid or half conscious, with flushed face and conjunctivæ, and apparently unable to see or hear. Mr. B. remembers Dr. Hills' visit on Sunday, and knows that he was then blind and deaf. Dr. Yale saw the patient on Monday and Tuesday, July 2nd and 3rd. His hearing power improved so much in that time as to become apparently normal, but his vision remained very much impaired. On the day I saw Mr. B., the 3rd, he was groping about his room, apparently in excellent general health. V. R.E. = quantitative perception of light. L. E. counts fingers at one foot. The ophthalmoscope showed lessened size of the arterial vessels; no abnormality in the veins; lessened number of vessels on the papillæ, but no marked paleness. No changes observed in the membrana tympani. The patient was advised to take strychnia in increasing doses and nutritious diet. On July 6th he was able to walk about. V. = $\frac{3}{80}$ each eye, but the visual fields were very much contracted, so that vision was telescopic. On 16th both visual fields were found concentrically limited. The measurements, drawn on a blackboard 14" distant, were as follows:—R. field, vertical, 9 in.; horizontal, $7\frac{1}{2}$ in.; limitation most marked on temporal side. L. field, vertical, 7 in.; horizontal, 8 in.; limitation more regular. B— found this symptom rather novel than troublesome. The optic papillæ looked very pale, and the arteries were narrow. 23rd.—V. = $\frac{3}{80}$ each eye. Patient states that he can see perfectly well in a straight line, but that when walking about room he has some difficulty in seeing small articles of furniture. Sept. 10th.—The same condition is maintained. The strychnia was taken until $\frac{1}{10}$ grain had been reached at a dose, and was continued for two months. The visual field remains as on July 16th. April 23rd, 1879.—Mr. B—'s condition remains substantially the same. He continues to abstain entirely from the use of alcohol, and carries on a large business successfully. His vision is still $\frac{3}{80}$ each eye. The visual field has increased somewhat in the l. eye. It now measures 9 in. vertically and 16 in. horizontally. F. of R. E. 6" vertically, 9" horizontally. Limitation most marked at upper inner quadrant. The optic disks are pale, and the arteries small. There are no other ophthalmoscopic appearances.

Remarks.—Mr. B— had taken no alcohol for some months prior to his beginning the use of the cinchona, and he took none until he became unconscious on the fourth or fifth day. Although he went about and transacted business on the fourth day, he has no recollection of what he did. When found, he had an empty bottle (holding a quart) in his room, labelled and giving positive evidence of having contained cinchona. He certainly did not take many drinks, if any, after he reached the hotel, for the clerk, knowing his former habits and supposing him to be suffering from an ordinary debauch, refused to answer his demands. It is not known that he took anything but the cinchona at any time after he began the treatment of the alcohol habit. We have here, then, a case of hyperæmia of the vessels of the ear from the use of cinchona and alcohol—a hyperæmia which passed away without going on to an exudative process; but the same condi-

CHININUM.

tion in the vessels supplying the retina continued until a true vaso-
with its consequences, resulted. The future condition of this part
even if he never resumes the alcohol habit, cannot be regarded with
anxiety. It is to be feared that in time the macula may be insuffi-
nourished from further contraction of the vessels. The perip-
parts of the retina have now very little, if any, perceptive power.
nerve is perhaps undergoing atrophy. It is, I think, undoubted
many experiments, among which are my own, that cinchona causes
at least temporary hyperæmia of the vessels of the base of the brain.
I am fully aware, however, that, although certainly there was absolute
no loss of sight until the poisoning by cinchona occurred, there
have been changes in his circulation induced by alcohol prior to the
attack, and I also do not forget that there was enough alcohol in the
preparation which he took to prevent the case from being a typical
of cinchona poisoning, yet the quantity must have been too small to
have added much to the effect of the other drug. He may, however,
have drunk considerable brandy on the day of which he has no recollection,
and some also after reaching the hotel. Certain it is, however, that
he reached the unconscious state upon doses of the tincture of
cinchona alone. Imperfect as is the case in some respects, it nevertheless
think, be regarded as a contribution to our knowledge of the effect of
cinchona upon the nutrition of the eye. (ST. JOHN ROOSA, *Archiv für
Ophthalm.*, viii, 392.)

4. I was called to see a man æt. 35, who had taken within
about ʒij of china in small doses. He was complaining of headache,
found temp. of 101°, and a slightly flushed face. Next d., temp. rose to
104°, and a papillary eruption had appeared all over the body; there
was no itching, but a burning sensation; pulse irregular, 85. The
fever subsided in 3 d., and rash faded without desquamation. (F
N. Engl. Med. Gaz., xxiii, 270.)

CHININUM.

(See vol. ii, p. 122, 737.)

II. 22. A woman, æt. 23, having taken ordinary doses of cinchona
for a week, took a large unknown quantity. 8 h. later, there was
face; pinched, bluish nose which was cold to touch; respiration
stagnant; pulse slow and feeble; mild delirium; unable to recognise
voices, but would answer questions intelligently, she thought
was a moving steamboat in her head. Pupils dilated, and eyes were
expression and sunken. A tendency to become frightened at
objects, attributing frightful shapes and appearances to in-
objects. Imagined that her l. eye had become too large for its
and lay on the rim of its orbit, and that any movement of the
would cause it to roll out on cheek. This distressed her, until she
replaced the eye in orbit. Urine scanty; dark red, nearly brown,
much burning pain on micturition. Later a shooting pain devel-
radiating from l. eyeball and l. hip joint as centres (relieved by Sp

Patient recovered, but remained very anæmic for weeks. (HONAN, *N. Am. Journ. of Hom.*, April, 1890.)

23. A young married lady, recently from Indiana, summoned me for a severe attack of "chills and fever." She told me almost at first that she could not take quinine; that her father—giving the name of an Indianapolis physician, whom I knew by reputation—had despaired of using it in her case. She said, further, that it *poisoned* her; "it is as if every drop of blood and every tingling nerve were in my skin." There was great heat, œdema in some places, especially in face and hands, great increase of cutaneous sensitiveness; all followed in a few days by desquamation of the cuticle. With these accidents were associated more or less of gastric disturbance, and, upon one occasion, violent and repeated vomiting, headache, and delirium. Altogether, the suffering was so great, she said she preferred the "chills and fever," and that her father had no resources for her except the imperfect and slowly-acting arsenic and strychnia. As my patient was intelligent, I related to her the course I had pursued in several similar previous cases, and proposed it for herself. It consisted in giving quinine in greatly lessened doses. She accepted my proposition, but evidently with fear and reluctance. Four to five grains for the 24 h. acted with full therapeutic power, but still produced a light attack of the skin disease—enough to suggest alarming results should the usual one to three grammes doses be prescribed. She made a satisfactory recovery. (HENRY M. FIELD, *N. Y. Med. Record*, Nov. 30th, 1878.)

24. L., gentleman of 34, full habit, dark hair and eyes, dark complexion. Had a history some 10 years ago, of which, however, there have been no traces for six years past. On Sunday, Jan. 28th, 1883, the patient took 4 gr. of bisulph. quinine. Twenty-four h. after there came bright red patches over wrists, forearms, knees, and ankles, varying in diameter from $\frac{1}{2}$ in. to 2 in. They were surrounded by a colourless border, about $\frac{1}{4}$ in. in width, and were attended by severe burning sensation, though no itching. The entire appearance resembled very greatly the result of a bee-sting. In 48 h. the spots came to have a mixture of bluish and yellow colours, and with some of them very considerable sacs of fluid had collected beneath the epidermis. The fluid was amber in colour, alkaline in reaction, and contained about 25 per cent. of albumen. On Wednesday inflammation had materially disappeared, and the unopened bullæ began to shrivel. During the first 2 d. the temp. of the patient, under the tongue, made slight variations from 101° F. On the 3rd d., it fell to 99 $\frac{1}{2}$ °. The pulse was at no time much above the normal. During the first 2 d. there was also some nausea, and a little inclination to diarrhœa. On the 4th d. the places were rapidly drying; temperature and the various functions quite normal. Friday, the 5th d., the spots of raised cuticle peeled off.

The foregoing is a fair epitome of what had occurred seven or eight different times before, always distinctly attributable to the use of quinine, and on two different occasions the amount taken was a half grain. The dark, bruised look does not disappear from the skin short of full 3 months. (E. P. FOWLER, *N. Y. Med. Times*, xi, 34.)

25. Miss M. P., æt. 46, never married. Dark eyes, hair and complexion, slight build. Have attended her in three different attacks, the last one being in 1879, commencing upon May 15th. She had been twice poisoned from the effects of quinine before she became my patient.

a. Shortly after she first came under my professional care, I once gave her 2 gr. of the bisulphate before each meal. The next day there appeared over upper part of breast, upon arms and about knees, patches of angry-looking inflammation, studded with little watery elbow vesicles. There was a sharp fever—I have no record of the exact temperature—and some diarrhœa. In point of time the eruption pursued the same course as in the case just detailed, and the eruption continued for some weeks. At this time the patient did not inform me that she had twice before been affected in a similar manner, and I therefore did not associate the eruption, &c., with the taking of the quinine.

b. The next fall I again one day gave her 6 gr., with a repetition, essentially, of the results just described. She then told me that she had undergone two similar experiences before she came under my treatment, and I, of course, advised her against any future use of quinine. The last time, in May, 1879, she was again affected in the same manner. She said she had taken no quinine, and it was only after some investigation that I fell upon the fact that she had, just before the trouble appeared, taken some elixir of calisaya. I was sufficiently interested to visit the druggist where the calisaya was obtained, and was confidentially informed that it contained sulphate of quinine.

Since that time I have, upon several different occasions, given to the patient tinct. of cinchona, but with no similar results. (*Ibid.*)

26. Mrs. J. G. F., æt. about 60; has had several children, has gray eyes, dark hair (now gray), and complexion inclined to brunette. Father and two aunts were asthmatic. She herself has always had more or less eczema of eyes, nose, ears, hands and abdomen.* The lady became a patient of mine about 20 years ago. A year or two after that time, she took, of her own accord, some quinine, for the purpose of breaking up what she supposed to be fever and ague. She was at that time in the country, and I did not see her; but she described the effect as a "chicken-pox, or a poison-ivy eruption all over the body, especially upon the arms and legs, which lasted the greater part of a week." The patient was so firmly convinced that it was due to the quinine that nothing would afterwards induce her to take it. Some four seasons ago she was in the country, and had occasion to call for medical aid. The doctor was told that she could not take quinine, but regarding it as a whim, he gave her 6 or 8 gr. without her knowledge. A few h. after she was taken with severe vomiting, and the next day blotches came out over various parts of the body, more especially upon the arms and legs. Some of them were vesiculated, and two at least formed blisters containing fluid. The recovery was much the same as in the other cases I have given, only it occupied some 8 or 9 d. (*Ibid.*)

* The two former patients were also more or less liable to eczema.

27. Mr. J. H. This case is that of a gentleman who was under the professional care of the late Dr. John F. Gray many years ago, and who is now deceased. From his brother I obtained the following particulars: The gentleman was a spare man, middle aged, blue eyes, brown hair, dark eyebrows and beard; with a clear, white complexion. He was a Southern planter, and had repeatedly resorted to the use of quinine for intermittent fever. The poisonous results in the way of eruption and asthma were invariable, and they had often been endured because the quinine would break the ague promptly, and the unpleasant effect of the drug would never last longer than 6—10 d. In this case, the eruption and asthma would not appear before 48 h. after commencing the quinine. The following is an extract from a letter written by his brother: "I have to rely altogether on my memory about Jerry's case, and so you must not expect it to be very full or satisfactory. I know that he used to take quinine to break up the chills and fever, and every time he did so it brought out an eruption like blisters all over him, and gave him bad asthmas. I thought the cure was worse than the disease, but he did it because the quinine would stop the ague, and the blisters and asthma would go away in about a week or so. He never had the salt rheum or tetter, nor the asthma at any other time; but I have had a kind of moist tetter—so the doctors call it—almost since I can remember, and our father had both tetter and phthisic. I do not now think of anything more that I can say about brother J., only that blue spots would remain for a long time when the blisters came." (*Ibid.*)

28. In the "Reports on the Progress of Medicine" in the *New York Medical Journal* for Aug., 1878, is a notice of several cases, in which, after the administration of quinine in moderate doses, a profuse exanthem appeared which lasted several days, and was followed by desquamation lasting from two to three weeks. Two of the cases were observed by Prof. Koebner, of Breslau. In one case there was a repetition of the phenomenon after a repetition of the dose. Dr. Ricklin, who reports the cases in the *Gazette Médicale*, was able to discover only four analogous cases in medical literature. But the "Report" states that Dr. Pflueger, of Berne, found the eruption to appear after the administration of the decoction of cinchona as well as after sulphate of quinine. In one of the cases the eruption resembled urticaria, but in this case the desquamation lasted three weeks. In all the cases the general symptoms were severe and even alarming; in one, that of a physician who took a gramme of quinine for facial neuralgia, "there was intense fever, delirium, dyspnœa, and all the signs of pulmonary congestion." Dr. Ricklin considers these cases important, "especially in view of the large number of pretended relapses of febrile exanthemata, particularly of scarlatina, which have lately been recorded." Serious symptoms following the use of quinine are so rare (though not unfrequently alleged by non-professional persons, especially those under the care of homœopathic physicians) that the writer deems it of sufficient interest in this connection to refer to a few cases which came under his own observation a few years ago while practising in Cold Spring.

a. A delicate laundress in the employ of a neighbour of the writer required a tonic, and when he proposed quinine she stated that it had

produced dangerous symptoms when administered on a former occasion. One of the ordinary elixirs of calisaya was accordingly prescribed, and in a diminished dose. On his return home after an absence of some h., his associate, Dr. G. W. Murdock, informed him that the first dose produced very unpleasant symptoms, and that, after the second, he was summoned and found her in a comatose state, with cold extremities, hot head, and symptoms of cerebral congestion. He combated these alarming manifestations with vigorous measures, including cupping of the temples, hot stimulating pediluvia, &c., and was obliged to remain with her before she was out of danger. She afterwards informed the writer that a sister had been similarly, but not so seriously affected by a small dose of quinine.

b. Soon after this occurrence, the writer prescribed a moderate dose of quinine for a female domestic in the family of a gentleman boarding at Garrison's. He then proceeded to West Point, and some h. after, on his return, met a messenger who had been sent to find him with the message that the girl had been taken suddenly very ill. He found her recovering from the attack, which had presented symptoms similar to those above narrated, but in a much milder degree.

c. A lady patient of the writer's in the same neighbourhood informed him that quinine always weakened instead of strengthening her. He tried the experiment with small doses without her suspecting it, but she soon detected it by the peculiar prostration which it produced. He then tried the citrate of iron and quinine, but even this was detected in the same manner. At about the same time a case occurred in the practice of a medical acquaintance on Staten Island. A lady patient informed him, when he proposed to administer quinine, that it had always produced alarming symptoms; he, however, rather ridiculed the idea, and said he would give her a small dose and remain with her to observe its effect. He did so, and soon had reason to regret his experiment, as he was himself alarmed at the symptoms. What they were the writer did not learn, as the case was related to him by a friend of the patient. (LEUBE, *N. Y. Med. Record.*, Nov. 16, 1878.)

29. Dr. ROSENBUSCH, of Lemberg, reports a recent case of acute quinine poisoning which he had observed in the hospital of that city. After the administration of 1 grm., patient was attacked with shivering, tinnitus aurium, severe headache, coldness and pains in extremities, palpitations, and vomiting, with great prostration. An h. later he became unconscious, temp. (which had never before exceeded 38.7°) rose to 39.7° ; * pulse was 158 and compressible; pupils contracted but reacting to light; tongue dry. Skin of face and whole body presented a uniform redness resembling that of scarlet fever. Resp. was difficult. Castor oil, caffen, and cold compresses to head and heart were ordered. On following d. temp. was only 36.5° ; pulse 108, with considerable arterial tension. Patient had had a restless n., and with delirium; bowels had acted towards m.; rash was paler, pupils had regained their normal size, and tongue was red and coated

* For other cases in which quinine, given in apyrexia of intermittents or during typhoid, has occasioned paroxysms of fever, see *Month. Hom. Rev.*, xxxii, 666.

with yellow patches. Sensations of tearing and trembling in extremities were complained of. Bromide of sodium was given. Rash and other symptoms disappeared in 2 d., and only a slight pigmentation of skin remained. (Patient stated that 5 years previously he had a similar attack after taking two $\frac{1}{2}$ grm. powders. On that occasion rash disappeared the following d.) (*Brit. Med. Journ.*, May 5th, 1888.)

CHININUM ARSENICOSUM.

(See vol. ii, p. 152, 738.)

I. 3. H. L. NORTHROP, æt. 21, tendency to itching eruptions of skin. 1st d., took 1 gr. of 1_x trit. 2 h. after breakfast, soon followed by itching on neck and scalp lasting 40 m. 1.20 p.m., sharp pain in head, beginning in l. frontal region, shooting towards occiput, and followed by dull sore feeling along track of pain, lasting several m. Itching again on head and sole of l. foot. 1.40, intense tired feeling in l. side over middle and lower ribs, like side ache, lasting from 15 to 20 m. 4.10, dull heavy pain in l. side of head while sitting, relieved by walking. Pulse slow and irregular. 5.5, itching, relieved by scratching and then reappearing elsewhere. At 5.20, while bathing, itching of almost entire body; when using towel felt sore spot over triceps of r. arm. In m. nearly whole of cutaneous surface over triceps was bright red, somewhat swollen, and had a burning tender feeling like sun-burn. 5.45, intense itching in a small spot on outer side of r. leg. 8, dull pain in r. lateral half of head, followed by desire for stool which was relieved by passage of much flatus. 11, itching reappeared, aggravated by warmth of bed or bedclothes. 2nd d.—10 a.m., sharp transitory pain in l. leg. 2.30 p.m., dull continued rheumatic pain in l. shoulder-joint, aggravated by lying on l. side. In e. transitory attacks of pain in l. shoulder, leaving locality tender. Appetite increased throughout d. Soreness over r. triceps continues, causing burning feeling when touched. (*Trans. of Amer. Inst. of Hom.*, 1888, p. 149.)

4. C. W. BENEDICT took 1 gr. 1_x trit. An h. later felt slight dull pain in l. temple, occasionally a shooting pain through r. temple. This was followed by a dull ache in vertex, lasting an h., and attended with slight nausea. Slight constipation. Appetite improved; food seemed to taste better than usual. No further effects. (*Ibid.*)

5. T. L. MACDONALD, æt. 27. Took 1 gr. 1_x trit. at 6 a.m. 8.30, sudden and violent urging for stool, evacuated with prolonged gush until bowels were empty; stool thin, brown and painless. 10.30, similar stool; less watery. 3 p.m., dull heavy headache, frontal and occipital, continuing until bedtime. 2nd d.—Headache of similar kind. In e., a peculiar burning ache about sphincter vesicæ and through urethra. 3rd d.—No symptoms. 4th d.—Dose repeated; no symptoms. 5th.—Dose repeated at bedtime; was called up at midnight and could not sleep for 3 h. on returning to bed. 7th d.—Same dose. Constipation, stool dark and lumpy. Dull heavy ache in cerebellum, worse from slightest motion. 8th d.—Less constipated. Dull, stupid

feeling in head, lasting from noon until bedtime. 9th d.—Four soft stools. Headache slight in m. 10th d.—Stool hard again. 11th d.—Same dose. Slight cerebellar headache p.m. and e. 12th d.—Same dose. Urination more frequent. Slight dull ache in frontal and occipital regions, lasting till noon. Stool very hard, voided with difficulty, aided by pressure of finger on tip of coccyx. 13th d.—No symptoms. 14th d.—Same dose. Increased micturition and more frequent. 15th d.—Bladder had to be emptied during n., having had nocturnal emission (probably from distended bladder). Slight headache in m. No further symptoms. (*Ibid.*)

6. a. MILSON R. ALLEN, health good, uses tobacco and coffee in moderation. 1st d.—Took 2 gr. of 6x trit. at 10.30 a.m. Woke at 3.40 p.m., after an h.'s nap, with feeling of being extremely tired. During e. had dry mouth and much thirst; drank 6 glasses of water 6—11 p.m. 2nd d.—Thirst continued up to noon, with exhilarated feeling. At noon severe peculiar feeling about heart, as if a hand suddenly grasped it, and, holding it for a moment, let go; the symptoms recurred for a period of 7 m. 3rd d.—Renewal of heart symptoms; no other effect.

b. After several weeks took 2 dr. of 6th dil. in m. About 1 p.m. became exceedingly evil-disposed; quiet anger with everybody without cause; did not care to converse with anyone, rather finding fault when he did so; imagined he was in a fight with several students, and how he would act had two of them jumped upon him. This idea continued all afternoon, ending in marked nervousness, hands trembling exceedingly, muscles of arms and legs twitching now and then. At 3 p.m., pains in both l. and r. chest resembling those of pleurodynia, remaining about an h. They were short, lasting only a m. or more; pressure upon chest when they were present gave sensation of soreness; they were dull, aching, as from pressure, with feeling as if he wanted to lift tight-fitting undershirt from chest, and undo vest, which seemed to relieve. 2nd d.—Nervousness still continues, but not so markedly; mental symptoms have disappeared. Noticed during m. occasionally that objects he might be looking at steadily seemed as if trembling; this would only last for a second or two. Just before dinner had severe pain in r. instep. During afternoon feeling of general soreness came on in l. kidney; seems quite deep, and worse when sitting very erect, better when reclining. Memory seems impaired; had to work hard to retain or remember what he had read. 3rd d.—Urinated at 1.45 a.m., and only once afterwards in d. (at 3 p.m.); urine concentrated. General feeling of lightness about head all d., and feeling of exhilaration. No further symptoms noticed. (*Ibid.*)

7. a. EVERETT B. FINNEY, 1st d., took 2 dr. of 6th dil. at 12 m. Soon felt sense of warmth all over body, with fulness of head, followed by slight sickly sensation. Throat soon became dry, and thirst developed, remaining great all d.; appetite increased. 6 p.m., slight pain in stomach. 2nd d.—White glairy discharge from nose; some cough; slight pain in bowels; thirsty all d.; unable to keep mind on studies as usual; temp. and pulse not affected. 3rd d.—Soon after awaking at 7.30, spell of coughing, with free expectoration and glairy nasal dis-

charge; pain in bowels after breakfast, relieved frequent pain in bowels, getting worse until relieved brown stool. Breathing not satisfactory, wants take into lungs. Discharge from nose, and cough continues all d. Another small stool, p.m., present which are relieved by sitting. Difficult to concentrate unusually tired on going to bed. 4th d.—Dry little expectoration. Severe stitching pains, as followed by similar pains in præcordia, worse on breathing; it seemed as if air inspired was inspired stairs, short breath and palpitation; pulse at times the shortness of breath and accelerated pulse course became better when at rest. Occasionally some tremities felt weak; seemed unable to stand 1 5th.—N. good, and next d. felt quite well.

b. After 2 mo. took 1 gr. of I_x trit. at 5.4 nauseated, and had sinking sensation at stomach dose at 6.45 a.m. Empty feeling soon empty bowels as from gas; head feels heavy and d slight pains in r. leg below knee; all symptoms headache mostly right-sided, but shifting about limbs; feeling in throat as if a piece of mucus hawking, but he could not accomplish it. 3rd weak; sharp pain in l. temple at times; dull head; head feels too full, as if it would burst, open air; pulse slower and weak; some dry cough and high-coloured. 4th.—Diarrhoea this m., had stool brown, liquid, and containing jelly-like region, quite severe when walking. Could eat some dinner, and immediately thereafter had which was watery and blackish; some pain in head and irritable. 5th d.—No symptoms, save slight appetite improved. 6th d.—Awoke feeling well at 9 a.m. P. m. hiccup and belching, followed 7th d.—At noon felt nauseated and depressed sneezing. In e. better, so that on retiring he had Only symptoms were pain of drawing chair upper and lower jaw, l. side; and dry, hollow effects. (*Ibid.*)

8. a. JOSEPH RODES, in good health, uses smokes occasionally. Took 1 dr. of 6 dil. symptoms during d., but awoke from sleep at inferior angle of r. scapula, worse from movement. Soon fell asleep, but when he woke again at After breakfast pulse was quicker than usual, 2 d. felt soreness in r. brachialis anticus when used 3rd d. felt well.

b. After four weeks took another dose of salpharyngo-laryngeal catarrh set in, and had not 10th d. (As this result is so different from the

do not think it well to give the detailed symptoms, but content ourselves with noting the general fact for possible verification.—EDS.)

c. After 10 d. more again repeated dose, at noon. At 12.30 hiccup. Appetite not good for dinner; slight disgust for meat. 2nd d.—Stool small, hard, light brown in colour, and difficult to expel. 3rd d.—Stool same. 4th d.—Bowels right again, and felt well in every respect. (*Ibid.*)

9. G. H. HAAS, normal health, uses no stimulants—coffee disagreeing. Took 1 dr. of 6th dil. without effect. After 12 d. made a solution of 10 dr. of same in 12 teaspoonsful of water, and took 2 teaspoonsful every 2 h. from 9 a.m. to 7 p.m. At 10 p.m. experienced burning sensation in stomach, and passed much flatus per anum. 2nd d.—Awakened at 5.30 a.m. with pain in abdomen below umbilicus, of gnawing character, urging him to stool at 5.45. Stool fæcal, with mucus and blood, with considerable tenesmus before and during stool, lasting about $\frac{1}{2}$ h., with a little discharge every now and then. Nausea and empty retching during stool. Pain relieved by stool. Foul taste in mouth. 7, same abdominal pain, with urging to stool; more mucus and blood; tenesmus before and for some time after stool; no nausea on retching; pain relieved by stool. 11, same abdominal pain, stool &c. 3rd d.—7 a.m., slight pain in abdomen below umbilicus, relieved by a large stool, which was fæcal, with little mucus, slightly tinged with blood. No impairment of appetite all the time, and no alteration in pulse-rate and temp. 4th d.—Stools normal; no symptoms of any kind. (*Ibid.*)

CHIONANTHUS.

Chionanthus virginica, L. Fringe tree. Nat. Ord., *Oleaceæ*.

1. *Provings*.—Dr. SCUDDER, in good health, save for some aphasia, took 30 dr. of a strong tinct. at 1 p.m. 2.30, sensations of contraction in stomach, as if some living thing was moving in it, with uneasy feelings in hepatic and splenic regions, and rheumatic pain in l. ankle and tarsal bones. 3, unpleasant sensations in stomach and hypochondria have much increased; feeling like spasm or throbbing in stomach; uneasiness about sigmoid flexure as if from flatus; tongue yellow in centre; pulse morbidly smaller and weaker; rheumatic pain at carpo-metacarpal joint of l. thumb. At bedtime evacuation of black, tarry-looking fæces. Slept well. On waking had pain for a short time in spine, from 7th to 10th dorsal vertebræ. (*U. S. Med. Invest.*, *iii*, 562.)

2. I gave medicine to Mr. G— with about the same result, and to Mrs. N., who found a single dose of 10 dr. produce all the sensations named in so unpleasant a form that she could not be induced to repeat it. In this case there was feeling as if bowels were about to move violently, from the action of a purgative, with the nausea usually associated with such an action; there was, however, no discharge from the bowels. (*Ibid.*)

3. I made my tincture from the bark of the fresh root, just after the tree had flowered, and let it stand for six weeks before decanting. July 10th, 1882, 9.30 a.m., I took 1 dr. of the tinct., after having taken the 12x and 6x potencies, one day each, without any effect. I continued taking the tinct. each h. during the d., increasing each dose 1 dr. till 5 dr. were reached, then increased each dose 5 dr. till 25 dr. were reached, but without any effect whatever. 11th.—I began with 30 dr. at 9 a.m., and increased dose 5 dr. each h. till I reached 3j, and took 3 doses of 3j each. I retired at 10, feeling perfectly well. I woke up at 4.10 a.m. on

12th with very severe headache—chiefly in forehead and just over eyes, especially l. eye. Eyeballs exceedingly painful, feel sore and bruised; cutting, twisting pains all through abdomen. I turned over and lay with my face downward, which seemed to relieve the abdominal pains somewhat, and after a while I went to sleep. I woke up again at 8.30, feeling very sick and badly all over; head very sore all over and through it; heavy dull feeling in forehead and drawing or pressing at root of nose. I felt so weak I had to sit down awhile before I could finish dressing; never before felt so sick at my stomach. Bitter eructations, great nausea and retching, with a desire for stool. I finished dressing and looked at my tongue, which was heavily coated and of a dirty, greenish-yellow colour. I started downstairs and had a very violent attack of nausea and a great deal of retching before I could vomit. It seemed as though there was a "double suction" in my abdomen, one trying to force something up and the other sucking it back, till finally, by quite an effort, I vomited a tea-cup full or more of very dark green bile, rather ropy, I think, and exceedingly bitter. The bile all came up with a single gush, and I was "through." Immediately a cold perspiration broke out and stood in beads on my forehead, and I felt very weak. Desire for stool gone after vomiting. I had a sore, weak, bruised feeling all over the small of my back; felt very weak when standing or moving about, better sitting or lying down. No appetite for breakfast; but my stomach felt so weak and empty that I drank a cup of coffee and ate half a biscuit, which relieved to some extent. 9 a.m., am so nervous I cannot keep still, and can hardly write down my symptoms. 9.30, back in lumbar and sacral regions so sore and weak I could hardly walk from the car to the office; every step seemed to jar my whole body and made my headache worse. 10, have been quiet for $\frac{1}{2}$ h. and feel somewhat better; have pressing or squeezing sensation in bridge of nose, some constricting feeling in temples with throbbing temporal arteries. 10.30, just come from stool; the first passed was watery, but the last was more solid in appearance; stool terribly offensive, like "carriage;" heavy, all-gone sort of feeling low down in hypogastrium; colour of stool was dark brown, with pieces of undigested food in it. 11.30, just got home and feel very badly and weak. My head and back ache considerably, and I feel "played out" generally. 12, forehead and cheeks very hot and dry; radial pulse 114. Chilly sensations darting through body from front to back, causing a sort of shivering or involuntary jerking; forehead feels like a hot coal of fire to my hand; headache in forehead and over eyes relieved by pressing with hand, but I cannot bear it long, for my head seems to get hotter from it; am exceedingly nervous, cannot lie still; involuntary jerkings in different parts of body. Roof of mouth and tongue feel very dry, although there seems to be the usual amount of saliva present. No thirst at all. I went to sleep about 12.20 p.m., and was awakened at 2 for dinner. Could not eat anything; I tried, but it nauseated me; could only drink a cup of coffee; headache worse after waking; pulse 88; head not quite so hot; body feels chilly, and I had a shawl thrown over me; went to sleep again about 3.30. I was told that, at 4.15, my head and face were covered with a profuse perspiration, and my carotid arteries pulsated very hard and rapidly; I got up at 5 and bathed my face in cold water, and felt somewhat better, though head and back ache considerably and feel quite sore; eyeballs feel bruised. 6.30, weak, empty feeling about stomach, which was relieved for a while by eating some crackers and drinking a cup of coffee; pulse still 88. At 8.15 had an action from my bowels; during stool, griping and cutting pains in abdomen, about and below umbilicus; stool thin, watery, blackish-brown colour, and very offensive. I retired at 9.30, and had to have extra covering thrown upon me, I was so chilly; while my room-mate lay without any covering at all. My head feels sore and bruised all over, and the small of my back is exceedingly weak, and feels, when I touch it with my hand, as though the skin was all off. 13th.—I was very nervous and restless last n. after going to bed; didn't go to sleep till after 12, and woke up several times before daylight, with pains in head, abdomen, and back; got up at 8 this m., my head feeling sore and bruised; the bruised feeling seems to go some way into my brain now; every time I move, cough, or laugh, it seems as if my head would split open and fly in every direction, my back is not so painful this m.; I couldn't eat much breakfast; stool this m. was quite copious, watery, dark brown, and not so offensive as yesterday. 9.30 a.m., headache better; several times this m. I have had attacks of cutting or griping pains in my intestines, in and about umbilical region; my tongue is very

heavily coated in the centre with a thick, yellowish fur, tip is light red, and on each side of tip there are several little places that look as though blood was about to ooze from them; tongue feels drawn and shrivelled up in centre. 4.30 p.m., the only symptom this m. was a dull, sore, aching feeling in umbilical and iliac regions, occasionally changing for just a m. or so to a severe griping, relieved somewhat by the emission of flatus. My face has a yellowish appearance; from the outer to the inner canthus there is a reddish-yellow streak about $\frac{1}{4}$ in. wide in whites of both eyes; blood-vessels of sclerotic coat are very much enlarged and distinctly visible. 14th.—I suffered considerably after 5 p.m. yesterday and last n. with the pains in my abdomen, and they are more severe this m. than yesterday; it feels just like a string tied in a "slip-knot" around my intestines in the umbilical region, and every once in a while it was suddenly drawn tight for a minute or so, and then gradually loosened; stool this m. was very thin, watery, and rather flaky, flaky portion was dark yellow, fluid portion dark green, with a light green foam or froth on top, streaked with a white, mucous-looking substance; flatus and fæces passed together; some pain in bowels during stool, and a hot, scalded sensation in anus, which lasted 15 or 20 m. after stool; during stool cold perspiration broke out on forehead and back of hands; took quite a while to pass stool, and then only a small quantity passed; eyeballs feel bruised and the whites have a yellowish cast all over, though the "bands" are still very distinct; my skin is quite yellow to-day, and I feel very much fatigued generally. 15th.—Stool about natural this m.; same feeling in abdomen, though not so severe; no new symptoms. 16th.—The only thing unusual which I noticed to-day was the passage of considerable offensive flatus; a greater quantity after retiring than during the d. I noticed no more symptoms after that n. (J. Z. LAWSHÉ, *N. Am. Journ. of Hom.*, May, 1883.)

CHLORALUM.

(See vol. ii, p. 152.)

I. 8. Effect of Chl. upon the circulation within the skull was ascertained in two persons having a traumatic defect of the frontal bone. Its first effect was found to be anæmia of the brain, probably in consequence of vascular paralysis and dilatation at the periphery (skin, &c.). The supervention of sleep coincides with hyperæmia of the brain from the gradual extension of the vascular paresis to its vessels. At the end of sleep and in the first portion of the waking state a decrease in the volume of the brain occurs, as well as an increase of vascular tonus that passes gradually into the normal. (CAPPELLI and BRUGIA, *Neurol. Centralbl.*, 1866, No. 14.)

II. 20. In a case of aggravated dysmenorrhœa in a nervous (probably hysterical) subject, Dr. BENDER gave $\mathcal{E}j$ as a palliative. It produced a tingling warmth all over the body a few moments after ingestion; and soon the pains descended to the feet and disappeared. Nearly an hour's freedom from pain followed, simultaneously with hysterical feeling attended with immoderate laughing. Shortly afterwards "heavenly sleep," in her own words, set in, lasting 5 h. No pain returned for 3 h. more; there was loss of motor power, which hindered her from moving even a finger, and mental confusion. Throbbing headache of congestive type ensued with intolerance of light, for which she received bell. Headache increased spite of the medicine until 4 p.m., just 19 h. after the dose of chloral, when with the violent pains drowsiness supervened, preceding sleep for a few m., and then a wake up with a start, head so much worse that the patient would beg to be

kept awake. Objects and persons appeared distant and small, and the flowers on the wall-paper very red, luminous, and glaring. When addressed she would barely answer, and with difficulty, relapsing immediately afterwards into unconsciousness, to wake up quickly with a start, and a request that she should not be allowed to sleep. I prescribed lach., which quieted her within a short time, leading to fitful, successive naps. Till 31 h. afterwards she felt under the influence of the hypnotic, elated and inclined to laugh, although at the time very weak—the laughing tendency unusual. She also complained of the head feeling very large; after two doses of lach., she asked her attendant if her head was not diminishing. (*Hahn. Monthly*, vii, 506.)

21. On May 15th, a lady æt. 35, in 7th mo. of pregnancy, had a febrile attack with repeated vomitings; and next d. an eruption came out on neck, hands, and legs. When Dr. PIEDVACHE saw her on 17th this had extended all over body. It consisted of minute papules, like those of variola on 2nd d., non-acuminated, of vivid redness, which disappeared under pressure. On forehead they were rather larger, and rest of face was slightly swollen. There was intense general pruritus; tongue, mouth and throat were coated, with salivation; pulse 120, large and full; temp. 39°; skin very dry; no headache. A cough which she had had for 4 weeks, but which had much diminished, was now worse, with anguishing pain under sternum, and fine sub-crepitan râles all over l. side, here and there on r.; percussion normal. It was ascertained that she had had a short attack of same character, but of short duration, some 12 d. before; also that for the cough she had during three weeks past been taking a syrup of Chl. Not suspecting this, Dr. Piedvache did not order its discontinuance and only prescribed aconite. She accordingly continued to take the syrup for 3 n. more. 18th.—General state worse; temp. 40°; marked prostration; complete insomnia; agitation and sub-delirium at n.; dyspnœa and sub-sternal anguish, incessant cough, expectoration slightly bloody, very fine mucous râles in l. lung, sibilus in r. Chills all m. Itching intolerable; papules much enlarged and gathered into groups, in some places resembling erythema papulata. Their colour is very deep, but disappears under pressure; scratching does not whiten them. Face is more swelled, especially in eyelids, which are reddened, with injection also of ocular conjunctiva and some photophobia. Lips very swollen and hard, their free border much cracked. Abundant salivation. On buccal m.m. a discrete aphthous eruption here and there. Tongue somewhat enlarged, dry and cracked on dorsum. Slight œdema of velum palati, which is dark red; much dysphagia. 19th.—Papules larger and more numerous; skin in face and extremities swollen as in variola; intervals of healthy skin are of as dark a red as the papules; eyes are closed, lips enormous and somewhat everted; salivation abundant. In the labio-gingival fold the aphthæ have become elongated ulcers, with grey base, extremely painful and making breath offensive. Aphthæ were seen in pharynx also; swallowing was nearly impossible; there were momentary attacks of suffocation. Tongue was visibly swollen. Cough very frequent, and expectoration still sanguinolent; but râles were larger. Temp. early in m. was 38° only; but between

11 and 12 a prolonged rigor took place, and thermometer at noon marked 40° ; no sweating. (That e. grm. 0.75 of quinine were given.) 20th.—N. not quite so bad, and symptoms slightly less severe, but buccal ulcerations are larger. At noon, rigor recurred. Merc. corr., 2nd trit., was administered, with grm. 1 of quinine at n. The chloral was now suspected and stopped. N. was better; but there were attacks of dyspnoea, with acute pain under sternum. Other symptoms unchanged, save that febrile paroxysm was much weaker and later. Arsenicum was substituted for the merc. corr., and the quinine repeated. On 22nd all symptoms had begun to improve, which they continued to do henceforward. Prostration was very great for some d. The skin underwent desquamation repeatedly during days from 24th May to 4th June; but skin remained somewhat discoloured. On this last d., patient ventured to take, for toothache, a spoonful of the syrup at bedtime. During n. she felt poorly and suffered from itching; in m. she found whole surface of raspberry hue, with slight oedema of face and eyelids; there was nausea, anorexia, and a febrile state. All this had gone off by next d. (*Bull. de la Soc. Méd. Hom. de France*, xxvi, 163.)

22. Among the most striking features of chronic chloralism is muscular weakness, which is particularly manifested in the legs. There is such marked debility that on attempting to walk patient appears to be paralysed. There is no special group of muscles affected, but a general loss of power in the limbs. This paresis may also manifest itself in the upper extremities. There is feeble action of heart, with cold extremities and tendency to profuse sweating; pulse is accelerated, but weak, arterial tension reduced. Active delirium, like d. tremens, has been observed from prolonged use in increasing doses; but more commonly patient becomes constantly dull and dreamy; will power seems completely wanting; judgment and intellectual faculties are impaired. The vaso-motor centres lose to a certain extent their functional powers. This is partly shown by the condition of the cutaneous circulation; the extremities become cold and blue, and various inflammations of the skin occur. Sugar may appear in the urine, although it is not constant—at least I cannot say that I have found it so. (DA COSTA, *Med. Times and Gaz.*, 1883, ii, 168, from *Phil. Med. Times*, March 24th, 1883.)

CHLORUM.

Chlorine gas, pure or dissolved in water (Liquor Chlori).

I. *Provings*.—1. Small doses of chlorine water, equal in strength to 1_s, were taken for 2 d. Symptoms appeared in the following order, beginning on the 2nd d.:—Weakness and languor, indisposition for mental or physical effort: later, the stomach felt as if enormously distended and filled with fluid; sensation as if stomach hung loosely in abdomen, and it would gurgle and shake about on motion; a dragging in epigastrium as if stomach hung too heavily and was not properly supported. About 3 a.m. on 4th d. contents of stomach were suddenly

and forcibly ejected through mouth and nose. This was not preceded by nausea or any premonition. There followed extreme prostration and death-like nausea. Great thirst, but water would be thrown up immediately. Vertigo as though being revolved through space, turning over and over—while lying it was as if the bed were turning to the right—no position could be assumed to overcome the feeling. A dull heavy headache was followed by one with some throbbing in temples, pulse full and hard. Great prostration led to abandonment of proving. (HONAN, *North Amer. Journ. of Hom.*, April, 1890.)

II. *Poisonings.*—1. Accidental inhalation of large quantities of chlorine. The immediate effects were of asphyxia, and 4 h. after accident, following symptoms were noted:—Intensely bright red throat, worse on r. side, with superficial blue vessels over red ground; pain in larynx aggravated by using voice; feeling of foreign body with constant effort to extricate it by hawking—each effort, no matter how frequently made (about 15 times a m. at first), would bring up a quantity of frothy mucus that looked like beaten white of egg.

The patient is in a state of anxious excitement; can hardly control himself, wants to relieve himself quickly or fears a serious condition will surely arise; tries to keep still knowing that there is no real occasion for alarm, but the presentiment of impending danger continues to return. Throat and larynx feel lifeless, and yet there is some pain. The parts feel as if sprinkled with impalpable powder which prevents phonation. This condition lasted 2 d. Some pain and distress developed in chest the next d.; he could map out the trachea and its bifurcation by the sense of soreness and rawness. (*Ibid.*)

2. In 1850, after submitting to the manipulations of a dentist, I was advised to wash the mouth with a solution of chlorine. Scarcely had the liquid been received into my mouth, when I became sensible of a spasmodic action of some part of the respiratory organs of the following character:—Inspiration was unimpeded, and could be effected in the natural manner, but expiration was absolutely impossible, apparently from a closure of the rima glottidis. Inspiration was accordingly repeated, and was accomplished fully and easily, although the act was attended with a slight crowing noise. Expiration, which was again attempted, was impossible as before. By these successive operations the lungs became inflated to a most painful degree; but so firmly did the glottis appear to be closed, that it seemed as though air might pass through any part of the thoracic walls more readily than by way of the larynx. This arrest of respiration having endured for about a m., the face becoming turgid and livid, the spasm relaxed, and respiration became free again. (CARROLL DUNHAM, *Hom. the Sc. of Therapeutics*, p. 490.)

3. In 1852 I had the opportunity of witnessing the effect of a strong accidental inhalation of the gas by an adult. The same phenomena, of free, but crowing inspiration, and of absolutely obstructed expiration, presented themselves; the face became extremely livid, convulsive movements of extremities began, and patient became partially comatose. I administered ammonia by olfaction, the spasm relaxed, and consciousness returned along with normal respiration. (*Ibid.*)

4. Dr. S. A. JONES accidentally inhaled the gas. An asthmatic attack immediately followed, regarding which the following notes were taken at the time:—At once tightness of chest, whistling-wheezing cough, some dyspnœa. Dyspnœa rapidly increasing, profound sense of impending suffocation; cough with expectoration of thick, white, frothy mucus. Dyspnœa still increasing; great (physical) anxiety; inspiration easy, but not sufficient to fully inflate lungs, and attended with a short rattling-crackling râle; expiration difficult, prolonged, and as if insufficient—as if air-cells were hardly half-emptied, it is accompanied by prolonged loud whistling râles (not one sound only but a combination of several), and each pulsation of heart gives a *crescendo-diminuendo* effect to them. Constant cough, bronchi apparently filled with thick, tenacious mucus; no relief from expectoration, chest seemed to fill again at once; when coughing he felt as if he must vomit (though there was no nausea), and warm sweat broke out on forehead. Was restless; desired to walk about; could not be easy either lying, sitting, or walking; it seemed as if whole attention must be centred on act of respiration; cold open air gave no relief. Nose discharged mucus freely. There was sensation in lower third of l. lung as if it was ruptured, as if air escaped into pleural cavity at each inspiration, accompanied by a râle of its own, whose vibrations could be felt by the hand and heard by the bystanders. All this took 2 h. in enacting. After 2½ h. chest felt sore interiorly, especially on coughing; whistling râles, which are quite loud on a forced expiration; chest still oppressed. Throat sore from uvula to bronchi. After 2½ h. expiration easy and noiseless, inspiration a little difficult and attended with râles; feeling as if rima glottidis were stiff—as if made of an iron ring; cough seldom; no expectoration, but a little hoarseness; at each cough, a spot in chest (region of r. bronchus) feels sore, as if cough jarred and hurt it. When dyspnœa was at its worst it was attended with feeling as if a narrow band was drawn tightly around lower third of whole chest. For 2 d. after, throat and chest were sore and voice was hoarse. (Dr. JONES is hereditarily subject to asthma; hearty laughter gives him a fit of wheezing, and a whiff from an ignited sulphur match entails an hour's semi-suffocation.)
(*N. Y. Journ. of Hom.*, II, 249.)

CITRUS VULGARIS.*

Bitter orange. Nat. Ord., *Aurantiaceæ*.

II. *Poisonings*.—I have examined all the workers (women) who for the last 15 years have been occupied in peeling oranges at Clermont. Of 41 who have been thus engaged, only 12 have been exempt from any effects. There thus remain 29 observations; I will cite the most important.

* Dr. IMBERT GOURBEYRE calls the orange whose effects he has observed "chinois." The "China orange," however, is one of the sweet varieties; whereas he is avowedly writing about a bitter orange, and these all come under the heading of *C. vulgaris* or *bigaradia*.—EDS.

1. Æt. 47. Had worked 8 years. Had never failed to experience more or less inconvenience, such as dazzlings or weakness of sight; heartburn; headache, with nausea; insomnia; agitation; cramps; general itchings. Sometimes she had eruptions of papules all over, red, not suppurating, but bleeding when scratched; also large red patches. There was great fatigue in all limbs, especially in arms. Once the l. hand swelled up, and remained thus—with itching—for 15 d., improving only when work was suspended. In spite of weakness, there was a sort of vivacity in her limbs, so that, once at work, she wrought so to speak irresistibly. She frequently felt drawing pains and horripilations. In resuming (Dec., 1849) her occupation after an interval, it soon happened that as she entered the workshop she was taken with suffocation and sweats, and at same time nausea and itching. Before this, however, she had had twitchings of l. side of face, lasting about 2 m., and returning 50 times a d. At last, feeling herself worse and worse, she ceased work and remained at home. Two d. later, while washing some linen, the "vivacity" came upon her; the more she washed, the more she wished to wash and could not restrain herself. She was then taken with a general trembling, and fell. Her whole body was convulsed, but chiefly l. side of face; shoulders also were much affected. She scraped the ground with her feet and overturned everything. Consciousness was not lost. This attack lasted $\frac{1}{4}$ h., and she remained oppressed all the d. Next d. a similar attack occurred on putting hands in water. She continued ill all winter, and did not go out, feeling great fatigue, and being always sleepless. The least excitement made her worse; she wept continually, and fancied herself crippled. There were frequent drawings in the limbs, and desire to stretch; often also headache and abdominal heat. She worked no more with the oranges, and all symptoms disappeared; but ever since their very odour would affect and indispose her. (IMBERT-GOURBEYRE, *Action Phys. des Oranges Amères*, Clermont, 1853.)

2. Æt. 35. Had worked for 2 years, when she was obliged to leave off, and seek medical aid. She had throughout suffered from her head; also from her teeth, 7 or 8 of which had become carious and easily broke away—pains extend from them into tongue, with shootings and noise in ears. Sometimes she felt for an instant drawing pains in face; now the nose was drawn back; now there was twitching below eyes, and her companions perceived it. She yawned frequently involuntarily, and was constantly feeling as if just upon being suffocated. Palpitation, with rising in throat and suffocative feeling. Always after resuming work she had for the 1st d. vomiting or great nausea, also anorexia and great thirst. Every e. on coming home, she complained of her head and stomach; shivered while going to bed, and as soon as warm was very agitated, and uncovered herself; slept little, and woke with starts. There were drawings in limbs, especially at n., or at the least contradiction; cramps in limbs; horripilations. During 2nd year l. hand became swollen, and red, without papules or itching: it gave her no pain, but its movements were constrained. (*Ibid.*)*

* Seven more cases are related in detail.—EDS.

3. Analysing all the observations I have collected, I can now give a general table of the symptoms experienced by the workpeople.

a. They are liable to headache, either general or partial, often pressive in forehead; sometimes it is a kind of intoxication accompanied by vertigo, at other times a well-marked hemicrania, most frequently on the r. side. The headache is often accompanied by nausea and sometimes by vomiting.

b. There occur also true neuralgiæ of the face, either general or confined to the temples, with lancinating or gnawing pains. These also are most frequently right-sided. Sometimes the facial pains are actual toothache, continuous, and associated with caries and wearing away of the teeth. Sight is at times simply weakened. Noises in ears are frequent, as of a bell or of a mill, but without deafness. Once I observed swelling and redness of the ear-lobes. There are in some cases drawings on one side of the face, a kind of epileptiform spasms—transient and frequently recurring.

c. There is often suffocation, thoracic oppression, painful sense of choking at upper part of sternum; at times strangling sensation in throat, and pleurodynia. I have observed nearly always frequent and irresistible yawnings; and in the stomach malaise, heartburn, weight, failure in power, sometimes frequent eructations and thirst.

d. Sleep is commonly much disturbed and dreamful—there is waking in starts, impossibility to find a comfortable position, burning heat.

e. The limbs are often the seat of drawings and horripilations, with desire to stretch the legs and to twist the hands. The whole muscular system is affected. Sometimes there is general contraction and weight on the shoulders; cramps, usually local; crampy pain in wrists; general excitement, with brusque and rapid movements.

f. There is, moreover, pruritus, usually confined to upper extremities, with swelling and redness of hands; also eruptions of red patches on divers parts of the body, or vesicular ones on the whole arms, but chiefly on hands and between fingers; and sometimes an erysipelatous swelling of the face. (*Ibid.*)

COCA.

(See vol. ii, p. 261.)

I. 20. A singular statement respecting the effect of C. on the voice has been made by Dr. Sandras before the Société de Médecine pratique. He says all C. preparations and cocaine, used either through atomizers or in infusions and inhalations, have a disastrous action on the voice of singers. It is a great mistake, he thinks, to go on repeating that C. sharpens and strengthens the vocal cords, since, on the contrary, it will slacken and deaden them through the paralysis of the extensor muscles, as many singers have found to their cost. To better illustrate the truth of his averment, Dr. S. stopped speaking for a moment, and before the meeting drank a tablespoonful of "coca wine," swallowing it slowly

and by small portions. Now speaking again, his voice sounded much altered for the worse; the words were husky, low, and scarcely audible. (*Med. Counselor*, Nov., 1889.)

COCAINUM.

(See vol. ii, pp. 270, 747.)

I. 7. Dr. DA COSTA, in experimenting with C. hypodermically, gives the following results: No effects were produced until at least m viij of a 4 per cent. solution were injected; in some instances gr. $\frac{1}{8}$ — $\frac{1}{4}$ was used. The general sensibility was only slightly altered. The temp. rose, not abruptly however, from 1° to $1\frac{1}{2}^{\circ}$, and was maintained thus for several h. The effect on the circulation was to render the pulse fuller and stronger, while its rate may be increased or diminished; in a few instances no change in frequency was noticed. In the sphygmographic tracing, the higher vertical line of ascent and the more pointed summit showed increased force of cardiac contraction; while the sudden fall in the line of descent, and a well-marked dicrotic wave, indicated rather a lessened than an increased arterial tension. Pupils were speedily dilated, and uncertainty of vision was complained of. (*N. York Med. Times*, June, 1885.)

8. I began with 1 gr. (hypodermically) at n. The result was pleasant; I felt happy—happier than before on that d. But I did not sleep until 4 a.m., and had a severe headache. The exhilaration was about equal to that given by two or three glasses of champagne. Next m. I took 2 gr. with the same result, and—in addition—an inordinate disposition to write. I wrote 8—10 pages of foolscap, and thought it was unusually good—the best I had ever written, in fact; but when I read it over next m., though each sentence was complete, the ideas were incoherent. The 3rd n. I took 3 gr. My energy then turned to talking; I made speeches to myself. Still, I could restrain myself; I had a splitting headache. After 4—5 d. I injected 6 gr., 3 into each arm. I was upset; I did not lose my relation to events, but could not sleep. After 3 n. I injected 8 gr. with the same result. The next n. I put in 18 gr. in six injections. I am not sure I was conscious of what I did after that; I was intensely exhilarated. I got to bed somehow. When I rose things were generally mixed; I had not arranged my papers, &c., as usual; I presume, from appearances, I had had a pretty lively time all by myself. I had headache, and my heart beat so that I could feel it and hear it when I raised my arm. But there were none of the horrible effects attributed to cocaine, no disposition towards violence. I acquired no habit, and left off easily. (*HAMMOND, N. Y. Med. Journ.*, xlv, 637.)

II. 8. Ten gr. were injected in an inebriate. The action of the C. ensued in 15—25 seconds, arriving at its height in less than an h.; in 2 h. effects were almost gone, and reaction gradually followed. The drug had a very decided effect upon the heart, pulse gradually rising from its normal standard to 120—130. Appetite was destroyed;

also obstinate constipation was produced, lasting many d. and hard to overcome. The secretion of urine was arrested for the time, and the sexual function suspended. (BAUER, *N. Y. Med. Record*, 1885.)

9. A young woman snuffed up about 3 gr. of the muriate. In 15—20 m. she became dizzy, vision grew dark, and a sinking sensation occurred, with great weakness. The doctor found her in a semi-comatose condition, from which, however, she was easily roused to a clear mind. Temp. was above normal, skin hot and dry; pulse very rapid and so weak as to be scarcely discernible. Pupils were widely dilated. Deglutition and articulation were difficult. There was some dyspnœa. She complained of dryness of fauces and bitter taste in mouth; also of cold shivers, her teeth chattering. Later she became drowsy; eyes were closed and muscles of face affected. There was great weakness, she could not support her head; also some nausea, but she did not vomit. She recovered in about 3 h. under stimulants and digitalis. (KENNICOTT, *Ibid.*)

10. Preparatory to an intranasal operation, pledgets of C. were introduced into the nostrils on several occasions. On each application the patient, a man of 35, mentioned a cold, "gone," relaxed feeling about the external genitals, and a sensation as if the penis were absent. Towards end of treatment he noticed a permanent weakness of the sexual organs, and finally seminal losses and impotence set in, and continued until the C. was entirely withheld. (SCHADLE, *Medical Register*, Aug. 11th, 1888.)

11. A man suffering from chronic tubercular disease of kidneys and urinary passages took by mistake 20 gr. of C. in ʒj of water. What the initial effects were is not known, for it was not till nearly an h. had elapsed that the nurse, hearing patient make some unusual noise, had her attention drawn to him. It is said that there was some arching of the back resembling opisthotonos, and a convulsive movement of the limbs. Consciousness was to some extent retained almost up to the fatal issue, which occurred in about an h. after swallowing the solution. The *P.M.* appearances were mainly those of the patient's disease; but it may be mentioned that lungs and brain were congested, with some serous effusion beneath arachnoid, and that cavities of heart were neither contracted nor dilated, and all contained blood-clot. (*Lancet*, Feb. 9th, 1889.)

12. M. MAGNAN, at the Société de Biologie, lately described 3 cases of chronic poisoning by C. characterised by marked mental and sensory disturbance. The first was one where C. had been substituted for morphia for relief of renal colic. After 2 mo. use of the drug patient began to suffer from illusions of sight and hearing and neuromuscular irritability. He discontinued the C. for 6 mo., reverting to morphia; but on resuming it the illusions recurred, patient feeling imaginary blows on body, or something under skin, with a certain degree of analgesia. At end of a short time he had an epileptic seizure. In the second case, one of hepatic colic, the same substitution of C. for morphia had been effected, and produced very similar effects, also terminating in an attack of epilepsy. The third case also presented hallucinations of sight and hearing, sensation of foreign bodies beneath

the skin, and slight analgesia. M. Magnan pointed out that in its action on sensation and the sensory organs C. seemed to resemble the alcohols and absinthe rather than morphia, with this difference, that whereas the influence of C. poisoning seemed to operate on the cerebral cortex from the occipital lobes forwards, alcohol and absinthe appeared to affect the cortex in the reverse order. (*Ibid.*)

13. A retired druggist had for many years been a hopeless victim to the morphia habit. This drug was suddenly withdrawn, and hypodermic injections of 1—1½ gr. of C., twice daily, were substituted. The result was brilliant and marvellously rapid. The craving for morphia immediately ceased, and the distressing phenomena usually following the sudden cessation of the use of the drug failed to manifest themselves. But I was somewhat alarmed at ascertaining that a corresponding demand for C. was rapidly developing itself. I sought to diminish the quantity, and finally to disallow the use, of the new poison, but in vain. He daily became more and more enthralled, often taking 20—30 gr. daily. About this time he sustained a severe concussion of the spine, and came under my daily observation. I found the teeth implicated in the ravages wrought by the drug, decay and absorption of the roots occurring. The appetite was completely abolished; there was sense of dryness of mouth and fauces, but they were moist on inspection. Although very little nourishment was taken, the body did not emaciate in any corresponding degree. Insomnia was the rule, and one not followed by the exhaustion ordinarily thus produced. Nausea, and excitation of the sexual functions, added to the patient's distress; and visual and auditory hallucinations, and illusions of a painful character, made him fear that at every pass he would encounter some dread object. (BANDING, *N. Y. Med. Journ.*, 1885.)

COFFEA.

(See vol. ii, p. 301.)

II.—9. A strong and vigorous man, in the absence of his wife, prepared for himself some coffee. Ignorant of the quantity to use, he made the infusion very strong, using about ʒiiss of the ground berries. After 2½ h. vertigo came on; this was followed by severe headache and tremors, limited at first to the head, and then becoming generalised. To these symptoms was subsequently added flushing of face, great palpitation, nausea and vomiting. A doctor saw patient about 6 h. after ingestion, at which time the most prominent symptom was general and intense tremor, especially noticeable in hands and face, and rendering speech very difficult to comprehend. Face was deeply flushed, and forehead bathed in perspiration. There was much præcordial pain, but heart-sounds were normal. Pulse 100, very full and bounding. Patient frequently micturated. After potass. brom. sleep was induced, and symptoms gradually declined, man being convalescent in 3 d. (*Medical Press and Circular*, June 12th, 1889.)

COLCHICINUM.

(See vol. ii, p. 343.)

III.—1. C. produces in animals complete loss of sensibility, due to paralysis of both peripheral and central nerve-endings; hence reflex excitability is abolished, but motor nerves and muscles retain their excitability till death ensues. Heart continues to pulsate even after the paralysis of the central nervous system has commenced; blood pressure remains long unchanged; and paralysis of the inhibitory nerves of the heart occurs at a late period. Respiration becomes gradually less frequent until it is entirely arrested. In warm-blooded animals, especially in cats, the mucous membrane of the whole gastric and intestinal tract is swollen and strongly injected, and the intestines contain bloody mucus. There is diarrhœa, vomiting, and colicky pain during life. The kidneys are strongly hyperæmic and their secretions diminished. The action of C. is slow. Death occurs only after several h., and amount of dose has scarcely any perceptible influence on the intensity or rapidity of the action of the poison. (SCHROFF, *op. cit.*)

COLCHICUM.

(See vol. ii, pp. 316, 748.)

III.—2. Dr. ROY, of Vevey, reports experiments made on cats by intravenous and hypodermic injection. He observed severe diarrhœa, and, *P.M.*, great congestion of the intestinal canal—a veritable enteritis. These phenomena were due to the elimination of the C. and not to a nervous action or a general augmentation of circulatory pressure. The red and white corpuscles found in the stools showed that actual transudation of the liquid constituents of the blood had occurred. (*Archiv. de Phys.*, 1878, p. 655.)

II. 2. (This case is correctly and fully given up to l. 18, but then ends too abruptly. The following is the sequel, *verbatim* :)

After 3 h., in addition to above symptoms, he had pain in back; at 9 p.m. his abdomen was tympanitic. Nov. 2nd.—He had the appearance of a moribund person, great weakness, pulse very small and quick, face Hippocratic, of an earthy hue, hands and feet cold, abdomen tympanitic, vomiting and diarrhœa occasionally, evacuations as before, no blood in them. Voice low, but consciousness perfect; pressure on abdomen caused no pain, only anxiety. The pains along the back and in heels continued along with the anxiety and dyspnœa. Consciousness continued till death, which took place at 10 a.m., 39 h. after taking the drug. *P.M.*, 29 h. after death.—Face much sunken, abdominal integuments green coloured and greatly distended by gas. On cutting open abdomen some fetid gas escaped. Intestines enormously distended. The whole of the small intestines, especially duodenum and jejunum, showed on their peritoneal coat brown spots; had greatly injected blood-vessels, and a diameter of at least $1\frac{1}{2}$ inch.

Their m.m. considerably inflamed, most so near the stomach. Swelling of Brunner's and Peyer's glands to the size of a lentil, and puckering of the m.m., which, however, could not be detached by the handle of the scalpel. The contents of the bowels resembled the stools. The whole mesentery was inflamed, its blood-vessels greatly distended with black blood like the large vessels of the abdomen. The stomach was distended to 3 times its proper size, its peritoneal coat dark red with spots of still darker red. It contained an immense quantity of fetid gas, and about 3 cupfuls of fetid yellow fluid; its m.m. was dark red, nearly brown, much thickened. The coats of stomach and bowels were firm and not perforated. The colon was only distended by gas, but not inflamed. Other internal organs sound.

CONIUM.

(See vol. ii, p. 371.)

II. 18. An inquest was held on a child of 8 mos. For irritability from teething a mixture had been ordered of \mathfrak{zj} of ext. conii, \mathfrak{zj} of potass. brom., and \mathfrak{z} iss of chloroform water. Of this the child took a teaspoonful at 8 p.m. The effect soon became manifest, and by 11.30 symptoms were so alarming that Mr. Freeman was hastily summoned. On his arrival he found lower extremities completely paralysed, occasional twitchings of arms and head but no decided convulsion, marked dilatation of pupils, lividity of face, and diaphragmatic breathing. Attempts to induce vomiting were fruitless, and death occurred at 3 a.m. *P.M.* showed much congestion of organs generally; marked increase of serum in cerebral ventricles and beneath arachnoid: strong injection of membranes of cord. *R.* heart was distended with semi-coagulated blood; bases of lungs gorged, and surface marbled with patches of congestion, collapse, and acute emphysema. Surface of liver presented numerous groups of punctate extravasation. Other organs healthy. Opinion was given that death resulted from paralytic asphyxia. [Although bromide of potassium was mixed with *C.* in this case, it obviously played little or no part in the fatal result; so that we feel justified in giving it as a case of hemlock poisoning.—*EDS.*] (*Lancet*, July 25th, 1885.)

CONVALLARIA.

(See vol. ii, p. 390.)

I. 1. *b.* A year and a half later, *DR. LANE* proved 3rd dil., with which he saturated discs so that each would absorb 1 dr., and took one of these every 2 h. from July 1st at 4 p.m. up to 3 p.m. on 24th. 7th.—“Each d. since I commenced taking drug have had 2 stools a d. To-day, 3—5 p.m., very sleepy and weak. A small excrescence, size of millet-seed, formed on l. index, which, after being pricked with a pin, bled quite profusely, and could with difficulty be stopped from doing so; the bleeding caused a faint feeling, and I turned pale. During d. whenever I would feel a little cold I would have a chill. During the chill I would be very nervous, so that hands would tremble. 8th.—Again very sleepy 3—5 p.m. 10th.—Smarting of *t.*

eye for a few m. at noon; grieve very easily; felt sleepy about 6 p.m., while sitting; food did not seem good. 11th.—On waking, eyes felt dry and as if lids internally were rough; this lasted till 10 a.m. Food did not taste as well as commonly; appetite diminished; very sleepy after dinner. 13th.—Quite nervous; hands tremulous; grating of teeth in m. on waking. 15th.—Pain to l. of umbilicus when walking a short distance; food does not seem clean and fit to eat; thirsty, drinking much water, especially e.; feeling sleepy and lazy. 18th.—During dinner, colicky pain in umbilical, extending to r. lumbar, region; still 2 stools each d. 19th.—Colic in hypogastrium this m. before I got up, lasting till bowels moved. 21st, 10 p.m., after urinating aching in region of bladder, as if bladder was over-distended, with aching and lame feeling in back after lying down. 22nd.—A.m., urine passed since p.m. yesterday examined. Colour light brown; odour strong, as of fresh fish; sp. gr. 1030; acidity normal; slight mucous sediment after standing; no albumen or sugar. 24th.—Skin all over body feels sore on awaking and after rising; pain in lumbar region, as if muscles were bruised. 7, headache, commencing in forehead; thirsty, drinking copiously and often; no appetite, ate little. 8.30, shortness of breath while walking; fever had begun at 8.15, and temp. was now 104 $\frac{1}{2}$ °, pulse 124; frontal headache, dull and heavy, and severe dull aching in lumbar region, as if back had been pounded. I went to bed, and though I kept eyes closed all the while I could not sleep, but would hear everything; legs ached during fever, which lasted till about 10 a.m., when I commenced to sweat. During the fever I could not hear as well as usual, ears seemed stopped; could feel heart beat throughout chest. Whenever I would move any part it would cause a chilly sensation all over body. Motion would aggravate the headache, but I felt better after moving about and talking. Skin felt rough while washing after the perspiration. 12.15, legs ached; dull, heavy pressive headache in forehead; had to step very light, as least jar would aggravate it. Back ached severely, as if it were bruised or broken. Temp. 104°, pulse 106. 1.30, temp. 102°; back and head better. 2.20, same; pulse 92; urine dark. 3, mind dull, can hardly think of the remedy I want to prescribe for a patient; headache aggravated as before, and from walking up a hill, which also caused dyspnoea. 4.30, coppery taste in mouth; dulness and headache still. 7, headache gradually passed away after supper. 10, urine very dark and strong. 25th.—Feel well this m. save for frontal headache when jarring head. At times during d. pricking sensation on forehead, as if touched with nettles, worse after getting warm; no eruption. At 4.30 p.m. began to be feverish, and therewith headache on jarring grew more severe. Thirst during first part of fever; trembling of legs and hands throughout, aggravated by a draught; coppery taste in mouth. 5, temp. 103 $\frac{1}{2}$ °, pulse 106; hot feeling in thorax and hypochondria; weak, empty feeling in pharynx, extending to stomach; dyspnoea during fever, with desire to draw a deep breath; very slight backache. 6, tired out after walking, with aching in legs and back and aggravation of the headache; urine scanty, dark, and smells like cow's urine. 7, appetite poor; sleepy; headache relieved by keeping quiet; dyspnoea. Cold chills would commence in back and run down spine, from a draught of air or a drink of cold water (which was felt all the way down oesophagus); sensation as of bubbles of air passing through water from symphysis pubis to r. hypogastrium; dull colicky pain across umbilical region. 8, pulse 100; gurgling in umbilical region; still aching in legs, mostly r. and below knee; headache more in r. temple,—later, hawking made pain very severe. 26th.—Chilly all n., aching at times. Before getting up, dull pressive headache in forehead and temples, more on r. side; chills ran along back at any movement, which also aggravated headache; sick feeling at stomach. On rising at 7.15, commenced shaking all over body; ends of fingers pale, rest of hand mottled purple and white; lips purple and sore, covered with hydroa; headache quite severe, aggravated by jar as before; hair sensitive to touch. Water tastes bitter; no appetite for breakfast; tongue felt as if scalded on drinking warm coffee; thick clammy saliva in mouth; aching in back and legs. Chill lasted about an h. Nausea and other symptoms continued through it. 9.30, desire for stool without effect; soreness of anus on straining, as though it were raw; urine scanty and very high coloured. Had to walk very slowly, from weakness, and very lightly, to avoid jarring head. Eyes felt heavy, but on closing them when walking would stagger or move sideways. Dulness of intellect. After walking about a mile had to lie down and rest. Easily chilled. 12.30, some fever since chill, but not high. On getting up about 12.15

staggered and felt weak; appetite poor; desire for lemonade or something acid. Felt better at dinner; but at 2 temp. was $102^{\circ}6'$; tongue coated yellow at base, tip and sides dotted red, tip feels as if scalded. 3, temp. still 102° ; pulse 97 and quite weak; head hardly aching now, but feels dull; aching of lumbar region and of r. big toe; urine lighter and more profuse. 5, cramps in l. calf when walking; hair still sensitive to touch; coppery taste in mouth; do not care to talk. 6.30, appetite for supper very good; lips near l. corner of mouth are very sore, and covered with small hydroa; same on edge of l. nostril. 10, very small stool after prolonged urging, as if rectum were inert; tenesmus after stool. Very well all e., save for backache and weakness; and also next m., but there are fever blisters on lips, feeling raw, and sensitive fine red points on tip of tongue. Another rigor occurred at midday, while sitting in a draught (weather being cold and damp), followed by heat commencing on back between scapulæ in a spot about 4 in. wide, then extending to r. side of head, then all over head and down back, and passing away in reverse order; finally, about 4, there was slight perspiration. During chill there was pressing aching sensation at anus with desire for stool, though nothing but flatus passed, and raw feeling in pharynx when inspiring; he felt dull and sleepy, and inclined to lie down. During heat, sensation as if bladder was over-distended, with passage of only a small quantity of urine. Attack was followed by headache as before, also distension and soreness of abdomen. In n. epistaxis, waking me from sleep. Felt weak on getting up in a.m. Appetite not good. Chill at 8 a.m., beginning and always worse in back; it lasted 1 h., when it gradually merged in heat, this subsiding in same manner about 11. and ending in slight perspiration. I felt well enough during rest of d., though somewhat weak, especially in back, and feeling pain in region of gall-bladder taking a deep breath or raising arms. 29th.—On getting up early head commenced aching severely; pain was better after lying down for another h., and gradually passed away about 8.15 a.m. Appetite poor. Sample of urine of last 24 h. showed dark colour, strong and offensive odour, sp. gr. 1024. Some weakness and occasional headache continued during next 2 d., and the hydroa was still present. Trembling of hands, which commenced early in the proving, continued for 5—6 weeks after omitting the medicine. (*Hom. Physician*, June, 1885.)

4. Mrs. L. SAUVAGE, æt. 25, in good health, took gr. $3\frac{1}{2}$ of crude plant at 7.30 a.m. 7.45, sharp pain in sacrum. 8, pulse 110; uneasy feeling about heart. 8.30, pulse 95; nausea, quite persistent. 9, pulse very changeable; vomiting copious urination. 10, pulse 80; tired bruised feeling all over; vertigo, which continued all d. Troubled dreams at n. Next d., pulse variable, at 7.30 a.m. took 10 gr. 8, could not eat breakfast; sharp pain in sacrum. 9, sharp pain in l. chest with every breath. 10, copious urination. 11, vertigo. 12, headache at vertex nausea; cold sweat about waist. Two d. later, took 30 gr. at same h. 8, lame backache. 8.15, pulse 92, changeable. 9, headache at vertex. 9.30, sick all over; very tired, pain in bowels. 10, pulse varies from 98 to 80, even when she is quiet; this continues all d. Restless sleep at n. After 2 d. more repeated last dose with similar effects; also feeling as if she had taken cold; sore bruised sensation all over. She was feverish towards n., but had no thirst. (*Trans. Amer. Inst. of Hom.*, 1885, p. 162.)

II. 1. Dr. R. D'ARY has noticed in some cases, from the administration of C., an intense redness and soreness of the tongue, which looked like raw beef, granular and quite clean, patient at same time complaining of tenderness of stomach. (*N. A. Journ. of Hom.*, Jan., 1886, p. 197.)

CROTON.

(See vol. ii, p. 447.)

II. b. Prof SCHUBY narrates that when semina tiglii were handed round, one of his students swallowed a small particle, about 0.06 gm., at about 8 a.m. At first taste was not disagreeable; but after a few m. it became like that of a mouldy walnut, and he spat it out. After 10 m., during which he had constantly to swallow, he felt burning and

scratching at posterior part of tongue, and all down pharynx, with sensation of heat. In 15—20 m. this sensation extended down œsophagus to stomach. Severe intolerable pains of drawing character now attacked the empty stomach (he had not yet breakfasted), with nausea and cold sweat on forehead. Intestinal peristalsis was strongly excited, and about 9 a.m. he had severe colic, with constant desire to defæcate. In going home he had to stop at a tavern to relieve himself; evacuation rapid and watery. To remove burning in throat he ordered a light breakfast, but could not eat it, as he had again to hurry to the closet. Going home he had to stop again at another place, and during forenoon he had about a dozen evacuations. (*Allg. hom. Zeit.*, May, 1889.)

CUPRUM.

(See vol. ii, pp. 465, 753.)

34. *a.* April 17th, 1886. MARION O., æt. 16. For several d. has complained of pain in lumbar region, worse at rest, better on motion. All last n. had fever with severe pain in bowels, and since 2 a.m. has had several loose stools. At 10 a.m., temp. 101°. Complaints of headache made worse by every motion. Thirst with dry parched lips. Some pain in bowels and back. (Bry.) 18th.—No fever or headache; menstruation appeared this a.m., one week late, dark and painful. Stools continued profuse and frequent during d. yesterday, but has had only two since 3 a.m. Tongue white. Bad taste in mouth. (Puls.) 19th.—A good deal of pain all yesterday. Frequent stools, especially from 4 to 8 p.m.—none since 9 p.m. Slight pain in abdomen this a.m. (Lyc.) 20th.—Only three stools for last 24 h. Weak. Temp. 97°. White tongue. Very restless. Frequent thirst; drinking only a little at a time. (Ars.) 21st.—Feels much better. No pain or diarrhœa. (Continue.) 23rd.—Languid. White tongue. Thirst. Dry lips. No stool for 3 d. (Bry.) 26th.—Gains strength. Again complains of pain in back and shoulders when at rest, better on motion. R. shoulder droops a little, and scapula prominent. (Rhus.) 30th.—No satisfactory movement of bowels yet. Tired and languid, but less pain. (Bry.) May 3rd.—Does not gain much strength. Bowels still constipated. (Chin. ars. 3x, and hydrast. 1x gtt.v in half a glass of water in a.m.) 7th.—Improves steadily. (Continue chin. ars. 3x.) Constipation relieved.

b. LUCY O., sister of case *a.* April 21st, has felt weak and languid for some time, with backache and pains in limbs, worse at rest. Better by motion. Now has colic, and thin fecal stools relieving pain. (Coloc.) 22nd.—Has had 5—6 stools in last 24 h., preceded by gripping pains. Stools of bloody mucus, followed by entire relief of pain. This a.m. unsuccessful urging. (Continue colocynth every 2 h., and take one dose of nux 30th n. and m.) 23rd.—No stool for last 24 h. Unsuccessful urging. No pain. Continue nux to-day, and then return to phos. acid, which she had been taking previous to attack for frequent dull headaches aggravated by any mental exertion, and for

general languor and indisposition for exertion either physical or mental. 26th.—Improves in strength. Head much clearer and stronger. No stool. (Continue phos. acid, with an occasional dose of bry.) 30th.—Much better. Constipation relieved. (Phos. acid.) May 7th.—Feels better, but complains of heaviness in occiput, and deficient memory. (Gels.)

c. May 1st, Mr. O., father of *a.* and *b.* Fever and general muscular pains last n. This a.m. four loose stools without much pain, but now has pain in abdomen and slight headache. Tongue white. (Pod.) 2nd.—Frequent stools yesterday, with a good deal of pain and severe headache. Four stools in n., nearly free from pain this a.m. Head sore, and painful on motion. Stools like frothy molasses. Pain uninfluenced by stools. (Bry. and coloc.) 3rd.—No headache or pain. Four stools in last 24 h. (Continue bry. and coloc.) 4th.—No stool since last n. and free from pain. Discharged.

d. MRS. O. May 3rd.—Tired out. Aches all over. (Rhus.) 4th.—Feels much better. Intermittent pain in bowels. (Continue rhus., and change to coloc. if necessary for pain.) 6th.—Severe gastralgia; pain like a toothache. No nausea or flatulence, no diarrhoea. (Nux.) 7th.—Very little pain since yesterday, none this a.m. (Continue nux.) 8th.—Free from pain. Gains strength. (Continue nux.) 9th.—No pain, but feeling of weakness in stomach with flatulence. (Chin. sulph. 1x.) 11th.—Return of gastralgia. Very nervous and despondent. Frequent painless urination. (Ign. every 2 h.; continue chin. sulph. ter in die.) 12th.—Improving. Continue medicine. 13th.—Gains strength slowly. Some flatulence. (Chin. ars.) 27th.—No severe pain in bowels, but feels as though it might come on at any time. (Cupr. 30th, and take coloc. if pain recurs.) 31st.—Improves. Continue cupr. 30th four times daily.

Having in vain examined the sewerage, water supply, milk supply, &c., for a cause of these repeated attacks, I at length requested to see their tea-kettle, which proved to be of copper, heavily coated on the inside with verdigris. I then examined for the first time the gums of the family, and found them all spongy, swollen and bleeding easily. I now felt justified in giving a decided diagnosis of copper poisoning.

e. MISS MARION O., member of same family, complained of similar colicky pains as characterised the attacks of the other members. Nux was prescribed. 14th.—Rather less pain. It comes in paroxysms with hot sweat. Bowels tender. Three loose stools. (Cupr. 30th.) 15th.—Severe pain, almost constantly; frequent brown watery stools during day yesterday, but none since 5 p.m. Not much pain this a.m. A good deal of tenesmus after stools. (Coloc.) 16th.—Much better. Only two stools for last 24 h., less pain, still frequent ineffectual urging. (Coloc. and nux.) 17th.—Continues to improve. Continue medicine. 21st.—Free from pain in bowels, but constant pain in back and legs, which feel "heavy and dead," knees give out on attempting to walk. Is very weak, can only sit up a short time. (Cupr. 30th.) 24th.—Thick, slimy, bloody mucus in mouth and throat a.m. Continue cupr. 30th. 27th.—Gains strength, less nervous. Much less pain in back and limbs, but has cramps in calves when trying to walk.

Gums less spongy and bleed less. Continue cupr. 30th. 31st.—Improves in strength. No backache. Occasional pain in abdomen, especially when fatigued. No more cramps in calves, but pain in ankles when tired. Continue cupr. 30th every 3 h. (E. H. LINNELL, *Hahn. Monthly*, May, 1888.)

35. (No connection with preceding cases.) June 8th. MR. G. for a year or more has had repeated attacks of severe colic and diarrhœa. Has now a good deal of backache. Thinks he strained it in gymnasium. (Rhus.) 14th.—Back better. (Continue rhus.) 6th.—Slight indigestion. Distress soon after eating. Bowels a little loose. (Nux.) 28th.—No appetite, languid. (Bry.) Nov. 23rd.—Last few days again slight attacks of colic, backache, and neuralgic pain in eyes. Cupr. 30th, n. and m.

In this last case a copper tea-kettle, not corroded as in other cases, but containing a fine deposit of metallic copper on the bottom and sides of kettle, was found in constant use. The water contained in the kettle was analysed by a chemist, and found to contain copper in sufficient quantities to be poisonous. The use of the kettle was given up, cup. 30th continued, and the patient has had no return of colic or backache. (*Ibid.*)

CUPRUM ARSENICOSUM.

(See vol. ii, p. 481.)

II. 4.—E. L., female, æt. 25, took a large but unknown quantity of Paris green with suicidal intent. Excessive nausea and vomiting with great pain and tenderness in epigastrium, followed in a few h. by a state of semi-consciousness from which patient aroused and became very restless. Anterior portion of chest very painful to touch; auscultation shows rough breathing, and percussion diminished resonance. Tongue dry and white with red edges; abdomen greatly distended, tympanitic and exquisitely sensitive. Patient is stupid; bladder had to be emptied by catheter. Urinalysis after 12 h. shows albumen, fat, pus, and epithelium, with complete absence of phosphates. On 2nd d., patient is quiet and lungs almost normal. On 3rd d., tongue is dry with red streak down middle and white edges. (HONAN, *N. Am. Journ. of Hom.*, April, 1890.)

5. a.—Mrs. M. had been working off and on for two weeks in a potato patch, where Paris green had been used. When first called to see her she had been suffering for several h. from distress in the epigastrium, which had gradually increased until it became unbearable. It was remittent in character, exacerbations being accompanied by intense burning and feeling of weight. She described it later as if her stomach were loaded with a thousand red-hot irons, which were clawing her. The epigastrium was somewhat sensitive to pressure, and there had been some vomiting without relief. There was great restlessness and anxiety, patient rolling here and there almost constantly; during the exacerbations she lay on her side, with knees drawn up, fists

clenched, and face drawn in agony. There was no thirst at this time; pulse was 85 and good, temp. 99.2. Bowels were undisturbed. This condition had not come on suddenly, but there had been more or less gastric discomfort on alternate days for 7—10 d. previous, with some sore throat and sensitiveness of eyes.

b. Relief was obtained in about 40 m., and she passed a comfortable n. Next d. she was feeling well, but for a slight headache, and continued thus till the 4th d., when at 8 a.m. she had a slight chill, and at 11 a very severe one—"shaking the bed for $\frac{3}{4}$ h." At 1.30 she was sweating profusely, pulse 110, temp. 103°. There was great and constant thirst for cold water; she would have used it in quantity, had she been allowed. Tongue was coated white. There had been no sensation of heat following the chill. The same nervous restlessness was manifest as in the preceding attack, but with the addition of a foreboding of death. Next d., having had a good n., thirst was much less, and pulse 70. After another 3 d. interval, an attack similar to the first occurred; but burning at epigastrium was less pronounced, and in its stead sharp pains darted across it, leaving aching in their track. Attack was soon relieved, and she passed into a quiet sleep. On d. before some herpes labialis had appeared, and urine had become high-coloured, and deposited a fine brick-dust sediment.

c. Again, on the 3rd d. following, she had a slight attack of gastric distress, which was soon relieved without aid; and since then she had been well. The herpes remained for some d., and also a feeling of weakness. (J. S. BISHOP, *N. E. Med. Gaz.*, xxvi, 193.)

DIGITALIS.

(See vol. ii, pp. 503, 755.)

For several of the foreign provings of *D.* we used Dr. Black's translation in the *Mat. Med., Phys. and Applied*, vol. I. Dr. Dudgeon, however, has gone over these with their originals, and finds the following corrigenda necessary (for which we are indebted to him):

p. 506, l. 2 from bottom, for "In *e.*" read "After 3 d."

p. 507, l. 2 from top, before "4th" supply "Oct."

" l. 3 " read "None of the former symptoms were experienced save nausea and pressure in stomach. Gradually action of heart and arteries increased to such a degree, and there came on such orgasm of blood and palpitation, that on n. of 3rd and 4th d. he had," &c.

p. 507, l. 7 from top, for "rushing and tinkling" read "roaring and tinnitus."

p. 513, l. 23 from bottom, for "standing up" read "rising from bed."

p. 513, l. 19 " after "53" add "There was constipation for 4 d.; vision was impaired, and pupils somewhat dilated."

p. 514, l. 4 from top, read, "He took care to observe condition of urine in normal state for 8 d. before commencing experiment, and of

heart for 10—12 d. Before and during experiment he passed urine usually 5 times a d., rarely only 4 times. Quantity" &c.

p. 514, l. 6 from top, after "1075 c.c." add "Sp. gr. in normal state was 1032—1017, average 1025; reaction acid."

p. 514, l. 11 from top, after "tinct.;" read "while sitting quietly had sudden feeling as if heart stood still, accompanied with great anxiety, for $\frac{1}{2}$ m. Then" &c.

p. 514, l. 15 from top, for "seminal emissions" read "a seminal emission" (and so also on March 19th and April 25th).

p. 514, l. 16 from top, after "in bed", read "m."

" " " for statement as to 10th, 11th, and 12th d. read "10th.—11.30 p.m., 15 dr. N., restless sleep with frequent waking with hot face. Urine 1125 c.c., acid, sp. gr. 1025. 11th.—11 p.m., 18 dr. Pulse 58, unequal, sometimes slow and full, sometimes quicker and smaller. Urine 1040 c.c., acid, sp. gr. 1025.25. 12th.—11 p.m., 20 dr. Pulse, 61; urine 1040 c.c., acid, sp. gr. 1025, soon becomes turbid."

p. 514, l. 28 from top, after "1025" add "M., a vesicular eruption on chin."

p. 514, l. 29 from top, for "1 gr." read " $1\frac{1}{2}$ gr."

" l. 34 " after "fuller" add "A small boil on nape."

" l. 36 " for "25th" read "20th."

" l. 37 " for "quick" read "acute."

" l. 38 " for "taking away" read "oppression."

" l. 2 from bottom, for "quantities" read "quantity."

p. 515, l. 1 from top, for "walks" read "plays the piano."

" l. 2 " for "irregular" read "regular."

" l. 3 " for "In an h." read "For some h. afterwards".

" l. 4 " for "emptiness" read "fulness," and after "stomach" add "as if food would rise up; expectoration of greyish, sweet-putrid mucus".

p. 515, l. 6 from top, after "forenoon" add "Character of pulse is undulating, the several beats not distinctly marked, but running one into another."

p. 515, l. 10 from top, "after "1 a.m." substitute for text "On waking in m. sore pain in urethra. On following days till May 5th had continual erections m. in bed, also after rising; increase of cough and expectoration; and a peculiar oppression on chest, especially after sitting for any length of time."

p. 515, l. 14 from top, instead of "again giddiness and faintness" read "quick and weak."

p. 515, l. 18 from top, for "a.m." read "p.m."

" l. 23 " after "unpleasant" insert "6 p.m., pulse 68, sitting. 10.30 p.m., took 30 dr. After $1\frac{1}{2}$ h. disagreeable pulsating pain in l. side of chest inferiorly, as if in integuments."

p. 515, l. 26 from top, after "chordee" insert "with urging to urinate though there is but little urine in bladder".

p. 515, l. 27 from top, after " $2\frac{1}{2}$ gr." add "at 10.15 a.m."

" l. 29 " for "1050" read "860," and for "1026" read "1025."

p. 515, l. 31 from top, after "prover" add "On 16th, urine, hitherto always acid, was neutral."

p. 515, l. 33 from top, for "14th" read "16th."

l. 34 " after "e." add "felt need to take deep breath, but when he did so felt as though there was an obstacle low down in lungs which prevented their filling with air more than one half."

I. 25. At Dr. Black's suggestion I made a few experiments with a view to determine the action of D. in small doses on the pulse. The subjects were two girls, M. and Z., æt. 14 and 12 respectively, both in good health. I made my experiments with the sphygmograph, which would detect any alteration in the quality of the pulse not ascertainable by the finger. The sphygmograms lie before me.

a. M's pulse before commencing was 84. 1 dr. of 1st cent. was taken. 5 m., pulse 90, took another dr. 7 m., pulse 78; 10 m., 84; 12 m., 78; 20 m., 75. 21 m., took another dr. 23 m., pulse 75; 30 m., 72; 37 m., 72. For comparison's sake M.'s pulse was observed one d. when nothing had been taken. It was at first 84; 5 m. after settling down it was 78, and so remained for 20 m. more.

b. Z's pulse was 96. Two dr. of tinct. were given. In 5 m., pulse was 90; 10 m., 84; 15 m., 78; 20 m., 80.

Character of pulse in both experiments remained the same, as witnessed to by the sphygmograms. (DUDGEON, *Brit. Journ. of Hom.*, xxxix, 279.)

26. I have in some healthy persons observed, after taking a dessert-spoonful of the infusion 3 times daily for 5—6 d., a frequent desire to urinate, but only small quantities of high-coloured water passed at a time; in others the flow was copious, and the water clear. In some instances, where the desire was frequent and the quantity small, there was pain and often emission of blood before and after micturition. (PHILLIPS, *op. cit.*, 2nd d.)

II. 15. A man, æt. 26, for palpitation, took by mistake as much as 8 grm. of powdered leaves. He dined at 6, and vomited what he took. N. was restless, but without further vomiting. This, however, recurred in m. Seen at 5 p.m. pulse was 90 and very irregular; urine scanty, infrequently passed, high coloured. On 3rd d. he vomited only after certain drinks; pulse and heart irregular, but rather less so than yesterday; pain at præcordia. Urine scanty and red, with brick-dust deposit. A similar condition of urine persisted for several d. yet, pulse gradually becoming quiet and regular. (LEMSURIEN, *Ann. d'Hyg. publ.*, 1st ser., xxxix, 452.—In an article in *L'Art Médical* for Oct., 1884, from which we have taken the above, Dr. Marc Jousset has collected a number of cases of poisoning by D. and its alkaloid to illustrate their influence on the urine, which was generally as in the present case.—EDS.)

16. For a long time the cumulative action of digitalis has been believed to be one of the possible results of its administration, and, at the present time, most physicians are on the alert to observe any evidence of this accumulated influence in all cases in which the drug is

employed. Recently, however, there have been those who have expressed unbelief in the possibility of the occurrence of this effect after the use of digitalis, while others pay very little heed to this part of the subject when treating of the administration of the drug. While we may rightly believe that the cumulative action of digitalis is not frequently met with, I think that the following brief history will demonstrate that this sequence of its administration is liable to occur.

L. Y., æt. 6, after an attack of scarlatina occurring in March, 1877, developed albuminuria. As a part of the treatment of this pathological condition, she was ordered to receive $\mathfrak{m}\text{iv}$ of tinct. digitalis every 4 h. At the time this was prescribed her pulse had not fallen below 118. She took the medicine for 5 d. with perfect regularity (except during the hours of sleep), her pulse ranging between 96 and 110. During this time the renal symptoms were improving. On the 6th d. the pulse was irregular—at 70. Ordered only three doses during d. On the 7th d. pulse was 60 and irregular. Discontinued medicine. During the next 4 d. (patient taking no medicine) pulse averaged 52, was very irregular, and, at times, was as low as 46. On the 12th d. pulse became regular at 56. From this time no irregularity was observed, the frequency of the pulse gradually becoming normal. I took the trouble to ascertain that the tincture was of the same purity when the prescription was renewed, during its use, as when originally ordered. (EDWARD L. PARTRIDGE, *N. Y. Med. Record*, Aug. 17, 1878.)

DUBOISINUM.

Alkaloid obtained from *Duboisia myoporoides*. Nat. Ord., *Solanaceæ*.

I. *Provings*.—1. a. C. E. J., in good health, pulse 68, took 5 gr. of sacch. lactis moistened with 2nd dil. of sulphate every h. from 8 a.m., April 27th. 11, slight tingling sensation in lower extremities as if asleep, accompanied with bad taste in mouth. 12 m., slight aching in forehead and supra-orbital region, which continued all afternoon, but stopped as soon as he discontinued taking drug. On 28th, at 11 a.m., began taking 3x dil., 10 dr. every h. There was renewal of above symptoms, and rise of pulse to 88, whereupon drug was discontinued. On May 2nd, at noon, it was resumed. 7 p.m., dryness in throat, without much thirst; pupils slightly dilated. 3rd.—9 a.m., pupils widely dilated and eyes feel cool; some pain in l. side of throat on swallowing, as of a splinter there, worst on empty deglutition; throat feels dry and sticky, as also mouth and tongue, but there is not much desire for water; eyes feel tired; slight pain in eyeball, just beneath brow. 10 p.m., pulse 67; dull feeling in head, as if after interrupted sleep; somewhat dizzy. 4th.—Pulse 62; eyes still feel tired, and ache when reading; can read better, and print looks blacker, at double the usual distance; not much headache, but pain (sharp) in upper eyeball is increasing. Took 20 dr. once, and afterwards 10 dr. each h. to 2 p.m., when he was obliged to leave off on account of complete paralysis of accommodation; could not bear to read at any distance, and could not look at food, while eating, on account of pain; felt

restless and uneasy all p.m.; slight tremor passed over him several times; pressing pain in eye, and smarting sharp pain under brow; l. ear feels as if it had water in it, a dull feeling. 7.30 p.m., bad taste in mouth all d. Retired about 10, and shortly after had the sharp eyeball pain for 20 m. 5th.—A.m., aching in r. ear for 30 m. (has not had earache for 10 years); 6.30 p.m., took 20 dr. each h. till 10.45; eyes felt cool during e.; some dry feeling in throat. 6th.—Aching in l. ear soon after rising; pulse 68; head heavy and dizzy; pain, chiefly over eyes; cannot make out print within 2 feet, and it shows several colours—blue, orange, and reddish-brown, as does the ink when writing; pupils to-day nearly normal, but he could not read or look at print—a + 20 glass makes vision at normal distance possible, but eyes feel strained in using it; some nausea all p.m.; headache over eyes, and in forehead and temples; smarting sharp pain down r. side of face.

b. This d. eyes were examined with ophthalmoscope. O. D., optic disc very red, small vessels visible, large vessels much enlarged and tortuous; outline of disc indistinct; retinal veins dilated, arteries diminished; whole fundus hyperæmic; at time of examination pupils of normal size, contracting under strong light. O. S., hyperæmia much greater; disc intensely red; outlines indistinct; accommodation at time paralysed, could not read No. 1 J. at any distance, but with + 36 could read it at 12 in., any change in distance causing blur; tension normal.

c. On 13th awoke from sleep with throat trouble, resembling that experienced while making proving—dry, burning sensation, with cough. Took 3 dr. of 1st cent., and remained up studying for an h., when head felt so bad that he went to bed again. The following symptoms were noted: Things seemed elevated; every time he looked up from his book a dull pain through upper part of eyeballs and forehead, like sick headache; eyes felt very large and protruding. (*Trans. of Amer. Hom. Ophth. and Otol. Soc.*, 1879.)

2. a. A. B. N. Usual health; pulse normal (78). April 29th, 8 a.m., began taking 3x dil., 10 dr. every h. P.m., violent cough began and steadily increased (have always had a cough, but nothing so severe as this). 30th.—A.m., hard, dry, hacking cough, caused by tickling at about bifurcation of the trachea; cough causes feeling of soreness or rawness over whole of both lungs, especially lower lobe of l. and upper lobe of r. Cough not aggravated or relieved by anything. P.m., great dryness of mouth and throat, especially of lips, only temporarily relieved by water, although he was constantly thirsty for large quantities often repeated. May 1st, e., pupils widely dilated; cough increasing all d.; dryness in throat excessive, especially in back part. 2nd.—Stopped taking drug until noon, and cough grew rapidly better all m., although soreness and rawness of chest remained on coughing; voice began to be hoarse. 1 p.m., began taking drug again; pupils, which had become nearly normal, soon became dilated, and marked dryness of mouth and throat returned, with addition of a feeling as if nose was stuffed up. 3rd.—Pulse 63, strong, full and regular; pupils dilated; feeling as if r. hand and fingers were going to sleep.

14th.—Soreness of r. knee below patella, as if strained or rheumatic ; lasted all d.

b. 6th.—Commenced last n. taking 5 dr. of 1st cent. every h. ; was obliged last e. to stop reading, as print was blurred and letters ran together ; this continues to-day ; was very restless last n., could not get to sleep for hours, had to get up for water every 5 m. ; some agglutination of lids this m. ; pupils dilated ; pulse 62 and intermits about every 8 beats ; face much congested ; palpebral orifices contracted, eyes feel hot and dry, also face ; lids slightly œdematous ; slight frontal headache, especially over l. eye ; tired, hot feeling of eyes, as if overworked. P.m., has been unable to concentrate his thoughts on any subject ; very absent-minded ; thoughts wander from one subject to another, but all thoughts are silly and nonsensical ; on attempting to walk he stumbled ; seemed to have lost control of his limbs ; a deadly "gone" feeling in stomach, as if at greater curvature, all afternoon, not relieved by eating or drinking ; during this time pulse feeble and somewhat intermittent ; still has great difficulty in swallowing, especially in empty deglutition ; voice hoarse ; dilatation of pupils seems to grow less as paralysis of accommodation increases. E., pulse 68 ; have had a general weakness all afternoon ; noticed to-day some increase in the amount of urine passed ; loss of memory.

c. This d. eyes were examined wth ophthalmoscope, and throat with laryngoscope. Eyes were found as with C. E. J., but affected in less degree. Following is report of examination of throat. Symptoms subjective.—Voice hoarse ; phonation difficult ; constant desire to clear throat, efforts to do so generally unsuccessful ; sensation of intense dryness, which is partially relieved by lemon juice. Symptoms objective. Inspection.—Pharynx excessively dry and hyperæmic ; colour purple red ; capillaries very much engorged, presenting here and there varicosities ; no secretion of any description visible ; in consequence of the unusual degree of dryness, the follicles are very prominent, and the configuration of spinal column readily distinguishable. An almost perfect picture of the so-called "pharyngitis sicca." Laryngoscopic examination.—Epiglottis hyperæmic to an unusual degree, particularly in vicinity of glosso-epiglottidean folds. Membrane lining the entire laryngeal cavity intensely engorged, excessively dry, and covered here and there with patches of mucus, viscid, semi-translucent, and closely adherent, presenting the appearance of a pseudo-membrane. The localities where the hyperæmia was particularly great were along the course of the ary-epiglottidean folds ; the membrane covering the cartilages of Wrisberg ; the capitula Santorini, and the inter-arytenoideal commissure. In was in these last-mentioned localities that the largest proportion of the dry, translucent discharge was seen. Both vocal cords congested, and excessively so as they approached the posterior commissure. Particles of mucus adhered closely to their free borders, forming narrow bands that stretched from side to side when the cords were widely separated in deep inspiration. (A second examination was made, on the 14th, 4 h. after the first dose of D. The same objective and subjective symptoms obtained as before, except that the condition of the secretion was reversed, the pharynx being covered with

action ; was obliged to stop using it in order to get the full effects of the drug. (*Ibid.*)

3. I injected into two men $\frac{1}{4}$ gr. and 1 gr. of the extract respectively. In both, pupils became widely dilated and mouth dry. In the man who had the larger dose throat was so dry that he could hardly speak. The dryness lasted 5 h. Both became rather sleepy 15 m. after the injection, the drowsiness lasting about 2 h. The man with the larger dose complained of some general weakness, and both suffered from headache, lasting 3 h. After the larger dose pulse rose from 66 to 120 per m. (RINGER, *Lancet*, 1878, I, 304.)

4. I was led to test (with the assistance of Mr. W. H. Neale) the relative action of sulphate of atropia and sulphate of duboisin. We first administered by the mouth a dose of sulphate of duboisin, and carefully noted the symptoms, and we then, on a subsequent day, gave a corresponding dose of sulphate of atropia. Duboisin, we find, produces identically the same symptoms as atropia, but is far more powerful.

a. After duboisin, the symptoms begin in about $\frac{1}{4}$ h., and reach their height in about 2 h. The earliest symptom is dryness of the mouth. After $\frac{1}{10}$ gr. there occurred great dryness of the mouth ; dilatation of the pupils ; much giddiness, almost preventing walking, and increased by exercise ; slight drowsiness and rambling ; great weakness, so that the limbs felt heavy and were raised obviously with considerable difficulty, with so much difficulty, indeed, that the patient (a woman) could scarcely feed herself, and her grasp was very weak. It produced flushing of the face, and on one occasion patchy erythematous redness, the skin at these places being rather swollen and hard. The pulse became much fuller and rather slower. These symptoms lasted about 7—8 h. The same dose of sulphate of atropia only produced slight subjective dryness of the mouth.

b. After the administration of $\frac{1}{60}$ gr. in two doses, with 2 h. interval, we observed the same symptoms for the most part. The man became very drowsy and delirious ; his delirium was of the busy kind, he incessantly tried to pick up imaginary things from the floor. He had also decided twitchings of his limbs, and his pulse rose from 84 to 120, and his respirations from 18 to 30 per minute. The symptoms left him in about 10 h. The $\frac{1}{60}$ gr. of atropia, on a subsequent d., only caused subjective dryness of his mouth. (*IBID*, *Pract.*, 1879.)

II. *Poisonings*.—1. Dec. 9th, 1884, a lady æt. 40 took by mistake 3 gr. of the 1, trit. of Martindale's duboisin at 10 p.m. I give her own account, in the words written by herself: "Almost directly I had taken the powder I felt very uncomfortable. There came a sense of oppression about the heart, and a longing to get rid of the medicine. This oppression steadily increased, with a feeling of great agony and fear of impending death. The legs began to feel very heavy, and I found I could only move them with considerable difficulty. Then the tongue appeared to swell. It became too large for my mouth, impeding speech to a marked extent. I now began to grow incoherent, and was quite unable to call things by their right name. The oppressive agony at my heart grew worse, my sight became confused and dim, and I

gradually passed into a state of complete unconsciousness." This lasted 6 h. Between 10 and 11 a doctor was sent for, who administered strong coffee; this caused vomiting, but did not restore consciousness. The l. leg was powerless during the unconsciousness, and the right quite rigid. The teeth were tightly clenched. The face was congested; eyes occasionally opened, but they were for the most part closed; she could be roused by a shout to temporary semi-consciousness. The respiration was puffy and noisy; occasional drunken snoring. She constantly tried in vain to sit up, more rarely to get out of bed, a sort of "busy delirium." She would occasionally pull up the collar of her nightdress. After opening her eyes she would direct her gaze intently at the foot of the bed, where no one stood, and would reach out towards an imaginary person or object. No food was passed, and the bowels did not act. Skin was bathed with spirits. Pupils dilated. To resume the patient's own narrative: "When I regained consciousness the next m., I found that I had great difficulty in raising myself in bed. I could not stand because there seemed to be no power in my loins. There was a constant desire to pass water, but great difficulty in doing so.* Severe pain in lower back, in the bowels, and in the outer side of the r. leg. I could not distinguish objects; I saw faces repeated in all directions; the countenances of bystanders appeared to have deep cavities in their cheeks. The nostrils seemed to have great hollows excavated in them. At first I had great difficulty in expressing myself properly. I could not give proper utterance to my thoughts, for speech was embarrassed and difficult. I was again troubled with nausea, which presently passed into a state of vomiting. During the next d. I had a recurrence of the distressing oppression at my heart. There was a return, too, of the agonising breathlessness, and the sense of death being imminent." All d., in the patient was gravely ill, and there was occasional muttering delirium. The arms were frequently and involuntarily jerked away from the sides, and the dorsal and lumbar muscles were thrown into violent rhythmic contractions. Sharp myalgic pains subsequently testified to the vigour of these movements. (Communicated by Dr. EDWARD BLAKE.)

2. A patient at the Illinois Charitable Eye and Ear Infirmary during convalescence after Graefe's operation for cataract, was provided with a small bottle of sulphate of D., gr. j to ʒj, in place of sulphate of atropia, which caused considerable conjunctival inflammation. On the 27th April, about 9 p.m., he took by mistake a "teaspoonful" of the solution. It cannot be determined whether the teaspoon was full. The patient at once informed other patients near him that he had taken the wrong solution, but concluded to await the result by reporting to the nurse. In about 10 m. there was dryness of the throat, and in ½ h. a peculiar sensation in the legs, then in the thighs, and other parts of the body, as if they were asleep. At the end of an hour or more the patient could scarcely talk or stand. Strange to say, till this time did it occur to the patient or those around him to call the nurse. An active emetic was at once given, with the apparent effect

* What passed was scanty and high coloured.

of entirely relieving the stomach of its contents. Without delirium the patient rapidly passed into a state of unconsciousness, and remained in this condition till about 5 a.m. He complained for 2 d. of muscular weakness in legs and arms, and especially noted a peculiar jerking action of the muscles of the arm in extending the hand to grasp a glass or other object. (Dr. Holmes saw the patient at midnight. He was lying quietly, breathing naturally, but in a stupor from which he could not be aroused. The face was not specially flushed, although the mouth and tongue were remarkably dry. The temperature, as determined by the thermometer, had been normal. The pulse varied from 108 to 112. Some time previous to this, before unconsciousness became quite complete, the patient made efforts to sit up in bed. The pulse always fell to 80 when the patient sat up, and increased on lying down. No other symptoms were noticed. An ounce of brandy was given through the n.) (E. L. HOLMES, *Chicago Med. Journ.*, Nov., 1880.)

3. On July 13th, at 11 a.m., H. J. H—, æt. 75, consulted Mr. T. Pridgin Teale with reference to his eyes. H. J. H— is suffering from slow-forming senile cataract, and on several occasions atropine has been used for purposes of examination. On this occasion, however, two discs, each containing $\frac{1}{200}$ of a grain of sulphate of duboisin, were placed in the eyes. Very shortly afterwards patient complained of slight giddiness, became very fidgety, and was advised to remain sitting. In about 20 m., the pupils being fairly but not fully dilated, the necessary examination took place, H. J. H— standing during the proceeding. A few m. later he experienced a decided feeling of weakness and loss of control over the legs, great dryness of mouth, with exceedingly bitter taste. Fancying, however, the fresh air would do him good, he refused to remain, and elected to walk home. He had not gone far before it was evident that persons in the street regarded him as decidedly "under the influence of liquor;" his speech became husky and indistinct; he walked, talked, and behaved like one slightly intoxicated. Later, when at home, the symptoms progressed; complete inability to stand without assistance, or to recognise the position of objects, partly due, no doubt, to paralysis of accommodation, but also due to visual hallucination. For example, the patient would suddenly sit on the ground, imagining a chair was ready to receive him; drop a glass in mid-air instead of placing it on the table; and grasp in the air above his head for his watch, which had been taken from him. With difficulty he was got to bed, constant attendance being necessary to keep him quiet; there was incessant movement, with carphology, a suspicious way of glancing beneath the bed-clothes and behind the back. A few moments, when left to himself, sufficed for the whole room to be upset; towels, brushes, and shoes were placed in the bed, and boots on the dressing-table; this entertainment ended by a somewhat severe fall on the floor, whence he was unable to raise himself without assistance. This incessant activity was accompanied by a flow of words, sentences strung together without any apparent connection, a return of memory to things which happened years ago; throughout, an air of fun and humour, the symptoms those of childishness rather than any attempt at violence. The pulse was slow; the patient,

entirely ignorant of what was the matter with him, imagined it was quite dark, whereas it was a bright summer afternoon. Four h. after the commencement, a small injection of morphine was given, and the patient became quieter, dozing apparently for a few seconds at a time. Three h. later he obtained an h.'s quiet sleep, and, after some light nourishment, 3 h.'s sleep, after which his mind appeared quite clear again. He was entirely unconscious of all that had passed; a feeling of weight in the head and general upset lasted for several d. The urine, before and after, was normal. (CHADWICK, *Brit. Med. Journ.*, 1887, i, 327.)

4. J. J. McD—, æt. 49, with a rheumatic history, has just recovered from an attack of iritis plastica, which left extensive posterior synechiæ in the right eye. In order to break them up I instilled (April 6th) two dr. of a 1 per cent. solution of duboisin sulphate. Twenty m. later his mouth and throat felt dry, as though he would be thirsty. 8th, 2.23 p.m.—Instilled two dr. eserine, 1 per cent. solution, and as much more 9 m. later. In about 15 m. a sensation of squeezing together in the ball, and a feeling as though the lids were drawn. In about 15 m. from the first instillation, the pupil, from being irregular in shape, averaging about 3.5 mm. in diameter, had contracted to a circle 2 mm. across. At 3.07 p.m. and at 3.53, two dr. of dubois. were instilled. About 10 or 15 m. later he was going home from the dispensary, and upon turning to the r. suddenly fell to the l., overcome by intense confusion, vertigo and weakness. On proceeding he found that he staggered as if drunk, and had to concentrate his energy and look directly ahead, for upon looking to one side there was a disposition to fall towards the opposite side. Going down stairs or kerbstones was difficult; every step jolting his back as if he had (to use his own expression) "stepped down from the top of a house." He was deathly pale; felt exhausted, as from want of sleep; and experienced great confusion, with a sense of lightness throughout the body and head. The tongue felt "flat," and he could not articulate distinctly (paralysis?). The next d. he awoke with a very severe pressive pain in the lumbar region on each side, which gradually disappeared as he moved about. 10th.—He felt cold and chilly; wanted to wear extra clothing, which made him feel comfortable. In the afternoon Dr. Searle instilled more dubois., and a few moments later he felt very drowsy; the symptoms of confusion, lightness, drowsiness, thirst, and weakness were again experienced, but relieved by a cup of strong coffee. 11th.—Tension slightly less than before; still not minus. 2.30 p.m., instilled one dr. of eserine. In 5 m. mouth dry, slight vertigo. Six m. later a drawing, fluttering sensation in the ball, and spasmodic twitching of the m. orbicularis palp.

I should add that the dubois. also caused a soreness in the right side of the nose; as if the drug irritated the mucous membrane as the tears escaped through the lachrymal duct. (J. L. MOFFAT, *N. Y. Med. Times*, 1885.)

5. A healthy girl of 18 had an exceedingly minute piece of the sulphate held a few moments in fold of lower lid till melted. A few m. after I called her to examine state of pupils, and she complained of

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EDITED BY

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CONTENTS.

	PAGE
VALERIANA	
VERATRUM	390
VERATRUM VIRIDE	397
VERATRUM ALKALOIDS	414
VINCA	419
VERBASCUM	420
VIBURNUM	420
VIOLA	424
VISCUM	429
XANTHOXYLUM	430
ZINCUM	439
ZINC COMPOUNDS	451

APPENDIX.*

Acidum carbolicum, 465.—Acidum fluoricum, 487.†—*Acidum hyáriadicum*, 469.—Acidum oxalicum, 471.—Acidum salicilicum, 472.—Aconitinum, 473.—Aconitum, 474.—*Adeni*, 476.—*Æthusa*, 477.—*Aletris*, 477.—Ammonium bromatum, 478.—*Ammonium phosphoricum*, 479.—Amyl nitrosum, 480.—Anacardium, 480.—*Anilinum* (with *antifebrin*, *exalgin*, and *fuchsin*), 481.—Antimonium tartaricum, 486.—*Antipyrinum*, 487.—Apis, 491.—Apocynum cannabinum, 493.—Argentum nitricum, 493.—Arnica, 494.—Arsenicum, 495.—*Arsenicum sulphuratum rubrum*, 504.—Atropinum, 507.—Aurum, 509.—Baptisia, 510.—Barium, 514.—Belladonna, 516.—Bellis, 518.—Bismuthum, 518.—Borax, 519.—Bromoformum, 520.—Bryonia, 520.—Cactus, 521.—Caffeinum, 525.—*Calcium hypophosphorosa*, 526.—Camphora, 527.—Cannabis indica, 527.—Cantharidinum, 533.—Carbo vegetabilis, 534.—Carbonum sulphuratum, 535.—Chelidonium, 536.—China, 537.—Chininum, 539.—Chininum arsenicosum, 544.—*Chionanthus*, 544.—Chloralum, 549.—*Chlorum*, 551.—*Citrus vulgaris*, 553.—Coca, 555.—Cocainum, 556.—Coffea, 558.—Colchicinum, 559.—Colchicum, 559.—Conium, 560.—Convallaria, 560.—Croton, 562.—Cuprum, 563.—Cuprum arsenicosum, 565.—Digitalis, 566.—*Duboisinum*, 569.

* Drugs appearing here for the first time have their names printed in italics.

† Accidentally misplaced.

A
CYCLOPÆDIA
OF
DRUG PATHOGENESY.

ISSUED UNDER THE AUSPICES OF
THE BRITISH HOMŒOPATHIC SOCIETY AND THE
AMERICAN INSTITUTE OF HOMŒOPATHY.

EDITED BY
RICHARD HUGHES, M.D. | J. P. DAKE, M.D.

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This CYCLOPÆDIA is compiled under the following instructions, adopted jointly by the American Institute of Homœopathy and the British Homœopathic Society:

1. Give the scientific name and synonyms of each article, and its natural order.
2. Give a narrative of all provings, stating the symptoms in the order of their occurrence, with such condensation as completeness allows.
3. Give, in describing virulent drugs, such selected cases as may properly illustrate the various forms of poisoning by them, condensed as before.
4. Give the results of experiments on the lower animals, where of value; generally in abstract.
5. Trace all versions and copies to their originals, and verify, correct, or reproduce therefrom.
6. Include, as a rule, no drug that has not shown pathogenetic power in two or more persons.
7. Include in the narratives, as a rule, no symptoms reported as occurring from a drug administered to the sick.
8. Include no symptoms reported as occurring in the person of provers under the influence of other drugs, or when in conditions or circumstances not allowing a clear reflection of the pathogenetic influence of the article under consideration.
9. Include symptoms reported as coming from attenuations above the 12th decimal only when in accord with symptoms from attenuations below.

feeling dizzy. Soon after my attention was arrested by the dark flush on her face. She was then lying on a sofa, and was mildly delirious, pulse 132. She had tendency to pick at surrounding objects, had one or two slight drawings up of arms, and was very restless. Temp. under tongue was 100.2° . No treatment was instituted, and in $1\frac{1}{2}$ h. pulse had fallen to 100. She now became again more excitable, and tried to get up off sofa: on being told to keep quiet she would at once lie down, but in a few m. more would try again to rise and move off. Gr. $\frac{1}{8}$ of morphia was now given subcutaneously, and in about 20 m. she went gently to sleep. An h. later she was roused, and could walk up to her ward with little assistance. She there again fell asleep, and about $\frac{1}{2}$ h. subsequently awoke rational. The nurse reported, however, that once or twice during n. she got out of bed, but lay down immediately on being admonished by her. Next d. she had entirely recovered. (W. F. NORRIS, *Amer. Journ. of Med. Sci.*, 1879, i, 447.)

6. Of a 4 gr. to oz. sol. 3—4 dr. were instilled into l. eye of a lady patient. In 4 m. near vision was growing poor, and in 5 m. patient complained of intense fainting feeling and slight nausea. Faintness, with "strange" feeling in head, continued very marked for 15—20 m., when faintness lessened, but strange feeling remained, and drowsiness came on. In 30—45 m. there was dryness of mouth and throat, though not very marked; and chilliness was complained of. During next d. there was marked faucial and oral dryness, some of the strange feeling in head, and flushing of face. On 2nd d. after she was nearly well. (W. W. SEELY, *Cincin. Lancet and Obs.*, 1879, p. 125.)

7. M. GUBLER injected 1 milligr. into a young man labouring under tuberculosis. In a few m. there was vertigo, then dryness of throat, then slowing of pulse. After this patient fell into a sort of stupor, analogous to that caused by stramonium. This lasted many h. It was not sleep, for if patient was questioned, he replied, though with difficulty. He remained seated on his chair, and appeared indifferent to what was going on about him, and without energy to move. (*Bull. Gen. de Thé.*, xciv, 426.)

III. *Experiments on animals.*—1. I injected hypodermically gr. $\frac{1}{8}$ of sulphate under the skin of a frog weighing 21 grm. In 25 m. frog was a little weak; this weakness progressed, but was always far from complete, and disappeared entirely in 5 h. Throughout the experiment the heart beat well at 48. The same dose of sulphate of atropia given to a frog weighing 19 grm. caused complete paralysis in 25 m., persisting more than 8 h. The heart fell to 24 per m., and became very weak, and breathing was arrested. In another frog, weighing 22 grm., we gave $\frac{1}{8}$ gr. of sulphate of duboisia. In an h. the frog was so weak it could only just crawl. It recovered completely in 3 h. The heart beat strongly throughout the experiment at 36 per m., and the breathing never ceased. We gave the same dose of sulphate of atropia to a frog of the same weight. In an h. the frog was completely paralysed, and 9 h. afterwards the animal could not crawl. In 24 h. it had recovered, but was slightly tetanic. The heart fell to 20 and became weak, and the breathing ceased.

Atropine, therefore, paralyses far more powerfully the motor nervous

system, the heart and respiration, in frogs than duboisine. (RINGER, *Pract.*, Oct., 1879.)

EMETINUM.

(See vol. iii, p. 17.)

I. 4. One of us swallowed 2 gr. of E. upon an empty stomach. In $\frac{3}{4}$ h. he felt sick, and vomited several times, followed by marked inclination to sleep. Several students submitted to these trials, and were affected in the same way. (MAGENDIE and PELLETIER, *Sur l'Ipecac.*, p. 17.)

III. 4. Dr. FOULKRAD, as the result of his researches on the action of E., sums up as follows :

a. Applied locally, E. causes progressive diminution of the functional power of the nerves and striated muscles. If the contact is prolonged, the tissues do not recover their properties. Applied directly to the substance of the brain and spinal cord, no manifest action is induced.

b. The reduction of arterial pressure, observed as a consequence of an injection of E., is due to a direct action of the drug on the heart—that is, to cardiac paralysis.

c. The movements of the heart are at first accelerated and then retarded by the action of E.—the slowing being due to cardiac paralysis.

d. E. paralyzes the moderator-fibres of the heart in the pneumo-gastrics.

e. The torpor and coma produced by E. are due to an action on the brain.

f. Its convulsions are spinal in origin, and its diminution of reflex activity is also due to an action on the cord.

g. The vomiting occasioned by E. depends on a local action on the stomach.

h. E. causes retardation of the respiratory movements, which takes place even after section of the vagi.

i. The voluntary muscles remain unaltered in poisoning by E.

j. E. is absorbed and eliminated as such by the kidneys; a portion also is eliminated by the gastro-intestinal mucous membrane.

k. The salivation provoked by E. is due to its action on the nerves of the mouth.

l. Its introduction by the stomach, subcutaneously, or by injection into the veins is followed by albuminuria.

m. Glucose is found in the liver after poisoning by it. (*Phil. Med. Times*, Aug. 31, 1878.)

ERECHTHITES.

Erechthites hieracifolia, Raf. Fireweed. Nat. Ord., *Compositæ*.

I. *Proving*s.—1. a. T. J. MERRYMAN, student, æt. 22, robust and healthy. Urine 47 oz. in 24 h., sp. gr. 1020. Of a tinct. prepared

from leaves proved the 2x dil., taking 12 dr. before each meal and again at n. This was on Nov. 18th, 1867. 19th.—Slept well during n. Towards m. had protracted erection, with dreams of nudity and shame. Took 4 doses of 24 dr. each. Had excessive appetite, feeling of increased strength, and desire for exercise. 20th.—N. as last. Took 4 doses of 48 dr. each. Symptoms as yesterday. 21st.—Slight pain in stomach after retiring last n. Took 3 doses of 100 dr. each. Pulse somewhat quickened; feeling in stomach, after drinking cold water, as if it would be dissolved. Urine 42 oz., acid.

b. 27th.—Of another preparation, same strength, took two doses of 10 dr. each. 28th.—Towards m. protracted erection. During d. strong appetite, with desire for exercise. Took 2 doses of 20 dr. each. 29th.—Towards m. erection, dreams, and pollution. Took 4 doses of 20 dr. each. 30th.—Enormous appetite. Took 3 doses of 40 dr. each. Dec. 1st.—Slight burning pain at meatus during micturition. 2nd.—Three doses of 40 dr. each. 3rd.—Two 40 dr. doses. Recurrence of burning. 4th.—Urine 53 oz., acid, sp. gr. 1025. 5th.—Bowels somewhat constipated (previously regular); urine 33 oz., sp. gr. 1026. 6th.—Urine 37 oz., sp. gr. 1024.

c. Jan. 6th, 1868.—Took 4 doses of tinct., 10 dr. each. 7th.—Took same. Slight stimulation of genital organs, and diuresis. 9th.—Took 4 doses of 20 dr. each. At noon urine contained much mucus, which could be seen floating about in minute particles; it was acid, sp. gr. 1024; after standing a few h. had a milky appearance; quantity 40 oz. 10th.—Took 40 dr. before breakfast, followed during d. by three doses of 20 dr. each. 11th.—Slight looseness of bowels, which had been unusually constipated since 7th.

d. Jan. 28th.—At 9 a.m. took 200 dr. of tinct. in water. In $\frac{1}{2}$ h. felt slight uneasiness in stomach as if nausea would set in; but it soon passed away, and he felt no further inconvenience. On 29th and 30th bowels were somewhat constipated. On 31st, after griping pains, had three copious discharges of yellow fæcal matter, mushy in consistence; this was followed by 2 or 3 d. slight constipation. (*Trans. of N. Y. State Hom. Med. Soc.*, 1868, p. 78.)

2. a. J. M. CUNNINGHAM (description as of No. 1). Dec. 12th, 1867, and for 3 d. after took 3 doses of 10 dr. each of 1x dil. On 16th and 17th took 20 dr., and on 18th and 19th 40 dr., 3 times a d. effect hitherto. 20th.—Took 80 dr. before breakfast and at noon, at 8.30 p.m. 330 dr. About 1 m. after last dose felt decided giddiness with nausea, which continued about 5 m. At 9.30 dull frontal headache. At 10 throbbing of temporal arteries, with flashes of heat running across back from one to other shoulder: the sensation of heat suddenly gives way to one of coldness, which darts across back face in a similar manner, accompanied with nausea. Chill gradually decreased after going to bed till he fell asleep. He woke next m. feeling well as usual, but about 9 a.m. was attacked with dull frontal headache, which continued all d. with increasing severity. Next m. felt well again.

b. Jan. 6th, 1868, and on two following d. took 10 dr. of tinct. 3 times a d., without apparent effect save an increased flow of urine.

On 9th and 10th took 3 doses of 20 dr. each, without additional symptoms. Urine on 9th was 56 oz., reaction acid, sp. gr. 1026. Bowels were slightly constipated.

c. On 28th took 200 dr. of tinct. without perceptible effect. (*Ibid.*)

III. *Experiments on animals.*—I. DR. J. H. MARSDEN allowed a mare he was riding to take two mouthfuls of the "fireweed." While mounting a long but not steep hill shortly after, he noticed her to suffer with extreme dyspnœa, and to proceed with an unsteady feeble gait, all most unusual with her. He dismounted and led her, but the dyspnœa increased, and he noticed bright red blood in considerable quantity within her nostrils, even dropping out. There was no trace of wound. On descending she improved, was able to reach home, and manifested no further symptoms save a little dulness. Two d. later he drove her 8 miles. While indoors with a patient he was informed that his mare was ill; and on coming out found her unharnessed, lying down and panting for breath. He had her briskly rubbed, and she became easier; but, on the harness being replaced, she began to stamp violently and attempt to tear her skin with her teeth. Dr. Marsden thought it better to borrow saddle and bridle, and ride her home. Several times on the way she staggered as if about to fall, but did not; and home was reached in safety. She was turned out to grass, and showed no further symptoms save an appearance as if not well, and some inclination to bite the skin as horses do when itchy. In the course of a d. or two numerous circular patches of cuticle, about size of a quarter-dollar, peeled off. (*N. Engl. Med. Gaz.*, xvi, 103.)

ERGOTINUM.

(See vol. iv, p. 49.)

II. 33. Rev. J. C., 36, under treatment for growth of l. vocal cord, had the following freely applied with a laryngeal brush dipped in the mixture 4 or 5 times every m.: ℥j glycerine, ʒj tr. iodine, and ʒss ergotin, increased on March 24th to ʒij. Treatment began March 20th, and continued without effects until 26th. On 27th complained of attack of agonising pain in cardiac region, lasting 3 or 4 h. Heart's action rapid, "throbbing," and respiration impeded. cold sensation felt round heart. Nothing more occurred until April 1 except sense of oppression at chest, the pain extending down neck along inner border of sterno-cleido-mastoid muscle, outwards beneath clavicle, and down arm to finger-tip; numbness and partial loss of power in arm and hand. Symptoms confined to l. side; passed off gradually 24 h. Ergotin discontinued. No pallor of arm, and pulse not affected. Never had symptoms of angina pectoris or cardiac disease, and no symptoms like the above prior or subsequent to treatment as described. (T. N. MILLS, *Brit. Med. Journ.*, 1882, i, 937.)

34. Dr. WAGGONER relates a case in which, for a fibro-cystic tumour of the uterus, E. was given internally ($\frac{1}{2}$ gr.—1 gr. 3 times a d.) instead of by subcutaneous injection. Sensible diminution of the

place, but the patient's health (previously very fair) was red; she had torpor, lowered temperature, and some anæstremities, and finally died. (*U. States Med. Investigator*, 1875.)

ERIGERON.

Erigeron canadense, L. Canadian fleabane. Nat. Ord., *Compositæ*.

Experiments.—1. *a*. Dr. BURT, in perfect health, took (Nov. 11th) tinct. prepared by Dr. Lodge. It produced dryness of evere drawing pains in r. lumbar region, passing down to aching ½ h., followed by dragging pains in l. hypochondrium. Took 20 dr. at 7 a.m. Noon, increased secretion of mucus in forenoon, with feeling of roughness of pharynx, and something had lodged in upper œsophagus that caused inability to swallow. Slight nausea for 2 h.; slight pains in abdominal muscles and r. thumb; severe drawing in knee, greatly aggravated by walking, lasting 3 h. Took 3 h. had hard drawing pains in abdomen; then felt no pains till 7 p.m., when he had sudden severe pains in hypochondrium followed by soft mushy stool. Throat sore all n., with inability to swallow; again feeling as of lodgment in upper 13th.—Throat slightly sore. Hard lumpy stool at 7 a.m.; sudden pain in hypogastrium, followed by a mushy stool; is and pale.

1st, took 30 gr. of 3rd trit. of oil at 11 a.m. 2 p.m., have dull pain in r. umbilicus; twice, pains were severe and of a cramping character; eructations of air. 9, dull frontal headache; drawing pains have occurred in bowels, with dull aching in lumbar region; twice had a number of sharp stabbing pains in l. kidney, passing from l. to r. All e. drawing pains in thumb and metacarpal bones; dull pains in knees. 2nd.—1st, took 40 gr. at 8 a.m. In 2 h. had sudden colicky pains in lumbar region when walking, with dull pains in lower dorsal and singing in r. ear. For 2 h. more dull pains in l. hypochondrium. Took 40 gr. 1 p.m., severe sticking pains in r. kidney. 9, have been excessively languid all d., with aversion of spirits; smarting of eyes all afternoon and e.; dull pains in l. umbilical region; constant severe aching in whole dorsal region, more on r. side. No stool to-day; is and dark. 3rd.—Woke with dull pain in forehead and r. eye, inflammation of lids; rough feeling in pharynx; very languid. Took 75 gr. In ½ h. dull pains in hypogastrium, followed by a hard lumpy stool. 10, dull frontal headache, with watering eyes; dull pain in umbilicus; aching distress of whole body. 3 p.m., feeling greatly prostrated, no desire to move; inclination to yawn; great aching distress in dorsal and lumbar region; arms and legs ache severely. 9, same symptoms. 11, in d. 4th.—Natural stool, followed by severe neuralgic

pain in anus, with tenesmus. 5th.—Natural stool at 8 a.m., and loose one at noon. 6th.—Loose stool.

c. Dr. B. now infused 380 gr. of dried herb in a quart of water, and boiled it down to a pint. Jan. 8th.—Took $\mathfrak{z}\text{j}$ at 8 a.m. At noon slight distress in umbilical region. Took $\mathfrak{z}\text{ij}$. 2, frequent dull pains in umbilical region, with feeling in anus as if torn; this was a prominent symptom, and lasted all d. Roughness of pharynx. 10, have had frequent distress at umbilicus, with hard aching distress in whole dorsal region. Urine 49 oz., pale. Took $\mathfrak{z}\text{ij}$ more. 9th.—Awoke at 4 a.m. with great desire to urinate; voided 13 oz.; dull pain in lumbar and sacral regions. 8, took $\mathfrak{z}\text{ij}$. 2 p.m., sharp cutting pains in epigastric region every few m., followed by dull pains. 6, mushy stool; dull distress in whole dorsal region. 9, pains in hips when walking. Urine 63 oz., pale, reddens litmus paper, no albumen. 10th.—Restless n., but no pain. Feeling languid, with aching distress in all large joints. No stool to-day; urine less abundant than yesterday. 11th.—Aching in all joints, with great despondency. 12th.—Woke with dull headache, and aching distress in all large joints; bad taste in mouth. Same symptoms each m. for 3 d. more. (HALE'S *New Remedies*, 2nd ed.)

III. *Experiments on animals*.—1. a. Dr. BURT injected at 4 p.m., Sept. 5th, 5 dr. of the oil under skin of a cat's fore-leg. In $\frac{1}{2}$ h. mewed constantly, ran about, appeared restless and uneasy. 5, is quiet, with eyes half closed. 7, injected 30 dr. After $\frac{1}{2}$ h. appeared in great distress; profuse salivation. 8, quiet, with mouth open. 6th.—Passed 4 stools, natural, during n., last slightly streaked with blood; has not urinated. Refuses to eat. 9 a.m., injected 50 dr. under skin of fore-leg, followed by great agitation as before. 10, ears and legs very cold; excessive trembling. 4, has had two undigested stools, and urinated. 6, injected 40 dr. After 1 h. was unable to get up, and trembled excessively. 7th.—Appears quite natural; has passed stools and urine during n. Injected 30 dr. under skin of side. 5 p.m., very weak, has been trembling all d. 7, injected 50 dr. Tried to walk, but was unable to do so. 8, injected 30 dr. 8th.—Just alive. Injected 30 dr. Ears and legs very cold. Died at 9 a.m.

b. P.M., 9 h. after death.—Encephalic and thoracic viscera natural; liver much congested, also colon and rectum, which were filled with dry fæcal matter so agglutinated to intestines as to be removed with difficulty. Kidneys, cortical substance, slightly congested; bladder much distended. Other abdominal viscera natural. (*Ibid.*)

ERYNGIUM.

Including *E. aquaticum* and *E. maritimum*. Nat. Ord., *Umbelliferae*.

Eryngium aquaticum, button snake-root.

I. *Proviings*.—I. I took from 5 to 20 dr. of tinct. daily for about 10 d., when I stopped, concluding that the drug would take no effect on me. In the course of a week, however, the following symptoms appeared (of which I have notes in part only):

a. Purulent inflammation of l. eye, which was red, swollen slightly, and tender to pressure; constant dull, aching pain, relieved by heat, followed by profuse secretion of thick, whitish mucus, sticky like gum-water, gluing eyelids; this lasted 48 h., and left conjunctiva granulated and rough.

b. Intense redness of throat as far as visible, and slight swelling, but no pain or bad feeling, with profuse secretion of thick whitish mucus, giving throat an ulcerated appearance. Inflammation seemed to extend to Eustachian tube; and l. ear was swollen within and without, tender to pressure, with constant aching pain, bleeding readily, and finally discharging thick white bloody pus, of foul odour, which continued to pass for several n. Nose also discharged thick yellow mucus for some time; and tongue had greyish colour, with ragged appearance.

c. Oppression of chest; feeling of fulness; inability to take deep breath, with desire to do so; no cough; lungs feel as if solidified.

d. Urine normal at first; then profuse and deep yellow, but without froth or sediment. Sexual desire suppressed, then excited, with lewd dreams and pollutions; discharge of prostatic fluid from slight causes.

e. Pulse increased about 10 beats, but soft and weak. Feeling of great debility; lower extremities languid and heavy, with profuse perspiration on walking; fainting fits, dared not rise suddenly, step down, or turn my head quick, or I would fall into a swoon, from which I was once with difficulty aroused. L. os calcis and patella tender, sore and painful on motion. Continued singing and ringing, with cracking sound, in l. ear. (C. H. McCLELLAND, M.D., in Hale's *New Remedies*, 2nd ed.)

2. *a.* Dr. C. H. COGSWELL, while a student, proved tinct. in 1865. Began Nov. 23rd by taking 10 dr. before each meal and at bedtime. 11 a.m., frequent desire to micturate; stinging burning pains in urethra behind glans during act; urine light red and scanty. 2 p.m., severe pain in l. groin and testicle, worse during exercise; also slight dull pain in lumbar region. Previous to retiring, urine rather darker, with symptoms in urethra more marked. Slept well. 24th.—On rising in m. thick yellowish tenacious mucus in mouth; appetite partially wanting, though reviving at sight of food; pain in l. groin and testicle continuing. Repeated doses this d. and next. 26th.—Feeling of weakness and heavy dragging pain in lumbar region. P.m., took a long walk and returned feeling very tired, especially in loins, with heavy disagreeable sensation in groin. Took no medicine. 27th.—Took 15 dr. $\frac{1}{2}$ h. after breakfast. 11, while sitting, heavy dull pain in mastoid portion of temporal bone, passing through to opposite side; also rheumatic pain at back of neck, cervical muscles being slightly stiff and sore on motion. Repeated dose before dinner (also at 6 p.m.). Pain in head still remaining; thoughts rather confused, could not concentrate them upon any subject without much exertion. Between 9 and 10 p.m. slight nausea, with drawing cramping pains in stomach, also heavy compressing pain between shoulders; slight perspiration of disagreeable odour, resembling that of urine. 28th.—M., severe colicky or crampy pains in small intestines; sense of weight in

stomach; tongue and fauces very dry, with insipid taste in mouth; dull dragging pain in occiput, neck, and shoulders; expanding sensation in frontal region above eyes, increased by stooping; bruising tearing pain about ears, as if they were being torn away. Pain left occiput about 11 a.m., but became severe in front, involving eyes, which were blurred—exercise or least excitement increased pain, also combing hair (scalp being sore to touch); was restless, uneasy, frequently changing position; flashes of heat passing through system; slight nervous erethism; stool costive, dark, dry, and hard, with tenesmus, fæces seeming to cut as they passed anus; sensation after micturition as if some urine remained in urethra, of burning, smarting character, though urine itself was of normal temperature, and not corrosive. Urine of 24 h. was 26 oz.; reaction slightly acid; sp. gr. 1016; solid matter 382.11 gr.; of lightish red or amber colour when boiled; after standing some h. a white flocculent sediment is found. (Some of the drug seems to have been taken to-day, for "burning in œsophagus after taking" it is mentioned; but the doses are not specified.) 29th.—Stopped taking drug in m., pain in head less severe, but worse in neck and between shoulders; erratic pains all over body during d., seemingly in muscles; loss of energy, very sober and depressed in spirits; partial anorexia; nausea followed by acid eructations about noon; very nervous in e., unable to remain in one position. 30th.—Woke early; frontal headache on rising; thick, tenacious, disagreeable mucus in mouth; erratic pains in trunk and upper extremities; heavy dragging pain in stomach; smarting, burning sensation in fauces.

b. Dec. 11th, took 150 dr. in divided doses during d., and continued same for 5 d. more. On 11th acid eructations followed each meal (not subsequently). 13th.—No evacuation for 2 d., and bowels torpid still; urine scanty; transient rheumatic pains in l. shoulder and arm, also r. wrist and hand. 14th.—Dull aching in frontal region, especially over l. eye. 15th.—After 2nd dose to-day, severe pain in frontal region sufficient to cause dimness of sight, over l. eye it was tearing and boring; inability to think steadily on any one subject. 16th.—Mucous membrane of larynx seemed thickened, with short hacking cough and slight expectoration of mucus, thick and stringy, light yellow in colour. Slight dyspnœa as if clothes were too tight; choking in throat on slight pressure. 17th.—Took $\frac{3}{5}$ 3 times to-day. Continual dull heavy pain in frontal lobes of brain; concentration of mind caused a heavy full pain if persisted in; eyes irritated by strong light, which produces burning, smarting sensation, with heavy aching pain, dull expression of eyes, and great inclination to sleep. Very nervous and uneasy, moving about continually. 18th.—Slept well during n., woke in m. with colicky pains in bowels, also smarting raw pain in l. side of throat, with dry tongue; thick yellow mucus was ejected from mouth, which increased smarting in throat; hollowness or emptiness in stomach, accompanied by heavy dragging pain; reading or writing caused hard heavy pain in forehead, increased by stooping. Frequent desire to urinate during d., urine passing *guttatim*, with slight tingling near orifice of urethra. 19th.—Slept well during

n., but rose with dull heavy pain in head; pain increased by lowering it or thinking intently on any subject, mostly in frontal region, and more particularly over l. eye, where it is sharp and shooting; when sitting in a stooping posture it would leave eye and pass into neck and along muscles to shoulder and beneath scapula, where it would remain for some time. Muscles of eyes felt stiff, and there was pain on turning eyes quickly; eyes sensitive to strong light, and slightly congested at times, especially when looking at a strong light or walking in bright sunshine. Pulse about 90; muscles of neck sore on turning head quickly; pressure caused a hard heavy pain. 20th.—Heavy dragging pain in stomach during n.; constipation still continues, with crampy colicky pains in abdomen; pains in head and neck less severe, but not entirely gone; great inclination to sleep most of time, especially p.m. 21st.—Pain in head and neck increased in intensity, severe on stooping or turning head quickly; burning pain in eyes, they feel heavy and are slightly congested, squinting on exposure to a strong light; sharp-piercing pain in bowels, which feel bloated but do not look so, feel heavy while walking, and are sore on pressure. (*Ibid.*)

3. Dr. W. G. JONES took 10 dr. of tinct. on going to bed. A few m. afterwards felt dizzy and elated; disturbed dreams of confused character. 19th.—Took 10 dr. before each meal and on retiring. Soon after rising urgent call to urinate, urine more scanty and high-coloured than usual, slight burning in urethra before urinating. Soon after dinner, vertigo. 20th.—Took medicine as yesterday. M., shooting pains in coronary region, and in r. side of face, from eyes to teeth; vertigo in e. 21st.—Shooting pains in r. side of face, from eye to teeth, in forenoon. Prover was here obliged to discontinue his experiments. (*Ibid.*)

Eryngium maritimum, sea-holly.

I. *Provings*.—I. Mr. E. B. IVATTS, æt. 39, in good health, made a strong tinct. from whole plant, and proved a 10 to 90 solution of this. On 15th of month he began taking 10 dr. m. and n., and went on till he had used up a ʒij bottle. For first few d. he felt very light and unusually cheerful; on 2nd m. he was so merry on waking that he began to sing in bed (he is usually heavy and drowsy on waking). On 27th he began a 20 to 80 sol., taking 10 dr. this m. and next 28th.—Felt very queer before completely dressed (med. having been taken on rising). Could eat very little breakfast. Walked out two miles, and rested at a friend's house 3 h. Experienced general weakness and lassitude; legs in walking felt weak at knees and almost unable to bear the body; felt as if he would drop every m.; sinking at pit of stomach; pain at spot in r. groin; inclination to close eyes to shut out moving objects; pain at nape compelling support of head on hand or against something; chills, commencing in nape, go down shoulders and back; dulness in head, but no actual pain at first. Took cab home about 2 p.m. Its shaking did not affect the symptoms. Had soreness, with or without pressure, over chest, stomach, and bowels; slight dull continuous pain in bowels; occasional darting pains through lungs to back. Could eat very little at dinner, though there was no

actual nausea. Occasional shooting pains under both scapulæ; pain at back of r. eye, l. eye feeling weak; all viscera seemed prostrated and heavy as lead; circulation as if stagnated; veins of back of hands—generally full and prominent—so contracted and depressed as to be hardly visible; disinclination to speak, voice lower in tone, larynx feeling weak; great dryness of throat, larynx, and lips. On sofa all afternoon and e. Towards 7 p.m. symptoms relaxed; head then ached, but not severely, pain was in centre over brows. Increased flow of urine, very red, thick on standing; sore pain on inside of thigh just above knee. 29th.—Much better; able to attend to ordinary avocations; urine still red. Occasional stomach-cough during d., causing pain in head; some lassitude towards e. A cluster of fine papulæ appeared on spot felt sore the previous d., rough to touch, dying away on 30th, leaving redness. For several d. great lack of sexual sensibility and power (quite unusual). (*Amer. Observer*, x, 564.)

EUPATORIUM PERFOLIATUM.

(See vol. ii, p. 554.)

II. 1. A gentleman, who drank a few teaspoonfuls of a tea prepared from E., had an attack early in m. as of whirling around in the brain, or, as he described it, "as if he had been placed in a coal screen, and whirled around 2 or 3 times, repeated after a short cessation." (*JANES, Hahn. Monthly*, iii, 151.)

FERRUM IODATUM.

(See vol. ii, p. 573.)

II. 11. A lady, æt. 23, was in good health, but had never menstruated (from undeveloped sexual organs). She took Ferr. iod. 6 every 4—6 h. for seven weeks. It had no effect in establishing the catamenial flow, but the following symptoms appeared in the patient:

During 1st week.—Feels as if she had eaten too much,—a sort of upward pressure; circulation excited, heart beats quickly, and seems to force blood violently through whole body (continued into 2nd week); headache, felt as a cutting from bridge of nose through occiput; small of back felt—only at n.—as if broken, as if lying in a cramped position (2nd week also); feeling in sides, low down, as of needles pricking her, worse on raising arms and in walking; inguinal region sore on walking; dizziness, worse on movement. *2nd week.*—Stuffed feeling in abdomen, as if she could not lean forward; costiveness for 2 or 3 d., then griping and sudden inclination to stool, then costiveness again. *3rd week.*—Stomach full of wind; every breath gives pain as from a weight in epigastrium; on rising, or turning in bed at n., heart beats violently, with pain in epigastrium or lower end of sternum; abdomen bloated after food or drink, it seems to push upwards, even a small quantity of food causes it; may or may not feel hungry, but food soon

satisfies her; sides of neck feel sore when touched or on movement. 3rd and 4th weeks.—R. cheek itches, reddens when rubbed, and vesicles form, which, when rubbed, become raw; bowels not moved for a week, then stools loose, or she may have two movements—the first costive, the second sudden and loose, preceded by griping; much thirst; same distended feeling after food, but appetite better; when walking, stitches in inguinal region, worse r. 5th week.—Circulation again excited, blood-vessels throb all over, even when she is quiet; food seems to push up to the throat, as if it had not been swallowed; abdomen, when pressed, feels like a rubber ball; if she happens to pinch the abdominal walls, or to crease them, the part feels sore for a long time; inguinal pains have extended across hypogastrium; sides feel stiff, as after a strain. 6th and 7th weeks.—Pain in sides worse, if she stoops it feels there as after pinching; fulness in stomach and abdomen better; running upstairs causes violent beating of heart and pain on top of head; sharp pain from below eye up through eye and head to vertex; feels again, in bed at n., as if back would break,—it is stiff on getting up, but better during d.; on rising abdomen feels sore; heart beat so violently, it woke her from sleep; throbbing all over. 8th week.—Nervous, hand shakes while sewing; bad taste in mouth in m.; abdomen feels again distended, but not after eating. 9th.—Pain from eye to vertex as in 6th and 7th weeks; nervous; heart beats violently, each beat seeming to go into stomach, and causing trembling feeling across epigastrium; weak trembling feeling on using hands and on walking; bad taste; constant bearing down in uterine region, as if something was coming away; while sitting feels as if pushing something up (says she could touch cervix uteri); urine scalds; leucorrhœa, white, like boiled starch, when bowels move discharge is stringy; itching and soreness of vulva and vagina, parts much swollen. (FARRINGTON, *Trans. of Penns. Hom. Med. Soc.*, ii, 254.)

FERRUM PHOSPHORICUM ALBUM.

This is said to be a true ferric phosphate, $Fe_2(PO_4)_3$ or $Fe''_2P_2O_7$, as contrasted with the ordinary phosphate of iron, which is a ferrous-hydric phosphate, $H_2Fe_2(PO_4)_2$ or $Fe''HPO_4$. (It is the "Ferrum phosphoricum" employed by Schüssler.)

I. *Proving*s.—Dr. JOHN L. MOFFAT furnished to 10 persons five half-oz. bottles, without name, marked A, B, C, D, and E, and containing respectively sugar of milk, 30th, 6th, and 1x trits., and the crude drug. The following are the results:

1. a. P. C. MORIARTY, æt. 21, in good health, save for some nasal catarrh. June 7th, 1887, at 10 a.m. took 10 gr. of A. Almost immediately, sensation as of pinching in l. temporal region from within outward. This recurred after a second dose of 5 gr. at 10.30. At 11.30 dissolved 5 gr. in half a tumbler of water, and took a dose every 15 m. Nothing further was noted this d., or on 8th, 9th, and 10th, save some coryza between 7 and 8 p.m. On 15th took 5 gr. of same 4 times. 16th.—Feeling of dulness and heaviness of eyelids, especially 17th and 18th.—Same, and on latter d. great fulness also of whole

Continual hawking of mucus ; sexual system same. 9th.—Stool almost normal now ; pains in heart very slight ; urine not so profuse ; lids quite dry and rough ; slight sexual feeling. I was asking questions of a patient, and had to repeat my questions several times ; and finally I asked my preceptor, who was present, if he could hear distinctly what the patient was saying, for I could not. He replied that they were talking very plainly, and that he had noticed my deafness for 4 or 5 d. past, but had not made any comments upon it, as he wished to see whether or not it was a proving. To-day there was a terrific and continual hawking of mucus, which was very annoying ; it was very frothy and felt as though I was going to raise a bucketful, but instead of such profusion it would simply be a little watery, frothy and sticky mucus. 10th.—Stool normal ; urine apparently normal ; acne almost gone ; sexual feeling still slow about being excited. It was very annoying to converse to-day (as it has been for several d., but heretofore I blamed the other party for not speaking above a whisper) ; the deafness continues, but is not quite so bad as it was. The trouble of raising frothy mucus was very annoying, but seems to be declining in intensity. Slight frontal headache, lasting about 2 h. this e. 11th.—Stool and urine normal ; sexual system about normal ; hearing much improved ; some mucus raised to-day. 13th.—Took 5 gr. at 10 and 2. Drowsiness during afternoon. 14th.—Stool dark green. 15th.—Stool same. Took 5 gr. at 10, 11 a.m. and 2 p.m. Much drowsiness during m. accompanied by exceedingly unpleasant thoughts ; tried to turn thoughts to something pleasant, but some horrible image or accident was sure to come into the scene ; then I got angry for allowing my thoughts to run on this way, and endeavoured to occupy my mind with something else, writing, reading, &c., but invariably with the same result. This turn of thought was only noticeable during the drowsiness in m. Dull, aching pains about heart, sometimes extending into muscles of back, l. side of spine. Urine very profuse, watery. Very marked thirst during latter part of d. for large quantities of cold water at frequent intervals. During e. continued hawking of mucus came on ; coughed very hard to loosen it, and would raise a little watery, frothy mucus. Dull, aching pains over kidneys, especially l. Have had a continual run of acne on the nose, fading from Aug. 9th to 13th ; on 14th they began to show themselves again. They are very sore and slow to suppurate, like that on the rest of the face. 16th.—Stool very dark green, undigested. Very restless sleep during n., disturbed by constant dreaming ; drowsiness during m. with continual rush of thoughts, being in character similar to those at other times during the proving. Dull aching pains in region of the heart. Quite a profusion of acne about chin and forehead, small but very angry and sore ; slow to suppurate. Had dull frontal headache during afternoon, seated mainly under frontal eminences. Mucus hawked continually during latter part of afternoon and e., getting worse as e. advances ; thirst for large quantities at frequent intervals ; frequent micturition, not quite as profuse as heretofore, but having a strong odour. Had to-day taken 5 gr. at 10, 12 and 2. 17th.—Sleep disturbed by continuous dreaming, very vivid. Stool rather hard and undigested, looking like black

mud. Took 5 gr. at 10, 11, 2 and 4 marked this m., thoughts running about th that they were even more annoying. Or turbed, but not as markedly as to-day; i and buzzing in ears, and for rest of d. I co For 3 or 4 d. past I have had vertigo on but it was not very severe until to-day; i on rising or turning I become actually st reason is leaving me. Much acne about fa Urine very frequent, profuse, rather dark a colour darkens toward n. Not so much m aching pains in heart and slightly in ch thirst for frequent, copious drinks. 18th.- last n., much tossing about, and was annoy ing my chest or abdomen (it was not pain sleep was restless and accompanied by viv buzzing in ears with deafness. Stool d much undigested matter. Took 5 gr. at all m., with wild thoughts, thinking of tw then the usual horrible interruption to p headache (dull, heavy, in frontal eminence lasted for remainder of d.; also had viole this latter was not painful, but the throbbir hear the heart-beats on the pillow. Contir 10th, writes: "Have since tried to hear "all broke up" this afternoon, and had se sheet iron (or hard substance) was lying betw neum and abdominal integument. Dull sensation of hard sore spots all over chest. Appetite failing very plainly. Thirst for intervals, e. Had quite a fever during e., t severe vertigo would come on; twice during 19th.—Very restless during n., sleeping o next. In m. attempted to get up, but ha an attack of vertigo which made me stupid time and used all my will power, but "m work, and I returned to bed; had no ap Experienced same hard feeling over abdom sore spots over chest was very severe; n stomach felt hard and "set." Consider Felt very drowsy during m., but could not accompanied by a stupid feeling, but not b doctor called—as neither he nor I attrib proving he made no special note of my sys the best of his recollection, as follows: Fad touch; eyes somewhat injected; very res dull, almost white coating; pulse full and 99½°. He prescribed ferr. phos., but in (This note made on 24th.) At noon ate a prunes, but did not relish them. Got up

dizzy ; urine was dark and strong in odour ; had a stool $\frac{1}{2}$ h. later, which was muddy green and mostly undigested ; felt very weak after it, and had considerable griping for about 5 m. About 5 p.m. I began to dress myself, but the exertion of lacing my shoes made me so weak that I had to sit still for a while. Ate nothing for dinner, but was very thirsty from this time on through e. About 7 p.m. I went to my preceptor's office, and shortly afterward I felt very feverish and weak ; quite a perspiration broke out from head to foot. During latter part of afternoon had very severe dull aching pains in heart, and feeling of a layer of hard substance in abdomen gave way to sensation of hard spots here and there ; the feeling of hard spots over chest continued, but was much more severe. Was almost prostrated by effort of undressing. There was a great deal of buzzing in ears and difficulty in hearing, more especially in latter part of d. During early part of e. hawked a great deal, but did not raise as much as usual. 20th.—Last n. tossed and twisted for 2 h. before sleep came, had to throw off bedclothing and could hardly bear to keep on my night-shirt, for it annoyed me to have anything touch my chest or abdomen. Sleep was very restless, but more satisfying than that of n. before. On rising this m. a dull frontal headache ; not very much vertigo. Urine not so dark, and not so strong in odour as yesterday. Stool quite large, very dark greenish, and mixed with pieces of prunes (eaten yesterday). A few m. after stool an agonizing cramp came on ; the griping lasted just 50 m. I did not move during this time, but lay "stiffened out," and so "sick" with the pain that, although I felt like it, I could not cry out. Especially during latter part of d. I was much annoyed by the "hard spots" sensation in abdomen, but same feeling in chest is more severe and painful ; now and then I will have dull aching pains in heart, but not so badly as before. Was not so drowsy this m., but the dull frontal headache continued throughout d., getting worse toward n., being aggravated by motion and accompanied by very marked throbbing through neck to occiput. Had some slight appetite at lunch-time, but did not relish food ; at dinner I was hungry and enjoyed a very fair meal. Had a great deal of thirst during e. ; towards e. I began to feel weak, and slightest exertion would tire me out, forcing me to remain absolutely quiet to regain my breath. On the whole, however, I am feeling much better to-day. I did not have very much buzzing in my ears to-day, but my hearing is still quite defective. Very little hawking of mucus to-day. 21st.—Last n. was annoyed by touch of bedclothing, but not to such an extent as heretofore, and, although quite restless, succeeded in sleeping much sooner and slept better than usual ; woke rather refreshed, a slight frontal headache, but very little vertigo, being noted. Urine natural in quantity and colour, and of very little odour. Stool of natural brownish colour with spot of dark greenish matter, followed by cramps which lasted about 5 or 6 m., but were not unbearable in intensity. Appetite normal. Headache grew worse toward n., but even then was slight. Once in a while I would have the "hard spots" feeling in abdomen, and in chest it is still rather marked ; the heart pains are seldom felt. Some fever and restlessness toward n., but thirst was not so fierce and weakness not v

FERRUM PHOSPHORICUM ALBUM.

marked. 22nd.—Rested very well last n., fairly good sleep. Stood normal and followed by slight cramps. For past 5 or 6 d. all sexual instinct seemed dead, but to-day there has been some excitement. My scalp has been very tender for a couple of weeks and has been getting worse, but in the past 2 d. it has become hardened (to sensations of tenderness); I have lost considerable hair and a little from my face, which may not be due to the drug effects, but as I cannot account for it otherwise I note it. There are but two inflamed spots on my nose at present and very little acne about face. Very little restlessness this e. 23rd.—Slept very well during n. To-day accidentally pricked my finger with a needle; the blood, pale and thin, flowed in almost a stream, and fully 10 m. elapsed before I could stop it. Off and on I experience the "hard spots" sensation in my chest, but it is not so unbearable as formerly. 24th.—My weight to-day is 15½ lbs. less than at the beginning; allowing a goodly amount for the hot weather there would still be an evident loss of flesh. (*Trans. of N. Y. State Hosp. Med. Soc., 1889.*)

2. a. M. COOKE, M.D., on May 7th, 1888, took B. No symptoms. 8th.—Of C took three 4 gr. doses daily for 2 d. Throat slightly sore, l. side, in e. On waking next m. throat feels swollen and stiff, deglutition painful, < empty swallowing. Took no more of drug. Throat seemed gradually > during d., but head toward e. had dull ache and felt as if I were taking a cold. Next m. throat very much worse, nose running, and all the usual signs of a severe cold in head. Head ached so badly that at noon I took bry., which quickly removed the headache, and the cold disappeared in a d. or two. One week later, feeling well, resumed C as before, and after 2 d. had same sore throat, left sided, < a.m., wearing off during d., with symptoms of cold in head following heaviness in head, watery followed by mucopurulent bland discharge from nose. A year ago when taking the drug I had much the same symptoms, which I attributed to other causes than the drug.

b. D was taken in same manner. Stye began on lower margin, l. eye, near outer canthus. I stopped drug when redness and swelling became marked. Some years ago was much troubled with styes on both eyes. Supposing this to be a return of the old trouble, I took bell., and by 24 h. the redness and swelling began to abate, and finally disappeared without suppurating as they had always done before. On recovery tried D as before; started another stye on l. upper lid near outer canthus. Stopped drug and resolved the stye with bell., still being under the impression that it was the return of an old trouble. In a few d. after resuming D a third stye appeared on lower l. eyelid near inner canthus. This time I stopped the drug and took nothing else; the stye resolved without suppurating in about the same time as the other two.

c. Oct. 21st.—Feeling well in every way took B, 3—5 gr. doses for a week; no symptoms. Took C Oct. 29th, Nov. 2nd, 3rd, 4th—6 doses a d. 2nd.—Fulness, sensation in head as though too much blood there (weather warm and relaxing). 3rd.—Arose with same feeling in head, most in l. frontal region, hardly amounts to an ache.

Throat a little sore, raw, < empty swallowing, < l. side. These feelings gradually wore away during d. as weather grew more bracing (I remember that I sat in a draught yesterday). 4th.—Throat still a little raw; wrists ache, with loss of grasping power; pain among tendons of wrist on shaking hands.

d. Of D took, Nov. 5th, 5 doses. Symptoms of throat decreasing. 6th, 6 doses; 7th, 2 doses; 8th, 5 doses; 9th, 6 doses. 10th.—4 doses. Continual aching pain about carpal head of r. radius, < on using fingers or thumb, especially thumb; certain amount of inability to grasp objects, with sudden darting pain on using force. Crampy pain (last e.) prevented my holding pen tight or pressing it on paper. 11th.—3 doses. 12th.—5 doses. Pain in wrist and weakness of prehension are disappearing; are most noticeable 10 to 12 a.m., and at 9 p.m.

e. Of E took, Nov. 13th, 6 doses. Nose feels very much stuffed up, < r. (not aware of any exposure to cold). 14th.—4 doses, nose beginning to run. 15th.—6 doses. Mucous discharge quite free; last evening took allium cepa. This a.m. less discharge, nostrils open. This p.m. severe dull headache over outer side of r. eye. 16th.—5 doses. Still have pain and loss of power in r. wrist; pain < from being kept long in one position, also when using; cannot lift as strongly as ordinarily. Drug finished. Nov. 25th.—Pains, &c., in wrist disappeared. No further symptoms. The wrist symptoms I do not remember to have had before. (*Ibid.*)

3. W. S. RINK, M.D. Began June 6th, 1887, with A, 10 gr. n. and m. for 4 or 5 d. No results. Then took B, 10 gr. n. and m. Took nearly whole bottle (3ss). On 11th, papule on back of neck, very sore and itchy, hard base. In a few d. there appeared over r. eye (forehead) a sensitive swollen spot with red centre. Small papules (acne) with hard base, on forehead, very sensitive to touch; some of the papules becoming pustular. R. hemianopsia, transient, e. g. "detach (ed)." This never before or since. Erysipelatous redness of tip of nose extending toward forehead on l. side; it was shiny, swollen, hot, with aching pain < on touch, very sensitive, especially just under tip, followed by removal of a small slough from just within and under the apex (l. side), > began after removal of slough. Bodily temperature was increased and I felt indisposed. I now stopped the drug; had begun C. (Never before had nasitis. Have had pustules occasionally, but never so sensitive or in such amount.) (*Ibid.*)

4. a. D. SIMMONS, M.D. May 18th, 1887, took A for one week without getting any effect. 25th.—Took B for one week with like result. June 5th.—Took C. After five or six doses had an ache and soreness in r. hip and thigh; very sore and painful when sitting so as to produce pressure on the part; could not sleep on r. side while soreness remained. Urinated frequently day and night, copious, light lemon colour. Stopped proving until the ache in hip and thigh ceased and flow of urine returned to normal quantity and colour, which was about 36 h. After first 12 h. without the drug, there was a reaction, and I only passed urine twice in 22 h.; then everything began to come right, so that in a few h. more the urine was normal in quantity and

colour. After again taking five or six doses the trouble in hip and thigh and that with urine all returned; stopped proving for 36 h., and the symptoms all left again. After taking it for the third time, for 3 d., a powder—5 gr.—about every 3 h., could get none of the symptoms again except a weakness or lameness in hip. 28th.—Took first dose of D. with no other effect than the old pain and soreness in hip, and pain running down back part of thigh. Stopped taking medicine, and in 2 d. pain left hip and leg, and in 4 d. everything seemed to be in a normal condition.

b. April 12th, 1888.—After taking the third dose of E I had the pain return in hip and leg; it runs along course of great sciatic nerve, r. side, is neuralgic in character, increased by least pressure on nerve. It is a dull rather than a sharp pain; by standing on toe of r. foot I get some relief. It has been 10 d. since I took the last dose, and I yet have the pain in back part of r. leg, running from thigh to knee. I can run my finger right along the course of the pain. Some increase in the quantity of the urine, I should say at least 30 per cent. more; light straw or lemon colour. This condition passed off, and the quantity became normal in 24 h., with, after that, some reaction—I should say about 30 per cent. less than the normal quantity. I could get no other symptoms from the drug. I stopped it about 10 d. ago; since then I have had a severe cold and have lost a large amount of sleep and rest, so that I am now in no condition to continue the proving. (*Ibid.*)

5. W. C. LATIMER, M.D., April 3rd, 1888, 7.45 a.m., took 3 gr. B. No symptoms. 4th.—10 a.m., took 5 gr. Same result. 6th.—4 p.m., took 5 gr. Sharp neuralgic pains begin just to l. of vertex directly above ear, and seem to go directly down through head. They come on suddenly and gradually die away; "it seems as though I had been hit hard enough to cause sudden closure of the mouth." 9 p.m., took 5 gr. Pains renewed, came on three times during the following h. Last time remained more or less marked for several d. (*Ibid.*)

6. JOHN L. MOFFAT, M.D., æt. 35, weight 136; medium blonde; unmarried. Chronic catarrh; hæmorrhoids; chr. otitis media catarrhalis dextra. Subject to occasional attacks of indigestion. Pulse 74—80, soft, small. Respiration 12 to 15, apt to be sighing. Urine in 24 h. about 68 f̄, s. g. 1018 = 57 grm. solids. No albumen. Crystals of oxalate of lime abundant. Two small yellow waxy casts. Vibriones. Mucus. May 31st, 1888.—Took 10 doses (5 gr. each) of B from 9.40 a.m. to 11 p.m. At about 10 p.m. slight pressive pain in r. chest above nipple, which disappeared on taking a deep breath. June 1.—E., throat has been red and felt œdematous more or less to-day. (I may have caught cold from an open car window yesterday p.m., and by riding backward in an open car this p.m. Rarely have sore throat.) About 9 p.m. a feeling of a lump in the r. throat, on swallowing. After sitting at work (9.30 p.m.) occasional "spots" of slight pressive pain (>by straightening up) under sternum. Took 5 gr. B nine times without effect. Dec. 20th—24th, took 5 gr. of C several times daily without effect. Jan. 10th, 16th, and 21st—23rd, took D in like manner and with same results. Feb. 6—9th,

took 10 gr. doses of E. 7th and 8th.—In p.m. constrictive pain while walking in anterior aspect of shins, lower third, < left, as if I were walking very hard and fast (which I was not). 10th.—Morning stool of dark, muddy, greenish colour. This continued for 3 or 4 d., gradually changing to normal colour. (*Ibid.*)

7. W. T. HONAN (medical student). A was commenced Jan. 1st. No symptoms. B, persevered in for a time, produced but little effect; I am not very susceptible to the action of medicines. After taking C for several days noticed symptoms of great physical and mental languor. Indisposed to physical exertion. Inability to fix attention or to concentrate thoughts. Great tendency to lapse into a state of indifference. Preferred being alone and undisturbed. Things which were usually regarded with interest could now no longer entertain. With these symptoms, a dull heavy headache with sense of fulness, and isolated or transient stitches in temples or parietal regions. Not confined to any portion of head. This headache was noticed particularly about 5 p.m., sometimes at 11 a.m. Mental faculties very sluggish. Ideas seemed to be generated slowly. When thinking deeply or trying to recall something forgotten there was a feeling as though a long process was being enacted to slowly grind out the idea. Got irritated at my own mental sluggishness. Memory impaired for familiar names, facts, &c. Muscular exhaustion, which, later on, became more pronounced. Knees felt as if they would give way under weight of body. Unable to walk fast; seemed to be making great exertion, but little speed. Epistaxis, apparently from posterior nares, with constant desire to expectorate bright red, but rather thin blood. This lasted about $\frac{1}{2}$ h., not very profuse. (Never have had nose-bleed, except from a severe blow.) Dull aching pain in hypogastrium. Lost about four pounds in weight in about 3 weeks. Excess of urea. No albumen or casts. (For several years the prover has had a small nodule on the dorsum of the 1. little finger, which has remained stationary, but since the time this drug has been taken it has diminished nearly one half. Others have noticed this. The great physical and mental depression necessitated a cessation of the proving.) (*Ibid.*)

8. IRA W. DENISON, æt. 23. Medical student. Nervous temperament. Previous health very good. While at home subject to frequent attacks of acute coryza; in New York these attacks are very rare. Urine normal. Other organs also normal. Jan. 17th, 1888.—Took about 5 gr. of A at 10 a.m. This was followed almost immediately by sense of uneasiness in stomach with very slight nausea, and this was soon succeeded by a sense of weight and fulness in that organ. There was also a fulness in centre of forehead. 21st.—Commenced taking B this m.; made a chemical examination of my urine this afternoon, it was perfectly normal. 23rd.—Finished B to-day; still without symptoms. Another examination of urine failed to discover any changes. Took all of C without result. 31st.—Began taking D. Spent that e. out, and all the time was troubled with a sense of weakness an all-gone sensation over abdomen; later in e. caught a severe cold from driving from Brooklyn to New York in a closed carriage, first I have had in four months. Feb. 1st.—All d. had the sense

weakness over abdomen, with little appetite; tongue clean, but swollen, flabby and cracked in edges. Nose felt stuffy; judged it to be due to the cold taken last night. 2nd.—A feeling of weakness and faintness, with occasional mild attacks of pain, over abdomen has been present most of the day. Great hoarseness without other indications of a cold; but I think this to be due to the exposure on Friday m. 3rd.—Very hoarse all d.; in early m. raised quite a lot of greenish mucus, came up easily in good-sized lumps. The tenderness in abdomen present at intervals. Finished D this m. 4th.—Hoarseness so bad that I can scarcely speak above a whisper, and so am taking other medicine for it, beginning to-day, thus compelling me to close my proving. (Have had a number of similar attacks of hoarseness; the last, about two years ago, was very obstinate. This one was almost entirely relieved by a few doses of phos. 3, so much so that there is only a slight huskiness, scarcely noticeable, at night. With that slight exception I have now—8th—entirely returned to the normal condition.) (*Ibid.*)

9. Miss M. H. BROKHAUS, 25, medical student (senior year). Examinations reveal normal condition of chest, pelvic, urinary, respiratory, and sensory organs; pulse 70; symptoms appeared or were more marked in the intervals between the bottles. Took 5 to 10 gr. every 2 h.; began proving Nov. 20th, 1888. Various symptoms appeared while and after taking A, which also occurred later in the proving and are consequently not noted. B made urine slightly turbid (urates), s. g. 1020—1037, acid, quantity normal. While taking C there suddenly came on a loose cough, painless indoors, but with pain when coughing in open air. Menses appeared; no change except in colour, which was very pale during first half of period. Pulse irregular. The catarrh extended to the nasal mucous membrane; a thick, tough, yellowish mucus was detached from the posterior nares every m. after long-continued hawking. Under D all the symptoms with the foregoing bottles remained the same. Pulse 80—100, irregular in force and frequency. Contractions of heart were incomplete; vertigo when moving head after having held it steady for a short time after reading. Under E symptoms continued as with D, only a trifle increased, but the sp. gr. of the urine is 1020—1025. Borders of gums become dark bluish gray. Stopped proving Jan. 7th, 1889; all the symptoms disappeared by 15th, except those of pulse, heart, and gums, which still exist (Jan. 25th), but are gradually diminishing. (*Ibid.*)

GELSEMIUM.

(See vol. ii, p. 583.)

II. 17. A patient gives the following account of his invariable experience after taking any potency of G., from the 3rd to the 1000th, during the last twenty years:—"A few moments after taking the medicine there is an extreme feeling of restlessness, inability to be still for a second, constant twisting and turning. This is succeeded by intense pain over the (always r.) eye; it seems as if my forehead would come down over my eyes and close them, my eyes feeling as if they were rolling upwards and turning into my head. Then comes a

strong inclination to commit suicide ; I want to throw myself from a height or out of window, and feel it would be a relief. This is succeeded by an inclination to weep, and I generally have a good cry ; but before this, and while the feeling lasts of wishing to throw myself from a height, I clench my hands, and nervous rigors or sensations run all over my body, down to my fingers and toes ; it seems as if I would lose my senses. Then a great dread of being alone seizes me, and I am afraid of what may happen, thinking I may lose all self-control. The pain still continues over the r. eye, and often at back of head there seems a spot 4 in. square that is turning to ice. These feelings are followed by a strong inclination to talk or write, very great exhilaration, and a better opinion of my mental capacity ; indeed, it seems as if my memory was better, that I can recall almost anything I ever read, and can nearly always repeat to myself long passages of what I have read years before. It appears as if I can remember anything I choose to recall. As I am getting over the effects of the drug I have to urinate every few m. I am left much exhausted, thoroughly tired, and with a wish to be quiet." (Patient states that he writes under the influence of the drug, that he may give the symptoms the more accurately. He also, to exclude the idea of imagination, informs us that he has more than once been given the drug unwittingly.) (LOGAN, *Medical Advance*, Aug., 1889.)

18. I had been treating a case of phthisis, in which I gave G., 3 dr. of tinct. every 3 h. during first part of n., to procure rest for the patient, who was a mild, nervous woman of 32. After a week of this, she asked me if there was anything else that could be substituted for the G. I asked her if it did not agree. She replied, Oh yes ! but it made her feel as though some one else was sick, and not herself ; she worried about some other person having her sickness. I asked her if it produced this effect every time she took it ; and she said it did. (A case of melancholia is appended, in which the presence of this symptom led to a curative use of the drug.) (W. W. DAY, *U. S. Med. Inv.*, March 1st, 1881.)

19. A girl of 14 took by mistake a teaspoonful of the fluid extr. She had immediately giddiness, headache, great prostration, muscular relaxation, convulsions, staggering gait, want of co-ordination throughout the entire system, widely dilated pupils, double vision, paralysis of upper lids and lower jaw, overflow of saliva from corners of mouth, congestion of face, difficulty of speech, marked dysphagia ; the heart's sounds were heard as if far distant. A semi-comatose state supervened ; the face from congested became pale and death-like, surface of body cold, clammy, and finally covered with cold sweat. There was marked fall in temp. of body ; resp., at first normal, became gasping ; and patient lost consciousness altogether. She eventually recovered, from stimulants, mustard, and artificial respiration. (FRIEDRICH, *Med. Press and Circular*, April 18th, 1883.)

20. Suffering severely from facial neuralgia last n., I took 10 min. of the fluid extr. of G. (U. S. P.), and in $\frac{1}{4}$ h., feeling very little better, repeated dose. In 15 m. I was so drowsy that I could scarcely keep awake. There was great pain over frontal region—no neuralgia.

Pulse was weak and intermittent ; I had cold shivering and dizziness ; pupils were slightly contracted ; and there was general feeling of collapse. I took a cup of strong tea, and in 5 m. was very sick, vomiting freely, but not feeling any better. I then had a glass of strong brandy and water, which was repeated in $\frac{1}{2}$ h. In 2 h. I was all right again. (DE WOLFE, *Brit. Med. Journ.*, 1881, I, 193.)

III. 6. Administered to animals under the form of gelsemine it acts upon the motor system. The animal becomes at first dull, it moves only when excited ; placed upon its back it recovers a normal position with slowness and awkwardly, and finally ends by no longer reacting, becoming completely inactive and deprived of movement. At the same time the respiration, which was accelerated in the beginning, becomes slower, and finally ceases before the paralysis may be complete. Sometimes there can be observed upon the limbs—during the progress of the paralysis—a peculiar fibrillar trembling. This picture may be troubled, however, by brusque tonic contractions, which place the members *in extenso*, the fingers spread apart, with true tetanic movements, spontaneous or provoked, which last for a short time, and again reappear after an interval. The heart is attacked last, and exhibits a lessening in its beats more and more marked, but it continues to beat several hours after the paralysis is complete, and finally is arrested during a diastole. In a rabbit, with a dose of 1 gramme of the extract of G., or 10 centigrammes of gelsemine, the same phenomena are obtained. After an interval of a few m. the animal is seen to crouch, its ears are thrown back ; the respiration becomes dyspnoëic ; the pupil dilates, the lids are paralysed, the eye seems full, it fills with tears, becomes glazed, and presents upon the cornea a depression often very marked. The sphincters become relaxed, and there is sometimes an emission of urine and fæcal matters. Then the paralysis progresses, the respiration becomes embarrassed, asphyxic convulsions occur, and the heart is soon arrested. (ROUCH, *Compt. rend. de la Soc. de Biol.*, Dec., 1882.)

(On p. 594, l. 18 from bottom, for "8" read "9".)

GERANIUM.

Geranium maculatum, L. Wild cranesbill. Nat. Ord., *Geraniaceæ*.

I. *Proving*s.—1. Dr. E. C. BECKWITH reports the following symptoms as observed upon himself:—Slight pain in occipital region, low down ; fulness of eyes ; dryness of mouth, extending outwards over lips to cuticle proper, followed by pain in l. forehead and over l. ear ; tip of tongue dry and burning. The most marked symptom noticed was a constant desire for stool, this attended each attempt at proving the drug (2nd trit.) ; I went to stool often, but each time ineffectually ; this went on for some time, and after effects of drug passed off, bowels moved without pain or tenesmus, stool natural and well lubricated. (*Ohio Med. and Surg. Ref.*, iv, 127.)

2. I made an infusion of G. m., and took a teaspoonful. In a few moments I became giddy, and saw double. When I would close my eyes and lie down I felt comfortable, but I could not open them without the recurrence of the above-mentioned symptoms. There was also ptosis and dilatation of the pupils, and my countenance assumed the appearance of one who had been indulging in strong drink a

little too freely. I had great difficulty in walking with my eyes open, while I could do so easily when they were closed.

I have tried the decoction on several persons, and five times on myself, with the same result. (E. A. MURPHY, see *Brit. Journ. of Hom.*, xxxvi, 79.)

GLONOINUM.

(See vol. ii, p. 609.)

I. II. 32. M. BOURRU relates the following experiments made on himself with dynamite.*

a. For 5 m. I rubbed a small piece of dynamite in the palm of the hand. Almost immediately there was felt a slight numbing pain along the radial nerve from the base of the thumb to the middle of the forearm. Two h. later tensive pain in forehead and ringing in rest of cranium, as if a coryza were coming on.

b. For $\frac{1}{2}$ h. a piece of dynamite was rubbed between the thumb and index finger. Half an h. later there was painful tension in nasal and frontal sinuses. All d. there was a disagreeable feeling in the head like a migraine of medium intensity, which did not prevent close attention to work. At the end of 8 h. the pain disappeared upon going into the open air.

c. A small piece of dynamite was tightly held in the palm of the hand for $\frac{1}{4}$ h. Ten m. later there was strong tension in forehead, heat in face; painful arterial beatings in neck and temples; slight nausea; slight dizziness, but not interfering with intellectual work. The pain in the head continued until lying down at n., and disappeared during sleep.

d. A piece of dynamite the size of a lentil was placed upon the tongue. At first there was a sweetish taste, then an agreeable acid taste, and lastly a burning. The mouth was then cleansed, care having been taken not to swallow any of the substance, at the same time rising up to go for some water. At this moment was a sudden onset of vertigo which compelled me to seize hold of the furniture; pressing pain in the occiput; the brain seemed to dilate as if it would burst; the heart beat violently and with rapidity; the arteries of the neck and temples were distended and beat violently; respiratory anguish and slight nausea. An effort of the will was necessary in order to analyse and transcribe the above. After 5 m. the cephalic and cervical tension diminished; pulse 80 and somewhat irregular. Half an h. later the head and heart symptoms were relieved. One h. later, on walking out, there was nausea, frontal headache, weakness, exhaustion from incessant yawnings. In the e., after partaking of wines and coffee, all the malaise disappeared. On the next d. the head was still dull, and there was great desire for quiet, repose, and sleep; nevertheless I was able to work as usual.

33. A. B—, a florid, healthy-looking man of about forty, by occupation a contractor, having a great deal to do in constructing drains, makes use of dynamite cartridges. He frequently carried one of the

* This is a combination of nitro-glycerine with an inert siliceous earth.—EDS.

cartridges about with him in his bare hand for the purpose of w it. The cartridges are made of paper, and the nitro-glycerine leaks through, staining the paper. He has noticed on one occasions a stinging sensation when he had a cut or crack on his After this, within a few minutes, he would be seized with an headache, burning of the face, ringing in the ears, and a fee though the head were enormously enlarged and swollen, together a palpitation of the heart. At other times the headache would come on until night, after his return from work. It would then accompanied with the same symptoms as during the day, as traced to his custom, after washing his hands as thoroughly as possible of touching his tongue with his fingers to see if all the dynamite was washed off. It was only when he tasted a peculiar sweetish taste the headaches were found to supervene. After being advised the probable cause of these symptoms he used gloves when handling cartridges, and did not taste his fingers, and has since had no more of the above character. (BARRINGTON NEVITT, *Canadian J Med. Science*, 1883.)

GRINDELIA.

Grindelia squarrosa. Nat. Ord., *Compositæ*.

I. *Provings*.—1. I commenced at 7 p.m. by taking one teaspoonful of the tincture. In half an h. I took another, at which time I began to feel a terrible fulness in my head. This continued 15 m., when I was taken with pain in my l. eye and r. knee-joint, precisely like acute rheumatism. The pain in my knee did not last more than ½ h. at this time I took the third teaspoonful. The pain in my eye was the most intense that can be imagined; the pupil dilated largely and was 2 h. before the r. eye became affected, but when it did my pain was doubled. At the time the r. eye became affected I was taken with an unbearable pain in the entire region of the liver and spleen, severe was it that I could not lie still one moment, and the soreness in the region of the pain was like nothing to which I can compare except that of acute rheumatism. With a towel tied tight around my head, and hot applications over liver and spleen, declaring that it was inflammation of the brain and of the liver and spleen, did I pass the most terrible night of my life. The pain of the eyes was in the temples and ran directly back to the brain, and to turn or move the head was torture. In fact, the pain produced by the drug, wherever it occurred, was that of rheumatism—pain with soreness. The conjunctivæ were remarkably injected, and the eye presented the appearance of acute congestion of the brain. The pain in my eyes, together with the soreness, lasted 3 d.

The action of the drug upon the nervous system is remarkable. When given in full doses, it influences the optic nerve, and in time influences the par vagum, and seems to interrupt respiration, and interruption of respiration was so great as to prevent sleep, even though the pain had not prevented. The moment I would fall asleep the

tory movement would cease, and it would not be resumed until awakened by the suffocation that resulted from the suspension of respiration. (BUNDY, *Hom. Times*, iv, 117.)

GUACO.

(See vol. ii, p. 628.)

II. 1. A lady took a decoction of G. for sterility nearly 4 mos., without the desired effect; and at the end of said time was compelled to drop the medicine entirely on account of a copious, corrosive, putrid leucorrhœa which had developed, and which was debilitating her greatly. She told me that sometimes she felt as if fire was running out of the part, and that the inside of her thighs was tanned, and her linen stained yellow. She complained also of a terrible itching and smarting, worse at n. Before taking G. she had never suffered from these symptoms. After leaving it off, and taking kreasote and sulphur, the leucorrhœa soon subsided. (FORNIAS, *Trans. of Penns. Hom. Med. Soc.*, 1885, p. 50.)

HELLEBORUS.

(See vol. ii, p. 635.)

II. 6. A child under 2 was poisoned with an infusion of the leaves of H. given him to destroy worms. Within 10 m. after taking 2 dessert-spoonfuls he was very sick, and was violently purged. The matter vomited was of a green colour and slimy. The sickness and purging continued till he died, 13 h. after having taken the infusion. There were convulsions before death. On inspection the whole body appeared blanched; eyes were sunken and pupils dilated. There was diffuse inflammation of the mucous membrane of the stomach, and a well-marked patch of deep, inflammatory redness, about the size of a crown piece, near its centre. The small intestines, which contained a brownish-yellow fluid, were much inflamed. The head and chest were not examined. (TAYLOR, *Poisons*, 1st ed., p. 750.)

7. Late one e. a young man was brought to me suffering from violent and incessant vomiting and retching, the matter ejected consisting of frothy mucus. He was collapsed, with pulse at 48, dilated pupils, and dazed expression, complaining of burning pain at epigastrium and sense of constriction in throat; fauces were swollen and reddened. He had taken an unknown quantity of the powdered drug (about two teaspoonfuls, he thought) stirred up with water; and had speedily been seized with violent cramping pain, giddiness, dimness of vision, inability to stand, and violent vomiting. He had been driven two miles to see me. I sent him home (by which time his pulse had fallen to 40), and had him put to bed, and plenty of demulcent drinks and warm water administered. The vomiting soon ceased, and next morning he was quite recovered, but felt sore all over. (LOTT, *Brit. Med. Journ.*, Oct. 12th, 1889.)

HYOSCYAMINUM.

(See vol. ii, p. 669.)

I. 9. *a.* Dr. H. A. HUTCHINSON took gr. $\frac{1}{4}$ while in good health. "Immediately I noticed a decided dryness of mouth and throat, an almost a total absence of saliva, with some dysphagia. Looking in a mirror, I noticed an intense congestion of my head and face, the carotids throbbing violently with every impulse of the heart. Along with this there was acceleration of pulse and respiration, with feeling of numbness extending over entire body and loss of power in producing the ordinary movements of co-ordination. I made an effort to 'walk it off,' but my feet soon became so enfeebled that I could only walk by fixing my eyes intently on the ground. Had any one noticed me at this time I should have had some difficulty in establishing the fact that I was not deeply intoxicated. Finding that exercise would not relieve me from the poisonous effects of the drug, I with much exertion ascended the stairs to my room for the purpose of going to bed. My mental faculties up to this point were intact, and I fully realised my unpleasant position, but had no fear of any fatal result. Indeed, I was entirely oblivious of everything past, present, and future, and cared little for anything except sleep. So imperative and overwhelming was the demand, and the general helplessness of my limbs so rapidly increased that I was only able to throw myself upon the bed without undressing, and was soon in a deep slumber or coma, which lasted 11 h.

"*b.* During this period I have no recollection of anything. I was not disturbed by any delusion or dream, or conscious of any one's presence or of my own existence. Medical friends, not knowing what I had taken, resorted to every expedient to bring me out of a sleep they supposed to be apoplectic coma, but in vain. I am told that during this prolonged sleep there was entire relaxation of all the voluntary muscles, except occasionally some spasmodic movements of arms and legs. Pulse beat during first few h. at 138, full and hard; resp. numbered 34—40; temp. 100° F. As the narcotic effects of the alkaloid passed away, the pulse rapidly fell to 106, temp. declined to 99°, and resp. was reduced in frequency; but consciousness did not return for several h. after this. When I did regain it I had great difficulty in collecting my thoughts, or concentrating them on any particular subject. There were no hallucinations, delusions, or illusions, but for 24 h. or more every object on which I looked was tinged with yellow.

"*c.* It seems that during the period of sleep I suffered more or less from nausea, and at one time vomited, although I had not the slightest recollection of having done so. For several d. after recovery pupils were very considerably dilated; and I was annoyed with double vision and a general arrest of the various secretions of the body, including those of the skin." (*Alienist and Neurologist*, 1883.)

10. LEARED injected gr. $\frac{1}{40}$ subcutaneously into a phthisical adult. In 10 m. giddiness came on, with painful sense of compression above vertex; in $\frac{1}{2}$ h. sickness, and later delirium, with incoherent talk

pupils were dilated, and sense of sight curiously altered, so that objects seemed nearer and of different size than in reality; thus the patient stepped wildly at something he thought to be within his reach, but which proved to be a bedpost four feet distant; and a cup being offered him, he always grasped it at a nearer point than where it actually was; he also saw imaginary insects about him. The severe symptoms subsided about 4 h., and did not quite pass away for 24 h. (*Lancet*, 1879, i, 474.)

11. PEARSE injected $\frac{m}{100}$ beneath skin of phthisical subjects perirrhining profusely. The symptoms produced were—dryness of skin, mouth, and pharynx; great thirst; flushing of face; injection of conjunctiva; dilatation of pupil and paralysis of accommodation; pulse weaker and fuller; headache and giddiness, passing on to a semi-comatose condition and sleep. The dryness of mouth and pharynx was invariably present, coming on usually within $\frac{1}{2}$ h. of the injection. The skin in some instances became hot as well as dry, and temperature rose 1° in an h. In no instance was the dryness of mouth succeeded by dysphagia and hoarseness; nor was the dryness replaced by viscid, sticky, foul-smelling secretion, as found by Dr. Harley with atropia. The flushing of face was almost always present, less constantly that of conjunctiva; in a few observations the carotid pulsations were increased and became visible on surface. Pulse was quickened, but not so much so as by atropia; the rate augmented with the dose; quickening set in about 5 m. after injection, attained its maximum $\frac{1}{2}$ h., lasted thus for an h., and in 3—4 h. had fallen to its normal amount. Headache, giddiness and tendency to sleep were induced in the majority of instances; but where the headache was very severe it prevented sleep. Diuresis was not induced. (*Ibid.*, 1876, i, 319.)

HYOSCYAMUS.

(See vol. ii, p. 655.)

At p. 656, l. 15 from bottom, for "Z. f. Ver. hom. Aerzte Öest., i," read "*Wien. Zeitschr. d. k. k. Ges., Jahrg. ii, Bd. ii.*"

12. 19. A man of 60 took by mistake about $\mathfrak{z}\nu\text{j}$ of tinct. in one dose. Three h. afterwards he became excited, wandering about the house, muttering to himself, touching everything as if suspicious. He then became drowsy, and, with the idea of relieving him, another dose of the same medicine, containing about $\mathfrak{z}\text{iss}$ of tinct., was administered. Soon afterwards violent delirium developed—he imagined policemen entering the house; his face flushed, the pupils dilated moderately, his hands were in continual motion, and though exceedingly restless he was almost overcome by drowsiness. After recovery all recollection of that time was lost. (MACFIE CAMPBELL, *Lancet*, 1874, ii, 797.)

20. A woman, æt. 34, took $\mathfrak{z}\text{j}$ of tinct. by mistake for a black draught at 5 a.m. Soon after she complained of pricking and heat in the extremities, dryness of mouth, giddiness, and loss of power in the legs; there was a purplish rash all over surface, and face was swollen.

Four h. afterwards she was almost insensible, the face was scarlet, the pupils very dilated, skin hot and dry. She was ordered tincture of galls and castor oil, and soon after a copious evacuation occurred, of golden colour and having a strong odour of the drug. Power was lost in extremities, and sensibility diminished. At 4 p.m. delirium set in, with illusions, temp. 104° ; later rigor occurred, and finally collapse. It was 6 d. before she regained the use of her legs, and the loss of memory continued for a long time. (WHITE, *Ibid.*, 1873, ii, 8.)

21. *a.* In a man under my own observation, who had taken a large quantity of "henbane tea," there was much drowsiness and prostration, with tremor of the whole body, muscular spasm, and even convulsion, with clenching of thumbs, rolling of eyeballs, and muttering delirium—obscene in character; he complained of numbness and impaired power in the limbs, and later on, as he began to recover, of pain which seemed to be neuralgic in hips and lower extremities.

b. Bleeding from the nose I have seen occur in 5 persons who were taking the tinct. for experimental purposes; in each case the face became dusky and appeared swollen. I have also known it induce hæmorrhage from the uterus.

c. I have observed a dusky-red eruption in a child that had eaten the root, and a similar rash was said to have appeared on the mother and two other children who had taken it and suffered from the usual characteristic symptoms of its action; partial desquamation occurred in all the cases 5 or 6 d. afterwards. I have in several instances, when giving the extract for experimental purposes, traced to its continuous use the occurrence of small pustules in different parts of the body; and violent itching is not infrequent.

d. The whole skin is hot and dry as a rule; but I have seen one case with profuse clammy perspiration.

e. In the case of the woman above mentioned there was profuse diuresis of limpid urine. In two of the children there was also enuresis, in one for a single night, in the other for 3 n. successively. This symptom did not occur in these children except when under the influence of the drug. (PHILLIPS, *op. cit.*)

IBERIS.

Iberis amara, L. Bitter candytuft. Nat. Ord., *Cruciferae*.

I. *Proving*s.—1. Dr. HALE proved on 3 persons a tincture made by macerating for two weeks, \mathfrak{zj} of the seeds in $\mathfrak{z}\text{ix}$ of pure alcohol.

a. Dr. R. C. SABIN, æt. 22, in good health, uses coffee and tobacco. Jan. 1, 1872, took 1 dr. of I_2 dil. at 9 p.m. Retired at 11, and had restless n., much disturbed by dreams about home. Felt nervous and irritable on rising. 6th.—At 1 a.m. 2 dr. After 15 m. considerable acceleration of pulse, which rose to 96 (normal rate is 65 to 70). Slight palpitation, with sense of weight and pressure in region of heart, and occasional sharp stinging pains in that region, passing from before backwards, and lasting but a short time. 3, effects all passed off; pulse 60; took 5 dr. Within 15 m. pulse rose to 98, with no feverish or other general symptoms, except a slight recurrence of the pains in the cardiac region; pulse regular and full. Effects were noticed for about 1 h. 9, took 15 dr. Almost immediately, great acceleration

pulse, which is irregular and jerking, with a peculiar thrill under the finger; palpitation, with marked increase in force of apex-beat. One h. from time of taking 1st dose, constrictive choking sensation in throat; feeling of lightness and giddiness in head; slight sticking pains through heart, with feeling of weight and pressure. Slight palpitation still noticed. Went to bed at 11; was slightly inconvenienced during n. by increased action of heart and pains darting through organ; worse on right side. Slight frontal headache on rising. 7th.—At 8 a.m. took 20 dr.; same acceleration of pulse and palpitation as from last dose; apex-beat very strong, and was placed over heart outside clothing being visibly stirred by it. Effects passed rapidly. 3 p.m., 30 dr. Same symptoms, passing off in an h. 9, has felt languid and depressed since taking last dose; slight nausea, with cold chilly feelings over body. Took 40 dr., followed by same remarkable increase of pulse and violence of heart's action, coming on within 5 m. after taking drug, increasing in intensity about 15 m., and gradually passing off in the course of an h. The pain which occurs is of a dull, dragging character, not relieved by any position or by pressure on the hand. Went to bed at 10.30, with a slight feeling of nausea and dizziness. 11.—Arose at 7.30, feeling weak, nervous, and exhausted; passed a very restless n., with horrid dreams. Severe frontal headache; nausea, and loss of appetite; soft watery stool (also yesterday m.). Bad feelings passed off before noon, and at 2 p.m. took 30 dr. Pulse rose to 90, with slight palpitation—symptoms being much less noticeable than hitherto.

b. 10th.—Has taken no medicine till to-day, when at 7 p.m. he took 2 dr. of 3rd, and continued this dil. in increasing doses till by 16th he had taken 3ij. It produced little effect whatever. 20th.—At 2 p.m. took 1 dr. of mother-tincture. In 5 m. pulse had risen from 70 to 90, hard and jerking, with an intermission every 3rd beat. Heart's action much increased in strength, force of apex-beat being well marked. About an h. after, slight constriction in throat; feeling of weight and pressure under sternum, eyes red, face flushed; sharp sticking pain in region of heart. 21st.—10 a.m., took 5 dr. Same effect on circulation as before; pulse 100, irregular. Sharp pains through cardiac region. 4 p.m., great dullness and malaise since last dose, took 1 dr. Heart's action apparently depressed for 2 or 3 m. after taking drug; but in 5 m. pulse 100, full and strong, but somewhat irregular; heart thumping away at great rate; face flushed; dull frontal headache; flashes before eyes; fulness and constriction under sternum, with pains of lancinating character through chest; heaviness of head, with roaring in ears, and slight nausea. 22nd.—Very restless all day, tossing about; much disturbed by the dull aching through the heart. On mounting stairs in m. was seized with violent palpitation, obliging him to lie down; considerable dyspnoea, with stabbing pains through heart; choking sensation in throat, and great weakness. 11, continual feeling of weight and anxiety in chest; heart's action weak and fluttering; small weak pulse, 80; severe frontal headache; tightness in chest; constrictive feeling in larynx; resp. more frequent and labouring; dulness of hearing and comprehension. 23rd.—Passed a very restless n., with frightful dreams. On turning to l. side, a sharp sticking pain is felt, as if a needle were crosswise in the ventricle, and pricked at each contraction. 8 a.m., constant dull pain in heart, worse when lying down; oppressive frontal headache, with frequent nausea and at times loss of appetite. 10, slight exertion, as rising from a chair, coughing, or walking, causes distressing palpitation, with increase of the (constant) dull pain. Sensation of weight in chest and constrictive feeling under sternum; constant desire to draw a long breath, without relief from doing so; great lassitude and dulness of intellect, cannot comprehend or remember the lectures he is hearing. 24th.—Passed a miserable n.; considerable dyspnoea, with pain in heart—not sharp, but a constant dull aching, much worse from lying on l. side. On rising, weak, nervous, and exhausted, with nausea and dizziness. The pain in heart, with constriction under sternum, continued till about 11, when it passed off, and was hardly noticeable at noon; but it returned slightly the next n.

The train of symptoms just narrated continued for 3 d., growing less all the time; days better p.m., and worse at n. I then discontinued the proving. [Prover must be continued the drug later than as appears; for he speaks of having taken about 16 dr. of the tinct. and only 16 dr. are specified.—EDS.] (*U. S. Med. and Surg. Journ.*, 1845.)

2. a. M. M. DODGE, æt. 29, well, save for rheumatic pains in l. shoulder,

which he has had for two months. Jan. 5th, 1872, at 6.40 p.m., took 4 dr. of 1 $\frac{1}{2}$ dil. In 15 m. increase of pulse-rate to 88 per m. (normal beat being 72); wavy, tremulous sensations over radial artery, pulse slightly intermittent every 3rd beat; sense of fulness in neck and head. 8.30, pulse 62, feels tired, wants to lie down; every now and then takes a long breath; feels sad, downhearted, and much oppressed; peculiar inability to fix mind upon any one thing. Sleep during n. disturbed by all sorts of dreams (very uncommon). 6th.—7.30 a.m., 6 dr. 8, pulse 72, wavy, tremulous, easily compressed, intermits every third beat; heat and fulness in neck and head; feeling of nervous excitement in whole system, mind very clear and active. 10, pulse 63; feeling of inability to move even a finger; dry condition of throat and larynx, with hawking up of thin stringy mucus, which continued a very little while until 1 p.m., when he took lunch with little appetite. 1.40, 8 dr. 2, fulness of thorax, heat and fulness of head and neck, flushed feeling of face. Pulse 98, wavy, tremulous, slightly intermittent every 4th or 5th beat. Hands and feet feel cool; slight frontal headache; mind very clear, can remember anything he wishes. 3.30, pulse 70; feels weak, as though he had been working hard. 4.10, inability to fix mind on any subject for any length of time; throat dry, as though full of dust; constant hawking up of thin, viscid, stringy mucus, which was very troublesome, and continued until supper at 7 p.m., after which he felt no more of it. 7th.—6.30 a.m. 20 dr. In $\frac{1}{2}$ h. pulse 100, with peculiar double beats which seemed to run into each other, full but easily compressed. Heart reveals no abnormal sounds upon auscultation. Choking sensation in throat, with fulness and heat; slight frontal headache; memory very clear and active. At this time there was some slight pain under the sternum at articulation of 3rd rib, which lasted about 3 m. 8.50, felt perfectly well; pulse 67, except when making ever so slight exertion, which brings on some palpitation (never had this before). 9.20, dryness of mouth and fauces; hawking up of stringy, viscid, white mucus, which is very persistent. 11, feeling of lameness and soreness throughout whole body, as though he had taken cold. 8th.—8.35 a.m., 15 dr. 9, pulse 90, undulating, tremulous; resp., normally 19, is 23. Exercise brings on a kind of trembling of muscles of lower extremities. 9.15, pulse 83; no abnormal sounds of heart on auscultation; mind clear; feeling in eyes as of being forced outwards; skin cool and moist; slight pain over region of heart. 11, pulse 65; feeling of fulness and oppression over r. hypochondrium. 12.30, loss of strength; wish to lie down; dizziness of back part of head, or feeling as if occiput was turning round. 1, passed, within 10 m. of each other, three very light clay-coloured stools; pain over region of liver; appetite much diminished. 9th.—7.40 a.m., 20 dr. In $\frac{1}{2}$ h. pulse 90; each slight exertion causes some palpitation and dizziness; sense of choking in throat. 9, feeling generally ill, cannot remain in lecture-room; pulse 70, intermittent, irregular, thin, and wiry. Heat of room seemed to make him sick; felt better in open air. Tickling sensation in throat, with expectoration of stringy mucus. 12 m., bowels felt tender and oppressed; passed thin, clay-coloured stool. 1.20, appetite very much diminished; sensation in stomach and bowels as if food did not digest well; sour eructations for some time after eating (quite unusual). 4, another clay-coloured stool, large (bowels usually quite regular, acting once daily). 7, on running rapidly across street, palpitation for 5 m.; but pulse did not seem increased. 9, very nervous. Took no more medicine till 20th, and bowels became regular from 11th onwards.

6. 20th.—Took 5 dr. of tinct. at 2.30 p.m. 3, pulse 77, irregular, full, intermitting every 3rd—6th beat. Auscultation reveals no abnormal sound; but there seems to be great excitement of the muscular contractions at intervals of 3 or 4 beats after which there is a longer pause than usual. Every little exertion increases the irregularity; slight dizziness in upright position, much increased on stooping; choking sensation just above thyroid cartilage; throat feels full, as if tonsils were enlarged. 4, pulse 62, regular, full, but easily compressed. Dry tickling sensation in fauces, with hawking up of stringy mucus every few minutes, extremely troublesome, till 7 (this relieved by eating). 5, weak, nervous, and very irritable; great desire for some kind of stimulant; mind very dull, does not remember for a moment what is said in lecture-room, unless an effort is made to focus mind upon it. 11.12—10.30 a.m., 7 dr. Walked to church, and felt no effect from drug till he entered building, when there came on tingling and numbness, commencing in fingers of hand, and gradually extending up arm. 11, pulse 80, very tremulous and irregular.

pulsations seeming to run into each other; now dull heavy aching in l. arm, which continued till noon, when pulse was 72 and regular. 4 p.m., tenderness over r. hypochondrium. 4.15, passage of large clay-coloured stool. 22nd.—Very much disturbed during n. by ludicrous dreams; was restless, continually turning in bed. Took 17 dr. at 6.30 a.m. In $\frac{1}{2}$ h. had to lie down on account of peculiar trembling sensation throughout body, especially lower extremities; much pain over base of heart; pain in r. side of head; pulse 90; pain, dull and heavy, in l. arm, commencing with tingling and numbness in tips of fingers. Mind very clear; things long forgotten present themselves with peculiar distinctness. 9, could scarcely walk to college on account of palpitation, felt all over chest; after remaining quiet for 10 m. it gradually subsided, but would appear again upon any slight exertion. Sounds of heart were found on auscultation considerably increased, especially over semilunar valves. 11, pulse 85, irregular and intermittent; dry throat, with sensation as of dust there; troublesome hawking of stringy mucus. 12 m., walking causes indescribable sensations under sternum, at articulation of 3rd rib; appetite much diminished, feeling of weakness. 3 p.m., fulness and distension of bowels; tenderness over r. hypochondrium; mental faculties dull; slight exertion caused vertigo; slight nausea. 5, heart still very susceptible to slight exciting causes. 7, passage of two thin clay-coloured stools in rapid succession. Felt as though he had been sick for a long time and was just recovering.

c. During next 5 d. took 6th and 10th dils. without effect. (*Ibid.*)

3. Miss H. E. MAGEE, student, took 6th dil. for 5 d. without eliciting any symptoms. She then took the 4th dil. for 3 d., during which she had a severe attack of headache, watery eyes, stuffed nose, cough with soreness in chest, fever with chilliness, puffed face, &c.; but as influenza was epidemic at the time, she doubted if it was caused by the drug. After waiting 5 d. she began taking the 3rd dil., and had on same d. at 3 p.m. dull headache, vertigo, sleepiness, fever with chilliness, frequent but scanty urination. On 2nd d., m., dizziness so that she could not sit; had to return to bed. On 3rd d., e., frightened mood; feared she had taken too much of the drug; had cold sweat on face and hands; trembles; dull frontal headache. 4th d.—Heavy sleep in m.; got up feeling weak; loss of appetite; weariness. After waiting 5 d., took 2nd dil. 1st d.—5 p.m., vertigo with headache; pulse rapid; heart beats fast, and she feels excited. 2nd d.—Sharp pain in head, with vertigo; feels frightened, as though she had taken a dangerous dose; urine excessive in quantity; throbbing pain through temples (p.m.); hands, feet, and face cold and sweaty; sleeplessness. 3rd d.—Looks ill, and feels weak and bad every way. She declined to continue the proving longer. (*Ibid.*)

4. Dr. SAMUEL JONES states that he failed to make any impression on the heart by large and repeated doses, nor did the sphygmograph show any disturbance of the pulse. (ALLEN'S *Encyclopædia*, v, 61.)

II. 1. Dr. SYLVESTER relates a series of cases in which he and another had prescribed I. with excellent results, especially in cardiac hypertrophy; where it "does not diminish the velocity of the heart's action like digitalis, but controls its violence and sharp action, softening the pulse." No ill effects followed its use, save that it "occasionally induced giddiness, sickness, or diarrhoea; but these subsided on discontinuing its use." Doses were gr. i—ij. (*Provinc. Med. and Surg. Journ.*, July 28th, 1847.)

III. 1. a. I made an infusion with 18 gr. of the seeds to \mathfrak{z} j of boiling water. Having secured a frog, I opened the thoracic cavity, freed heart from pericardium, and, after waiting till excitement had subsided, found its beats 90 per m. Ten dr. of infusion were now injected under skin of thigh, and in 4 m. pulsations were only 65. After 8 m. they were 60, and a little irregular; in 15 m. they had increased to 71. The contractions were very firm, forcing nearly all the blood out of the organ. In 20 m. from first injection 20 dr. were introduced into opposite thigh, and contractions became still firmer, ventricle looking almost white during systole, and heart seeming only $\frac{1}{2}$ its natural size. Pulsations, after 12 m., were 60 per m.; after 18 m., 56. On removing heart from body, and making a section of it, no blood was to be found, save a little between the columnæ carneæ.

b. Another frog was treated in the same way, and heart-beats were found to be 95. In 4 m. after injecting 25 dr. they were 80; in 8 m., 70; in 15 m., 45; in 25 m., 40, and very firm. Similar results were obtained with 2 other frogs;

while in a counter-experiment, where no drug was given, beats fell from 95 to 80 only, and heart was larger than in the other cases.

c. Into mouth of a large "bull-frog" $\frac{5j}{\text{}} of weak tinct. were introduced by a syringe. Heart, on being taken out an h. afterwards, was found much contracted and empty. (E. A. GATCHELL, *North Amer. Journ. of Hom.*, Feb., 1877.)$

IODIFORMUM.

(See vol. iii, p. 1.)

II. 11. A boy, æt. 10, had his leg amputated for strumous disease of knee. Sutures held well, save at outer border of wound, at which point Iod. was applied thickly. On 3rd d. child was found sleepy and nurse reported him restless during n., and sighing frequently. Dressing was changed, and Iod. renewed. On same d. the child, not having eaten since previous d., was attacked by vomiting several times; this was bilious and easy. During next few d. all these symptoms became more prominent; child was constipated, and seemed to suffer from its head. The nights were very restless, sleep interrupted by sighings and cries like those of meningitis; there was drowsiness during d.; pupils were unequally contracted, and reacted slowly to light. Child was perfectly indifferent, and did not recognise those about him. Later, nocturnal agitation was replaced by tranquil delirium. Temp. oscillated between 37.5° and 38.2° . These symptoms continued until the 8th d., pulse being rapid, small but perceptible and regular. From the 6th d. the Iod. had been discontinued, and phenic acid substituted; on the 7th symptoms had diminished; on the 8th considerable improvement had set in, and all went well from the 9th d. (CAZIN, *France Médicale*, 1888, II, 1637.)

12. A child had tuberculous osteitis of tibia. Place was scraped, and Iod. gauze applied. Symptoms appeared on 1st n.; child was very restless, and did not sleep; it complained of violent pains in head. Next d., at time of making rounds, child was drowsy, and responded with difficulty to questions asked. Pupils were unequally contracted. During d. several attacks of bilious vomiting; pulse irregular and very frequent (100). These symptoms continued to get worse for 3 d., and with them was constipation. On 5th d. the Iod. was left off, and the symptoms rapidly became much milder, disappearing completely after 3 d. more. While symptoms lasted there was slight fever, with no aggravation,—temp. oscillating during the 5 d. between 37° and 38.5° . (*Ibid.*, p. .)

IODUM.

(See vol. ii, pp. 691 and 756.)

II. 31. SIMON relates that having treated 11 children for *tinea favosa* by local applications of tinct., in 4 he observed albuminuria, which disappeared at each cessation of the treatment, and recurred with

its resumption. Analysis revealed at the same time the presence in the urine of I. itself.* (*France Médicale*, Mai, 1876.)

32. HALLOPEAU reports a case of a child of 4 who took an iodised solution of horseradish. She exhibited a pemphigoid eruption of most singular character. Several of the bulbæ were more than 4 centimetres in diameter, they were grayish and their contents were thick. There was no constitutional disturbance, and the eruption disappeared without leaving any traces. He mentions two other similar cases which had come under his observation. (*L'Hom. Militante*, iii, 414.)

33. About 5 h. after injection of a sol. of I. into the sac of a lumbar abscess, patient had vertigo with impairment of vision; soon afterwards vomiting of serous mixed with chocolate-like matter occurred, with general malaise, skin moist, extremities cold, pulse small and thready, resp. hurried, prostration. He continued in this state during e. and succeeding n. Next d. vomiting continued; he lay faint and groaning, palpebræ were greatly swollen and had a violet tint; he complained of a distressing sensation in throat. 22nd.—Expressed himself as better, though apparently in the same state. The throat looked dry merely, but breathing was impeded, especially during respiration. A rough croupy cough was present, and the voice was whispering. (NELATON, *Journ. de Chim. Méd.*, Jan., 1854.)

34. A patient with a cancerous ulcer towards root of tongue was ordered ʒj of the iodide of starch, each drachm containing 1 gr. of I., m. and e. After 5 d., as he felt unwell, he was directed to take half the quantity. Early next m. he was seized with dyspnœa, which became very urgent. When seen countenance was sallow and anxious; pulse intermittent; on r. side of neck, extending downwards from angle of jaw, there is considerable firm circumscribed swelling, apparently not interfering with larynx and trachea. On r. side of chest percussion is dull, especially posteriorly; respiratory murmur throughout is feeble, and in front there is loud mucous râle. L. side is similarly, but less severely affected. In e. his pulse flagged; at 10 p.m. dyspnœa increased; and at midnight he died suddenly. The friends refused to allow body to be opened. (LAWRIE, *Lond. Med. Gaz.*, N. S., ii, 588.)

On p. 698, l. 3 from bottom, for "b." read "3."

IPECACUANHA.

(See vol. iii, p. 10.)

II. 12. a. Early in m. of April 25th, 1888, Chas. E. A., æt. 18, came to my office in great distress. Both eyes were tightly bandaged, head hung down, and he was led in by his father. On d. previous, he had pulverised about 28 oz. of Ip. in an open iron mortar. He had gone to bed feeling as well as usual, but was awakened about 1 a.m. by intense pain in both eyes. There was profuse lachrymation and great photophobia; and therewith constant nausea but no vomiting.

* WOLKENSTEIN has induced albuminuria by applying iodic preparations to the shaved skin of rabbits. (*Presse Méd. Belge.*, Nov., 1877, p. 388.)

This state of affairs had continued from that time until I saw him. I found skin of lids and parts about eyes dusky red; margins of lids reddened; conjunctivæ slightly injected, particularly on lids; faint circumcorneal redness; great photophobia and copious lachrymation, especially when lids were separated. Irides were somewhat contracted, not mobile, and apparently darkened in colour. Pain was constant and severe: it seemed to localise itself just over eyes, beneath brows, and was much worse over l. eye. There was also slight dull headache in frontal region, just above inner canthus; and sensation of a foreign body being in eye. Nausea was constant, and appetite gone.

b. Cocaine was instilled several times, without effect on pain or upon pupils. Atropine solution was equally powerless; and at last a few atropine crystals were placed in the conjunctival sacs. Even then dilatation was slow: l. pupil was more sluggish than r. As soon as pupils were dilated, photophobia and lachrymation was somewhat lessened; and during *d.* all symptoms gradually abated a little. After 2 *d.* they had disappeared. (HAROLD WILSON, *Hahn. Monthly*, Nov. 1888.)

IRIS MINOR.

(See vol. iii, p. 18.)

I. Proving.—1. In Oct. I prepared a tinct. from the small bulbs, by pounding them to a pulp, and to each oz. of this adding 2 oz. of alcohol, letting mixture stand 10 *d.* in a dark cool room, shaking well *n.* and *m.* Of this I took, Dec. 1st, 5 *dr.* In 15 *m.* burning in mouth, which increased, mouth and throat seemed on fire; cold water did not relieve feeling, which continued till midnight. 3rd.—At 7 a.m. took 25 *dr.* In 15 *m.* terrible burning in throat, which at 9 was very painful, he had to keep swallowing every second or two. Mouth dry and without saliva. 2 p.m. very gloomy and cast down. At 8, feeling thus, went to bed; but could not sleep, and became more and more despondent. Fell asleep at 1; at 5 awoke with dull aching in temples and itching in eyes. Could not sleep again but kept turning pillow over,—cool side relieving pain of temples. The symptoms passed off at 8.30. 6th.—Took 30 *dr.* at 7 a.m. Burning still worse; cold water gave no relief, but sweet oil and camphor were comforting. 11, passed urine of brownish colour, and continued to do so every 15 *m.* for 2 *h.* 1.30, pain in first l. upper molar, which felt too long. 6, pain in tooth very severe; applied chloroform with benefit. Went to bed at 7, but owing to pain did not sleep till 2 a.m. 7th.—Awoke at 6.15, tooth still aching. Upon standing up, sink “gone” feeling in stomach causing him to vomit up a quantity of greenish-yellow slime, not bitter: this symptom passed off on drinking a cup of tea. 10.25, pain in tooth increasing; hot and cold water, chloroform, camphor, failed to relieve it. Went to dentist and tooth extracted, when all pain ceased. Tooth was decayed, but not ulcerated.

8th.—Awoke at 6 a.m. with fearful itching all over head. At 7, brushed hair well with a stiff brush; after 5 m. whole scalp was burning as if tinct. of capsicum had been rubbed over it; at same time eyes began to smart,—they did not water. Itching and burning passed off in e., having lasted 11 h. 10th.—9 a.m., took 60 dr. Burning was fearful. 10, cutting pain in abdomen, more severe on r. than on l. side; pressure on ileo-cæcal region caused deathly sensation at pit of stomach. 11. 40, courage all gone, could not help crying. 2 p.m., felt ill all over, and went to bed; pain in bowels increasing; headache in both temples; vomiting green bile. Hot applications relieved bowels, and at midnight there was copious evacuation. 11th.—8 a.m., so exhausted that he cannot leave bed, although pains have somewhat moderated. At 2 p.m. a hard chill came on, lasting 20 m., after which temp. ran up to 102°. As it fell perspiration came on, though not very profuse. The acute pains passed off during n.; but for 14 d. there was a painful spot over ileo-cæcal region, as if an ulcer about the size of a quarter dollar (shilling) might be inside. The bowels did not act normally for 10 d. (G. WIGG, *St. Louis Periscope*, Sept. 1886.)

JABORANDI.

(See vol. iii, p. 26.)

II. 1. Dr. WAUTH of Liege, who has great belief in the efficacy of J. as a stimulant of the mammary functions, mentions a case which has recently occurred in his practice, showing that inconvenience may occasionally arise from the administration of this drug. He prescribed 10 dr. of the fluid extract every 4 h. for a patient whose milk had ceased for a fortnight, with satisfactory results, the secretion being re-established. After a time, however, the patient began to suffer from extreme nervous excitement, accompanied by a fixed idea that she should murder all her family with a hatchet. On the J. being stopped, these alarming symptoms disappeared, and with them the activity of the mammary glands. (*Lancet*, Dec. 24th, 1887.)

JATROPHA.

Jatropha curcas, L. Physic-nut. Nat. Ord., *Euphorbiaceæ*.

I. *Proving*s.—1. a. LEMBKE took Dec. 21, 6.30 a.m., 1 dr. 1st dil. Immediately continued rumbling in all parts of belly, which is distended. Pain deep in umbilical region. Chilly feeling deep in lumbar vertebræ, and at 6.45 a.m. call to stool, a couple of h. earlier than usual. 7.45 a.m., great chilliness through all limbs, extending to scalp, violent tearing pain deep in umbilical region aggravated by pressure. Skin of extremities cold, nails bluish, chill over back, urgent call to stool; tension in inguinal region; whilst walking, twice like a blow in muscles of sacral region. 8 a.m., loose stool preceded and followed by rumbling, sometimes a noise as though a bottle were emptied. 11 a.m., pain in umbilical region; copious and frequent discharge of urine. 22nd.—Stool delayed. 23rd.—7 a.m., 5 dr. tinct. Pressive and contractive pain in various parts of extremities, especially wrist, toes, and calves;

shooting in calves; nausea; severe drawing pain in stomach; dull pain rising from stomach to oesophagus; great coldness deep in spine and weariness of upper arm; stiffness in nape. Deep in chest behind sternum severe shooting pains from above downwards. 8 a.m., rumbling and empty eructation; stitches in anus; dryness in fauces; discharge of flatus. When sitting bruised feeling in knees; pain in umbilical region; frequent urination. Normal stool at 9 a.m., constant irritation in fossa navicularis penis, like a tickling, with frequent urination; clear mucus exudes slowly from urethra when walking and sitting. 24th.—Stool harder than usual. 25th.—9 a.m., 10 dr., scrapy taste. 9.30 a.m., persistent pain in stomach; chilliness over back extending to upper arms even in warm room. Hands cold, blue nails. 9.45 a.m., constant urging to urinate. Repeated quivering of l. upper eyelid. Abdomen distended and soft, stomach pains aggravated by pressure; pulse 73. 12.30 p.m., stitches in rectum, formication under skin of sacrum. 26th.—7.45 a.m., 20 dr., immediately, heat in stomach. Transient pains in both hypochondria and various parts of extremities. Heart's beats suddenly perceptible to hand and in chest. Roaring in ears; rumbling in belly and jerking pains deep in abdomen, which is distended and soft. Contractive pains in l. masseter muscle; much rumbling in belly. 8.15 a.m., bruised pain in knees. Jerking pains in region of stomach; drawing pains in various parts of extremities under skin; pressive pains in calves and r. masseter muscle. Frequent shivering in lumbar region; transient pains in lumbar muscles, chest, and shoulder-joints; frequent call to urinate. Persistent pain in nose on drawing in air of room, which feels cold though it is warm. Persistent dryness of fauces. The stool at 9 a.m. unusually hard. Repeated quivering in l. eyelid. 11 a.m., frequent rumbling in belly. All d. and next n. urine scanty, dark brown, clear.

b. Jan. 1st, 7 a.m., 3 gr. $1\frac{1}{2}$ trit. of seeds. Taste oily, slightly soapy. Warmth in stomach, some rumbling, discharge of flatus. 7.15 a.m., slight pressive pain in stomach; great coldness in back extending to upper arms; persistent obtuse pressure in stomach extending upwards into oesophagus; transient pressure in dorsal muscles and l. upper arm. 8 a.m., empty eructation; quivering of l. eyelid; bruised pain in shoulder-joints; frequent flow of thin saliva; on outside of r. calf persistent pressing drawing pain. In l. calf and dorsum of l. foot feeling of stiffness and pressing; bruised pain in muscles of arms; occasional pressure in stomach. 9 a.m., persistent cutting pain in stomach and whole abdomen, increased by pressure, abdomen soft, much rumbling; abdomen then very distended, tense, tympanitic. 9.30, soft stool; the abdominal pain lasts $\frac{1}{2}$ h., then goes off, much flatus discharged; great chilliness with cold hands and blue nails. 12, noon, much rumbling in belly and sometimes pressure in stomach.—2nd, 7 a.m., 8 gr. Chilliness in spine; warmth in stomach. 7.15 a.m., pain in stomach going by jerks into navel and oesophagus. Shooting and pressing in l. sole and calf. Pressure deep in chest behind sternum. Rumbling and flatus. Shooting and jerking in l. sole whilst sitting. A jerking pain in l. hypochondrium and to lumbar muscles. 7.30 a.m., stiffness in l. calf; bruised and stiff feeling in shoulders; abdomen tympanitic; urging to urinate; eructation of air. 8 a.m., prickling in dorsum of l. hand, pressure in upper arms and r. calf when sitting; a soft stool, followed by persistent pain in umbilical region, abdomen tympanitic; spasm in stomach on bending forwards. Occasional coldness through back. 8.30 a.m., abdomen has become soft and sunken without discharge of flatus. Frequent micturition, urine bright yellow, urinary tenesmus after having urinated. Abdominal pain till 11 a.m., and stitches in rectum. E., much borborygmus as if bottles were being emptied. The stool which occurred at 10 p.m. was thin, and the borborygmus continued after it had passed.—3rd. Abdomen soft and sunken.—4th, 6.45 a.m., 26 gr. 7 a.m., pressing in forehead, heaviness of head; pressure and drawing in l. big toe and foot dorsum, internal twitching in r. toes. Painful weariness in lower limbs, especially knees. Internal pressing in flexor muscles of l. forearm. 7.30 a.m., pulse 70 (75 is normal). Bright and dark spots before eyes. Eructation of air. Painful pressing in outer muscles of legs, and inward formication. Drawing in muscles of l. shoulder. Bruised feeling, worse when sitting after walking about room. Pulsation in l. calf, stiffness of both calves. When walking stiff and unsteady in limbs. Borborygmus, like fluid running to and fro in belly flow of saliva; hot feeling from stomach to vertebræ. Abdomen distended, nausea and flow of saliva. 8 a.m., head confused, vertigo as if he turned round. When walking, pain in calves and drawing in legs internally; heat over back. Inwat

itching in fingers. Persistent urging to urinate. Obtuse pressure in stomach; pulse 66. Painful stiffness in lumbar, nuchal, and frontal muscles. Pressing in shoulder-joint. Unsteady gait, body inclined to go to l. Pain in muscles, worst when sitting. Noise in bowels like fluid running to and fro. After the slightest exertion painful feeling of exhaustion in the muscles, even when writing and standing; pulse 70. Urine bright yellow, frothy. 8.30 a.m., urging continues after urinating. Persistent dull pain deep in umbilical region. Pressing in l. masticating muscles. Abdomen tympanitic. Painful pressure in r. pectoral muscles and stomach. Repeated chilliness in back. 9 a.m., normal stool, pain in abdomen continues. Urging to urinate. 9.30 a.m., internal twitching and pressing in toes and l. calf towards internal ankle and on inner aspect of tibia. 10 a.m., painful pressing in lumbar, dorsal, and pectoral muscles. Pain in belly and call to stool, with anxious feeling in scrob. cordis; heels very sensitive when treading. For 1 h. chilliness and cold feeling through abdomen; palms moist and cold.

c. Jan. 6th, 6.5 a.m., took the whole outer shell of a seed weighing 6 gr. 6.30 a.m., stitches in l. big toe and rectum. Shooting in throat when swallowing. Heat in sinicupit, and boring in ears. Pressing and stiffness in l. calf. Pulse 75, irregular. Pressive pain on dorsum of r. foot, posterior aspect of l. upper arm, and flexor surface of l. forearm. Urging to urinate. 7 a.m., pressure in occiput, nausea, heat in head and face, confusion, shivering over back. Respiration laboured. Borborygmus; pupils contracted; heat in stomach. Sudden violent stitch from ensiform cartilage over l. costal cartilages, affecting breath. Urging to stool. 7.30 a.m., noise of a fluid in bowels, abdomen soft. Pressive pain in shoulder and dorsal muscles, in knees and calves, with feeling of exhaustion. Head confused, heavy. Persistent chill over back. Constant call to stool and noise of fluid in abdomen. Persistent stitches deep in l. ear. Constant urging to urinate. 8.45 a.m., eructation of air. When coughing and blowing nose, feeling of stretching and protrusion in l. inguinal ring, making him bend thigh up towards abdomen. Urine bright yellow. 9 a.m., constant bruised pain in calves, back, and pectoral muscles. Noise of fluid in abdomen. Stool followed by rumbling. 5 p.m., soft stool preceded by much borborygmus and copious urine.

d. Jan. 7th, 6.15 a.m., ate one seed. Scraping when chewing it, especially in throat. 6.45 a.m., warm feeling in stomach, empty eructation. Head dazed, giddy. Much rumbling in bowels. Bruised feeling sinks from knees into legs, and becomes fixed in ankle-joints. Heat in occiput. Pain through dorsal muscles; pressing in l. calf. Heat in stomach increases. Anxious feeling in scrob. cordis. Pressing pain in l. ankle-joint, upper arm, hypochonder and inguinal region. 7 a.m., constant crawling in l. big toe. Empty eructation, discharge of flatus; frequent stitches behind cartilages of 6th and 7th ribs. Bubbling of fluid deep in abdomen and rumbling of flatulence. Calves stiff when walking; constant urging to urinate; drawing in back of l. hand; pressure in l. pectoral muscles affecting breath; shooting in lumbar muscles. 7.45 a.m., belly moderately distended, soft, painful on pressure deep in umbilical region. Pressive pain in r. knee and l. calf on walking; abdomen tympanitic; persistent feeling of warmth in stomach; frequent eructation of air; scrapy feeling in inner aspect of l. tibia. Chilliness proceeding from lumbar vertebrae. Much borborygmus; violent pains in umbilical region extending to l. hypochonder and l. side of thorax; painful jerks from navel to lumbar region. Urging to urinate. Persistent dryness and scraping in throat. 8.30 a.m., pain and distension of abdomen and urging to urinate continue. 9 a.m., soft stool; until 1 p.m. more urine than usual passed.—10th. 6.45 a.m., took 1 seed. Whilst chewing this scraping in throat, which increases later. 7.45 a.m., heat and confusion in occiput, formication in toes, pressing in muscles of l. leg, especially lower part of calf; pressure in forehead, burning hot ears, pulse 6 or 7 beats slower, soft; confusion of head and pressure in temples and muscles of r. upper arm. 9.30 a.m., stiffness in nuchal muscles, pulse 65, pressure in l. shoulder-joint; urging to urinate; qualmish feeling in scrob. cordis; noise deep in abdomen; drawing in dorsum of r. foot; increase of saliva; pressing pain in frontal muscles; hot feeling in stomach, and spasm rising up to oesophagus; pressive pain in r. ankle-joint and r. pectoral muscles; much borborygmus and pain in umbilical region.—12, noon, ate 2 more seeds. Scraping while chewing and afterwards. 12.30 p.m., pressing in l. calf, r. knee, r. wrist; increased saliva; nausea; pressure on l. frontal and temporal muscles, worst

when sitting; fornication under skin of both legs and feet; pressure in forehead. 1 p.m., black points before eyes, great heat and weight in head; persistent nausea and salivation; stitches in urethra; heat in stomach; tearing in l. toes and dorsum of l. foot; nausea, inclination to vomit. 2 p.m., pulse slow, full, soft; great exhaustion and heaviness of head; protrusion in l. inguinal ring on coughing; after some milk food nausea, heaviness and pressure in forehead, weariness and much chilliness in lumbar vertebræ. 2.45 p.m., stitches in rectum; head confused, unable to think; pains in muscles of lower extremities continue; pulse 87, large, full, bounding; much chilliness, cold finger-tips; frequent urging to urinate, with stitches in urethra; when walking in room, some heart's beats which shake the chest; nausea now and then. 4 p.m., painful pressing and stitches in neck of bladder, frequently; much yawning with nausea, much eructation with persistent heat and confusion of head; bubbling of fluid in abdomen; with the attacks of nausea there always were spasms in neck of bladder, with drawing pain and urging to urinate, every attack of bladder spasm commences with a twisting pain round navel, which then extends down to neck of bladder. Before and after these much bubbling of fluid in abdomen and acid eructations; better in open air. During all the time and on the m. of the 11th scraping in throat and painful chapped lips. Stool on 11th delayed, scanty and hard. (*A. h. Z.*, xxxiv, 278.)

2. a. Dr. HERING took 4 small doses of 2nd trit. of seeds. First headache externally on forehead and r. zygoma for a few h. The usual stool, followed by 2 hard stool, then a 3rd stool, soft, and a 4th with nausea and great flow of saliva, later a 5th stool. A slight catarrh with cough was increased; the throat felt swollen; the following n. hollow cough. Subsequent effects: Soft hæmorrhoidal swelling; increased itching of nose when eating; much excitement from trifling cause; nocturnal attacks of anxiety causing constriction of chest, could not get to sleep before m. During sleep perspiration and constant dreaming. Can with difficulty be roused from m. and noon sleep, moved about with an effort which did him good.

b. After triturating J., sudden attacks of coryza, with sneezing, frequent discharge of mucus which soon becomes yellow alternating with white discharge, and lasts long; with occasional coughs, with difficult expectoration; in the intervals frequent easy hawking up of lumps of mucus; at same time transient pains here and there in head. Short cough 1st d., worse 2nd d. Attacks of anxiety constricting chest, preventing sleep, n. Violent cramps and twitchings, the calves turned round to the shins. Without feeling cold or hot declares he has fever and must sleep, 1st d. Wine acts more strongly. Putting the hands in cold water relieves the symptoms immediately. Dryness in throat with thirst, but he dreads drinking on account of the nausea, after some h. vomiting of food and a short hacking cough. (*Amerik. Arzneipr.*, 585.)

3. a. Dr. HUMPHREYS took 1 dr. 1st dil. Confusion and stupid feeling in head for 2 d. Nausea and burning in stomach for some h., after $\frac{1}{2}$ h. Acute colic in transverse colon and borborygmus. Call to stool after $\frac{1}{2}$ h. Restless n. from flow of thought and palpitation of heart; dry mouth all n.

b. Took 5 dr. 2nd dil. Confused and stupid in head, 2nd d. After some m. headache, pressing in at temples to crown, for $\frac{1}{2}$ h., goes off in open air, 2nd or 3rd d. Itching of eyelids for several d. Pain in r. ear for $\frac{1}{2}$ h. Pale face with dark rings under eyes, 2nd d. Soreness in l. angle of mouth. Extreme dry feeling in mouth, followed by actual dryness of mouth and tongue without thirst all n. from 2nd to 3rd d.; then as if mouth were scalded to 6th d.; always worse at n. Thirst, e. 4th d. Constant eructation of air for 28 h. Pain and uneasiness in abdomen, sinking feeling in stomach as during severe diarrhoea, all a.m., 3rd d. Feeling of sinking and nausea in præcordia, afterwards a soft stool, 2nd d. All a.m. pain around navel. Some bellyache and feeling as if diarrhoea were coming, m. 2nd d. Borborygmus and rumbling in bowels all n., the same all d., relieved by walking in open air, returns in warm room; 2nd d. Soft stool for several d., thereafter costiveness, with slight headache, pressing in at temples, 6th d. Stool at n., very unusual. Copious evacuation of urine clear as water. Perceptible increase of urinary secretion after exertion, e. 4th d. Pain in r. testicle and scanty urine, 4th d. Pain in genitals, after excessive coitus all 6th d. Drawing pain in genitals along inner side of r. thigh to knee, 6th d. Strong heart's beats for several d., throbbing pain in l. clavicle, 3rd d. Pain and numb feeling from elbow to tips of 4th and 5th fingers, with burni

causing insensibility, after $\frac{1}{2}$ h.; lasts $\frac{1}{2}$ h., and is repeated after 4 d. along ulnar nerve. Violent itching, as from scabies, between thumb and index, increased by rubbing. Violent itching in the commissures between 1st and 2nd finger, relieved by rubbing, m. 3rd d. Pain in both houghs, for several d. Restless tossing about and beating of pulse, all n. After lying down, sleepless for several h. with beating of pulse, 3rd d.

c. Took 3 dr. and dil. Pain in temples, in-pressing and throbbing, extending sometimes to crown, lasting all d., worse in room, aft. 1 h. Itching and soreness of edges of eyelids, relieved by rubbing, aft. 1 h. Pain in l., extending gradually to r. zygoma, ending in pain in r. ear, 2nd d. Two hard painless pimples on middle of r. cheek which go off gradually. Itching and tension around mouth, relieved by rubbing, aft. 1 h. Itching and tension in lips 2nd d., ulceration, soreness and tension in r. angle of mouth, 4th d. Dry mouth without thirst after 1 h., then feeling as if mouth was scalded all n. and m. of 3rd d. Burning in gullet. Eructation all 1st d. Sinking feeling in scrob. cordis and slight nausea, immediately. Pain in hypogastrium and call to stool. Pain around navel with rumbling, discharge of flatus and call to stool, m. 2nd d. Pain in l. testicle 3rd d. Strong heart-beats, aft. 1 h. Violent pain in l. clavicle, a.m. 3rd d. Pain along l. ulnar nerve, after 1 h. Several small red papules on wrist and back of r. hand, 2nd d., go off in a few d. Pain in first joint of r. thumb extending to wrist, m. 2nd d. Violent pain in first phalanx of r. index extending to its tip after 5 h. Itching between r. index and middle finger and on outer side of palm, after 7 h. Sore pimple in bend of r. thigh, 2nd d. Painful tearing in l. knee and ankle, after 7 h. Violent rheumatic pain in l. ankle-joint, 3rd d. Rheumatic pains in ball of r. foot, m. 4th d. Itching between toes, n. 1st d. (*Ibid.*)

4. Dr. DAVIS took 3 dr., and dil.. Sore feeling in soft palate. Tension in centre of sternum. Pain in region of 3rd l. rib above nipple for some m. (*Ibid.*)

5. Dr. ZUMBRICK took $\frac{1}{2}$ dr. tinct. Nausea and warm feeling in stomach after $\frac{1}{2}$ h. Spasmodic stitches in stomach, after $\frac{1}{2}$ h. Feeling as if stool would come, which it does not till next m. In sacrum and rectum sore feeling as in diarrhœa, after 1 h. Prostration. Rigor all over, after 1 h. (*Ibid.*)

6. SOUBEIRAN swallowed a seed, which tasted at first sweet, then extremely acrid. After $\frac{1}{2}$ h. he had acrid feeling in gullet, that gradually extended with increasing intensity to stomach, and at length caused vomiting. (*Journ. de Pharm.*, xv, 501.)

7. VAUTHERIN proved oil of seeds on himself. After 3 dr., there was insipid taste of drug, very slightly nauseating, without acidity or heat; after swallowing, this taste became more decided at back of throat. After 20 m., there was loathing at stomach, continuing until he took food. From 10 dr. there was same sense of loathing, as after castor oil, or almond oil in which $\frac{1}{10}$ th of croton oil had been mixed. From 51 dr. there was colic in $\frac{1}{2}$ h., and in 4 $\frac{1}{2}$ h. a small stool, followed by another $\frac{1}{2}$ h. later. (*ALLEN'S Encyclopædia*, v, 182.)

II. *Poisonings*.—1. Headache; anxiety with burning in stomach; easy vomiting of a large quantity of watery, white-of-egg looking stuff; at same time watery diarrhœa, which gushed from him, with anxiety, coldness of body, shivering and clammy sweat, violent spasmodic pains in legs and cramps in calves, which were raised in lumps. These symptoms lasted several hours, and yielded to opium in wine. (*G. de V., in Hering's Amer. Arzneihr.*, 586.)

2. In Porto Praya (Cape de Verde Islands) 2 men ate the seeds of Jat., which grows plentifully there. One ate a handful, the other only 3 or 4 seeds. After 1 h. both had most violent vomiting and purging. The one who ate the smaller quantity had no more symptoms. In the other the muscles of the limbs were contracted by violent cramps, head confused, vertigo with great restlessness, breathing quick and gasping, skin cold and damp, pulse small, thready, intermitting; heart's action very irregular, and so weak its impulse could hardly be felt on the thoracic wall. This lasted several h. Reaction commenced after 5 h. Soon afterwards he fell asleep. Next m. nothing remained but irritability of stomach and great weakness. (*FARQUHARSON, Am. Jour. of Med. Sci.*, quoted by Hering, *Ibid.*)

3. June 28th, James Cole, æt. 36, ate 5 seeds. After 10 m. burning in mouth and throat; sore pain in abdomen which was distended. A few m. later great nausea; in 1 h. vomited 5 times and was copiously purged. The burning in fauces and pain in abdomen continued; he felt hot and feverish. After 1 $\frac{1}{2}$ h. copious sweat

all over body, and he became so weak he could hardly walk. The next $\frac{1}{2}$ h. the weakness increased, he got very giddy, became delirious, and, lastly, insensible. This continued 20 m. After $\frac{1}{2}$ h. he could walk to the hospital, where he arrived 4 h. after having eaten the seeds. He was very weak, complained of heat and dryness in mouth and fauces, numbness of tongue and pain in abdomen; face pale and anxious, pupils normal, hands cold, pulse 140, weak. Soon restored by opium and cordials. (LETHEBY, *Med. Gaz.*, July 21st, 1848.)

4. Thirty-three boys ate the seeds in various numbers from 3 to 50. In some the symptoms appeared in 10 m., in others not before 2 or 2 $\frac{1}{2}$ h. The symptoms were pain and burning in throat and fauces; pain and distension of abdomen; giddiness, vomiting, drowsiness, later purging of copious mucous and rice-water stools. Depression in some very great, in many dysuria: after effects thirst, fever, hot skin, quick pulse, pupils dilated, in those who had taken a large quantity. The drowsiness very marked. One fainted and fell after being sick and violently purged. The cases of 15 are given in detail, but the symptoms were all very much alike, differing mostly in degree. Several had severe cramps along with the purging and vomiting. One became pulseless and almost comatose. One had vomiting but no purging. (*Med. Times and Gaz.*, June 25th, 1864.)

5. Nov. 11th, 1848, M—, æt. 22, healthy, ate at 11.30 a.m. 15 to 20 seeds. 1 p.m. burning in throat and stomach with restlessness and urging to stool. Some profuse purging, at first of dark faecal matter, then of thin or nearly watery discharges, with great pain, sinking of abdomen and vomiting. At 2.30 p.m. cramps in feet, legs and thighs. At 3 p.m. purging ceased but cramps continued, and were so severe that patient sprang in agony out of bed and stamped his naked feet with all his force on the ground as if to flatten them, as the cramp distorted them. The cramps were not confined to lower extremities, but were, though not so severe, in muscles of abdomen, arms and back; occasionally convulsive twitchings in back like tetanus. When the cramp commenced he began to lose sense of hearing; this increased till 3.30 p.m., when he was so deaf as to appear insensible to the loudest voice calling in his ears; sight dim, could not recognise those about him. From 1 to 4 p.m. pulse very small, thready and weak; skin cold, damp, clammy; features sunken and contracted and he was quite exhausted. Brandy and opium failed to give relief until 6.30 p.m., when the body became warmer and pulse stronger. Then the cramps gradually declined till midnight, after that only about once in 1 h. He got some sleep and was better in m. Next d. remained totally deaf, occasional cramps, tenderness of abdomen on pressure. The 2nd d. the hearing returned and he was well. Though he seemed quite conscious during the illness, he had when he recovered no remembrance of anything that had happened after the purging. (MARRETT, *Madras Quart. Journ. of Med. Science*, 1861, iii, 37.)

KALI BICHROMICUM.

(See vol. ii, p. 162.)

II. 16. W. W—, æt. 47, a furniture dealer's employé, having finished work one night, took up a jug in the shop and drank a hearty draught of the contained liquid, which he imagined to be cold tea, but which afterwards proved to be a solution of bichromate of potash, used for staining wood a mahogany colour. Finding by the bitter taste that he had made a mistake, he immediately started for home, but was violently sick on the way. The sickness continued with much violence, accompanied by profuse diarrhoea and great pain in the epigastrium. I arrived about an h. after he had taken the liquid, and found him greatly collapsed, with cold sweats, an anxious expression of the face, pulse almost imperceptible, pupils dilated, extremities cold, and severe cramps in the calves and thighs. I immediately washed

out the stomach with warm water by means of a flexible tube and funnel, the liquid first drawn off and the vomited matter consisting of a dark brown liquid with some blood-clots and much mucus. Hot bottles were applied to the extremities and poultices to the epigastrium. Some warm brandy-and-water was left in the stomach, and remained long enough for some absorption to take place. A mixture containing bismuth, magnesia, and chlorodyne was given every 2 h. The first two doses were rejected, but after the third he sank into a good sleep, and next morning was much better, and after being kept for three days on fluid diet was in his usual state of health. The quantity taken was about five ounces of a saturated solution of the salt. (BULLOCK, *Lancet*, Sept. 13, 1890.)

II. 17. a. A young Englishman, Charles B—, æt. 25, committed suicide by taking about 2 oz. of bichromate of potassium in the solid form. From the evidence at the coroner's inquest and from subsequent inquiries it was established that he could not have taken the poison before 11.15 a.m. A few m. later B— was found lying in the out-house, vomiting, purging, and in great agony. When seen by the ambulance surgeon of the Montreal General Hospital he was writhing with pain on the floor of the shop, speechless, his mouth, hands and clothes stained with greenish-yellow vomit, surface of body cold, face contorted and of a dusky hue, pupils unequally dilated, pulseless at the wrist, respirations very rapid and shallow, abdomen retracted and painful on pressure, and the knees drawn up to the body. The breath was cold, and the mouth contained a yellow, frothy mucus. The emesis, which had ceased, was brought on again by passing the finger into the back of the mouth. He was taken to the hospital as quickly as possible, a hypodermic injection of ether administered, and an attempt made to use the stomach pump, but without success, the patient dying a few m. after arrival, less than 1 h. from the time of taking the fatal dose. When seen 1 h. after death, cyanosis was intense over face and neck, and pupils were widely dilated.

b. Autopsy performed 48 h. after death. Intense purplish-blue lividity of face and upper part of neck; pupils contracted to a pin's point. Post-mortem rigidity present in all joints, and very marked. Bright yellow staining of skin around mouth and nose, and on hands. Anus smeared with yellow fæces. Cerebral sinuses and veins of pia mater, which were distended, contained dark chocolate-brown blood of a syrupy consistency, and without clôt. Brain substance and membranes normal. The peritoneal cavity contained an ounce of dark-brown fluid. The liver was of an intense purplish-blue colour, and hyperæmic on section. The spleen was dark-red and firm. The capsule of the kidneys was non-adherent, and the parenchyma dark purple-red and very hyperæmic. The small intestines were moderately distended, and contained a quantity of olive-green tenacious mucus, with shreddy pieces of a yellowish colour. The mucous membrane showed evidence of irritation, but nowhere was there loss of substance. The large intestine was very firmly contracted, and contained only a little mucus. The stomach contained a considerable quantity of greenish-yellow, ropy mucus, the mucous membrane being stained a deep olive-green

colour, and covered in places with a loose membrane which came away in flakes, and under the microscope was found to consist of masses of cylindrical epithelium. No undissolved bichromate was found in the stomach. The bladder was firmly contracted and quite empty. The lungs, which were of a dark blue-black colour externally, were crepitant, and contained a little blood, also of a dark chocolate-brown colour. The cut surface was dark brown and very frothy. The right auricle and ventricle were moderately dilated, and the left ventricle was contracted. The heart contained three ounces of dark chocolate-brown fluid blood, but no clots. A crystal of bichromate of potash, about the size of a split pea, was found on the right side of the upper part of œsophagus, and a smaller one on the opposite side at the same level. The tongue and the anterior surface of the œsophagus were stained a bright yellow. The skeletal muscles were all very rigid and of a dull red colour. 72 h. after death, when the body was removed for burial, rigor mortis was still very marked. A chemical examination showed that the blood everywhere contained neutral chromates of both sodium and potassium. By far the largest quantity was obtained from the veins of the portal system. The blood in the heart and great vessels also contained a very considerable amount, and chromates could be readily detected in the blood of the brain. The liver, as one would expect, contained a larger quantity of the poison than any other organ; its tissue was readily stained of a yellow colour by lead acetate, and of a red colour by silver nitrate. The kidney also gave these reactions, but not so readily as the liver. On suspending a portion of the kidney for a few minutes in a dilute solution of lead acetate, the cortex was found to be most deeply stained by the chrome yellow, though all parts of the organ became decidedly tinted. The mucous membrane of the stomach was of a green colour, from the presence of reduced oxide of chromium. The blood was found to be profoundly altered in colour and consistence, and to have lost its characteristic alkaline reaction, being quite neutral to litmus. It remained undecomposed and homogeneous in loosely corked bottles for nearly two weeks after the autopsy. On spectroscopic examination, the absorption bands produced by the blood were found to be identical with those produced by that form of hæmoglobin called methæmoglobin (Hoppe-Seyler)—that is, the blood presented a three-banded absorption-spectrum in dilute solution, one band being in the red, near the line C in the solar spectrum and between C and D (wave length 632); the two others lying close together between D and E; the last two formed one black band in more concentrated solutions of the blood. The identity was further confirmed by the action of strong reducing agents. The methæmoglobin could be reduced to hæmoglobin by ammonium sulphide, and again oxidised to oxyhæmoglobin on shaking with air. There being no urine in the bladder, the question of the excretion of the poison by the kidneys could not be determined. (RUTTAN and LAFLEUR, *Montreal Med. Journ.*, Aug., 1888.)

III. 4. Owing to the indefinite nature of the tissue changes described as the result of poisoning by bichromates, it seemed to be of interest to determine, if possible, what, if any, were the differences

between the effects of chromates and bichromates on the system, and to try to ascribe to each salt its own physiological action.

Two rabbits were poisoned—one with bichromate of potash, as described before, the dose being about 15 gr., the other with neutral potassium chromate; the dose given in the latter case was between 20 and 30 gr., the fatal dose, as found by Posner, being about 9 or 10 gr. The rabbit poisoned with bichromate died in $\frac{3}{4}$ h. with no symptoms of irritant poisoning, no purging or signs of violent pain, the chief symptoms being slowing of the heart, slow and intensely difficult breathing, with blueness of the skin of lips and ears, increasing till death; there was but one convulsion, and that just before death. The rabbit that had taken the neutral chromate showed symptoms of irritant poisoning from the beginning, the first symptom appearing $\frac{1}{2}$ h. after; purging, expulsion of urine, convulsions, quick and shallow breathing, were the chief symptoms. The post-mortem examination made immediately after death showed that the rabbit which received the bichromate had the same engorged purple liver and engorged kidneys which characterized the action of the salt; the lungs were pale and anæmic; the blood was of chocolate-brown colour, and it gave at once the absorption spectrum of methæmoglobin. Thus the chief differences between the two forms of chromate poisoning seemed to be in their effect on the blood. To confirm this, experiments were made with both salts on a solution of oxyhæmoglobin. The merest trace of the bichromate was sufficient to convert into methæmoglobin almost instantly a test tubeful of diluted oxyhæmoglobin; a larger quantity precipitated the proteids and destroyed the colouring matters, the blood then yielding the spectrum of acid hæmatin. Pure neutral chromate had no effect whatever on the oxyhæmoglobin even when added in considerable quantity—*i. e.* several grains to the test tubeful of dilute blood. (RUTTAN and LAFLEUR, *loc. cit.*)

KALI BROMATUM.

(See vol. i, p. 606.)

II. 11. Dr. FINCKE relates a case of a young surgeon who took 10 gr. in one dose "for excessive sexual excitement after mental over-work." He immediately had burning in stomach, going on to aching and empty "gone" feeling, relieved by eating, lasting 1—2 d. These *may* have been effects of the dose on a sensitive subject; but we cannot so reckon excessive diuresis, lasting a week; then "neuralgia of spine" for 1—2 d.; then dysuria, followed by "regular gonorrhœa." (*The Organon*, i, 343.)

12. An epileptic woman who during her pregnancy took daily 2 grm. of K. br. was delivered of an apparently healthy child. But the infant, which slept continually, and nursed only twice a day, steadily declined. After 19 d. it was emaciated, wrinkled, and old-looking; pulse 86; resp. not over 10 per m., accompanied by a whistling glottis-murmur; general anæsthesia. The urine in the

canaliculi were free ; stomach and duodenum normal ; intestinal mucous membrane and glands were swelled. (v. HASELBERG, *Berl. klin. Wochenschr.*, 1880, Nos. 49 and 50.)

17. *a.* A healthy, robust girl, aged $2\frac{1}{2}$, gained access to a bottle of chlorate of potassium, and ate about three drachms of the crystals. As she had partaken of food a short time previously, and drunk largely of water immediately afterwards, no symptoms of poisoning showed themselves for 2 h., except that she complained of a pain in her stomach about $\frac{1}{2}$ h. afterwards, which was supposed to arise from indigestion, and was treated with paregoric. Two h. after she had ingested the drug, she vomited very freely, ejecting from her stomach the food and water that she had taken. She passed from her bowels at the same time a large quantity of greenish mucus, followed by a clear mucus. After this she became much prostrated, with a feeble pulse and a bluish, ashen hue of countenance. It was not discovered until this occurred that she had taken so much of the drug ; and a physician was then called in. Under the use of alcoholic stimulants the prostration soon passed off, and she commenced playing, and continued to do so for more than 2 h. ; but she seemed to be in a state of excitement, and played boisterously.

b. She then slept for 2 h., and, on waking, asked for water and ate a little. She seemed very restless, and her countenance still had the bluish appearance. At 8 p.m., 8 h. after she had taken the drug, she vomited again, became very much prostrated, and was thought to be dying ; but she again rallied under the use of stimulants. The matter ejected was simply the water and food she had taken. She slept tolerably quietly until midnight, asking for water frequently ; at that hour her bowels moved again, the passage being greenish water and slime, after which her extremities became cold, and the pulse became imperceptible at the wrists. Stimulants were freely administered, but without effect. At 2.30 a.m. she vomited a large quantity of water, after which she sank very rapidly, and died quietly at 2.45, just 15 h. after she had taken the drug. She complained but once of pain in stomach and bowels, although frequently asked. During the first part of the n. her heart beat with great force, so as to jar the hand when placed over the precordial region, and her pulse was full and bounding. The urinary secretion was increased during the afternoon, and seemed irritant to the bladder ; and there was no suppression or abnormal appearance of this secretion. (BONDE, *N. Y. Med. Rev.*, Nov. 8th, 1879.)

18. The following are Marchand's cases, summarised in II. 9.

a. A child of 6, treated for a slight pharyngeal diphtheria with K. chl., was, during convalescence, taken suddenly with vomiting and convulsions, which were soon followed by death. At the autopsy, the blood presented a chocolate colour, which it retained for some h. after exposure to the air. Liver, spleen, heart and lungs showed same hue.

b. A child of 4 entered the hospital for a violent ulcero-membranous stomatitis. A solution of 15 grm. of K. chl. was prescribed, of which at least two thirds were taken in a day. Next d. there was torpor, cadaverous paleness, strong beat of heart, pulse 100 and

scarcely perceptible. There was diarrhœa like that of typhoid, and vomiting of liquid mucosities. On the following days, there was delirium, jactitation, hæmaturia, epistaxis. Then, by degrees, the general condition improved; but the child was ailing for a fortnight. The urine, examined with the microscope, contained a copious sediment composed mainly of elongated, brownish, cylindrical masses.

c. A child of 3, under treatment for pultaceous sore throat, took 12 grm. of K. chl. in 36 h. The d. after, an emission of dark-brown urine, manifestly sanguinolent, was observed, and thereupon came vomiting and cerebral disorder—phenomena which persisted for some d. more. Three d. after the commencement, Dr. Marchand saw patient for first time, and found her in a completely stupid state, without fever or dyspnœa, responding with difficulty to questions; skin was yellowish; all food was immediately rejected; a little epigastric sensibility. Thanks to tepid effusions, iced drinks, champagne, &c., the vomitings at length ceased; but the child continued restless, ground her teeth, and lost consciousness more and more. The general state by end of 8th d. was exactly that of acute hydrocephalus. To the other symptoms was added convulsions, inequality of pupils, Cheyne-Stokes breathing, and at length stiffness of neck and opisthotonos. She died on the 10th d. The sanguineous urine had contained albumin and a great number of altered blood-corpuscles, arranged in brown cylinders as in previous case. The spectroscope shewed neither the lines of hæmoglobin nor those of hæmatin; and yet the colour of the urine was that of a solution of hæmatin. At the autopsy, the blood was found liquid, without special coloration. There were no appreciable lesions in the brain. The kidneys were profoundly altered, at any rate in the medullary portion, which contained a great number of small miliary agglomerations of lymphoid cells. All the pyramidal canals were stuffed with the brown cylinders.

d. A child of 6—7 was treated for slight croup with 25 grm. of K. chl. in 30 h. Vomitings and bloody urine ensued, followed by rapid collapse and death in a few d. There was no autopsy.

e. A syphilitic, with a mania for treating himself, at last took K. chl., and died suddenly. At the autopsy, there was yellowish hue of skin, petechiæ, and hæmorrhagic effusions into the subcutaneous cellular tissue. Kidneys were hypertrophied; surface smooth, chocolate-brown in colour, studded with numerous points of dark brown; cortex very thick, of same colour as surface; medullary substance of a still darker brown with a manifest brownish striation, directed towards the pyramids. Under the microscope the excretory canals were found charged with brilliant brown cylinders evidently composed of matters derived from the blood.

III. *Experiments on animals.*—1. a. The question, wherein lies the poisonous action of K. chl., is answered by the results of experiments made by Felix Marchand upon animals, whose attention was first called to the subject by meeting several cases of poisoning.* If fresh blood is mixed with a solution of chlorates of potash and sodium, there appear after a short time peculiar changes. The well-known bright-red colour

* See II, 9, 18.

of the blood, which it instantly takes when mixed with a salt or kali solution, passes in a few h. into a dark reddish-brown, and this gradually into a clear brown. The time at which the last change takes place depends upon the quantity of the salts which is added. A 1 per cent. solution of the salt gives rise, after 15 to 17 h., to a considerable colour, and a 4 per cent. solution destroys, after 4 h., all traces of the hæmatoglobulin (at 50° R.). Very soon this sample takes a syrupy consistency, which by the addition of a 2.5 per cent. solution of the salt passes in a short time into an almost solid gelatinous form. This mass has a remarkable durability and appears unchanged for weeks, especially in relation to putrefaction. In order to determine these conditions upon living animals, Marchand fed daily, for one week, a dog which weighed 17 kilogr. with 5 grm. of sodium chlorate, and when this produced no effect, he increased it to 10 grm., given in two doses; still the dog remained to all appearance in perfect health. He then gave 50 grm. in five doses; on the following midnight the dog was dead. On examination the entire quantity of the blood was found to be of a watery consistency and of a dark chocolate or sepia-brown colour, which did not change upon exposure to the light. All the organs had a peculiar blackish-brown appearance. The lungs were of a smoky-gray, and the heart-muscle of a dark brown colour; spleen greatly enlarged. The kidneys were enlarged, altered, and the capsules smooth and of a dark chocolate-brown colour; the body of the kidney was found, on section, to be of the same blackish-brown colour as the surface, and of solid consistency. The bladder was contracted and contained about a teaspoonful of a thick, brownish fluid; also a crumbling, brownish-red coagulum, about the size of a bean. A microscopic examination of the kidney showed in most of the tubuli uriniferi, especially in the cortical substance, a transparent, homogeneous, brownish cylinder, also numerous cylindrical masses, formed apparently out of aggregated blood corpuscles. The epithelium of these tubes appeared thickened, especially in the cortical substance, and the corpuscles were in masses. The brownish fluid in the bladder contained granules in active molecular motion. A spectroscopic examination of the diluted blood showed the hæmatin line with a clear stripe in the centre. A still weaker solution failed to show the hæmatin stripe, but the lighter stripe remained. The diluted blood remained still of the coffee-brown colour when held to the light, and did not become red on shaking, but formed a brownish-white foam, like beer.

b. In order to obtain an earlier stage of the kidney affection he took a dog weighing from 7 to 8 kilogr., and within 16 h. gave 15 grm. of chlorate of potash in three equal doses; 7 to 8 h. after the last dose the dog was bled to death. The blood from the arter. femoral. was of a markedly dark, brown-red colour, which did not redden in the light and in the spectroscope showed a weak tracing of the capillary hæmoglobulin streak. Both kidneys were of a pale brownish colour and showed on section several cuneated but small radiated dark brown spots and stripes, which began under the capsules and gradually disappeared in the cortical substance. The bladder was very much distended with a dark brown (more correctly a greenish-brown), thick

urine, which was mingled with a very abundant slimy white precipitate, which undoubtedly had prevented the emptying of the bladder. The spleen was greatly swollen, reaching across to the right side of the body; the capsule was smooth, polished, blackish-brown; the whole pulp homogeneous, quite solid, and of a very dark, blackish-red colour. The other organs had a peculiar dark, brownish-red colour.

c. According to these experiments and from observations upon men, there can be no doubt that chlorate of potash (and soda) in large doses may produce death, through a peculiar and most remarkable alteration of the blood, especially the blood-corpuscles and the hæmatin, while the alteration of the spleen, kidneys and urine follows as a secondary result. The blood loses its power to take up oxygen; the hæmatoglobulin is decomposed and the corpuscles disorganised; these are accumulated in different organs, such as the spleen, kidney, and marrow of the bones, to be finally completely destroyed, and pass through the kidney to be excreted, during which the epithelium of the urinary canals is but little or not at all altered; and if the quantity of disorganised blood-corpuscles is great enough, death follows. (VIRCHOW'S *Archiv*, lxxvii, 455.)

KALI CYANATUM.

(See vol. i, pp. 31, 35; ii, p. 724.)

II. 27. a. A photographer, æt. 24, took with suicidal intent an unknown quantity about 9 a.m. His neighbours, hearing a fall, entered his room and found him stretched on the ground unconscious. After having vomited some fluid matter, he was taken to the hospital. At 10 he was in profound coma; skin cold, covered with viscid sweat; coldness of extremities; intense cyanosis of face; eyes protruding, turned upwards and outwards, not covered by lids; considerable dilatation and absolute immobility of pupils; flow from mouth of a spumo-sanguinolent saliva; breath smelling strongly of prussic acid. Trismus was marked; there were disseminated ecchymoses in bucco-pharyngeal cavity, and a whitish eschar on the r. side of the vault and veil of the palate; tongue was drawn back over glottis. Limbs were in complete resolution; there was entire loss of sensibility and reflex excitability. Breathing was very slow, deep, convulsive, and presenting somewhat prolonged pauses; a tracheal râle was perceptible both in respiratory acts and in pauses. Pulse was very small, 120, and at times intermittent. Sonorous râles were disseminated throughout chest. Cardiac impulse imperceptible; heart-sounds distinct, but dull and irregular. Temp. 36.2 only. Involuntary micturition. ʒss of sulphuric ether was injected subcutaneously, and stomach then washed out till the water had no longer the odour of bitter almonds. Patient's condition, however, rapidly became worse, resp. growing more irregular and pulse smaller notwithstanding repeated injections of ether. He was then placed in a hot bath, and iced water was poured over head and nape. Every time water was poured on head, patient drew deep inspirations; gradually breathing

became deeper and more regular, and all dangerous symptoms had disappeared after an h. At 7 p.m. patient had completely regained consciousness; and complained of sharp occipital and gastric pains. Convalescence was rapid; but a general muscular weakness and impairment of speech lasted for a long time. (MÜLLER-WARNECK, *Berl. Kl. Wochenschrift*, Feb. 4th, 1878.)

KALI IODATUM.

(See vol. ii, p. 710.)

I. 3. RABUTEAU found that, under a definite diet, he eliminated 325—372 gr. of urea daily. He then took 1 grm. of K. iod. each d., and found the urea fall to 201—294 gr. A similar result was obtained with the iodide of sodium,—the diet in both instances continuing unchanged. (*Pract.*, iii, 188.)

II. 21. Prof. LANGSTON PARKER records the following cases:

a. A surgeon, æt. 47, consulted me for certain symptoms of an old venereal taint. He had taken 10 gr. of K. iod. twice or thrice a d. for 10 years. There was no wasting of testicles; he had sarcocele, clearly venereal, with a small hydrocele, on one side, on the other side testis was healthy. There was hypertrophy of the tongue, which was tender, covered with lobes or nodes, and fissured by deep cracks.

b. A German gentleman, who had suffered from secondary syphilis for 5 years, and had been treated by Ricord and others, was sent to me for an opinion about his tongue. He had taken large quantities of K. iod. for 4 years. The tongue was tender, swollen, lobulated, and deeply fissured.

c. Another patient had taken 15 gr. daily for nearly 3 years. He was emaciated and weak; his appetite was totally gone. He presented no symptoms of venereal taint, attributing his indisposition to the prolonged use of the medicine. The testicles were of full size; the tongue was affected as above.

d. A gentleman had suffered from constitutional syphilis for 13 years, and had taken large quantities of K. iod. for long periods. The tongue presented the appearances already described; it was in some parts hard and lobulated, in others fissured by deep cracks. The l. testis was reduced to the size of a pea; the r. was of full size and healthy. Virility was not impaired.

Prof. Parker has selected these cases from a mass of others establishing the same conclusions. The peculiar, almost cancerous, appearance of the tongue he believes to be due to the long-continued use of the K. iod. The 4th case is the only one in which he ever saw absorption of the testicle directly the consequence of the same cause. (*Edinb. Med. Journ.*, 1852, p. 379.)

22. Dr. LAWRIE reports the following cases:

a. A patient labouring under secondary syphilis received $2\frac{1}{2}$ gr. of K. iod. daily. After taking 3 doses he was seized during the n. with

great difficulty of breathing and loss of voice. When seen in the morning he presented all the symptoms of spasmodic croup.

b. A patient under treatment for the sequelæ of an inflammatory pulmonary attack. He had taken one half of the following mixture in the prescribed dose, when I was sent for to see him during the night: R Pot. Hydriodat. ʒj; Infus. Quass., 1 lb.; solve; S. ʒj bis in die. He said he had been suddenly seized with excruciating headache, which he likened to a wedge driven from between his eyes back to the base of the skull; acute pain in his eyes, with the most profuse secretion of tears I have ever witnessed; and intense pain in his side (*sic*, probably nose), which was swollen, and from which clear serous fluid came in a continuous stream.

c. Phagedæna of penis. Jan. 8th.—Patient was ordered ʒss of K. iod. 3 times daily, and has now taken ʒviiss; complains of pain in both eyes, hoarseness, pain in chest, cough, and slight difficulty of breathing. The eyes exhibit acute conjunctival congestion, submucous infiltration, and contracted pupils, and the characters of the respiration are those of subacute bronchitis. The hydriodate was immediately suspended, and on the 15th he was dismissed cured.

d. E. L.—, æt. 30, was admitted into the Lock Hospital May 22nd, 1840, for sinuses after buboes and secondary ulcers on thighs. She was ordered the medicine as in Case *b.* 31st.—A profuse papular eruption has appeared on face; sores improved. Omit med. Jan 7th.—Soon after last report eruption disappeared, and the iodide was repeated; eruption almost immediately returned, and is now profuse. Omit med. 8th.—Complains of sore throat, but no redness or swelling is discoverable. 9th.—During n. was seized with acute dyspnoea and hoarseness, pain on pressing trachea, and swelling and pain (inside) of r. submaxillary gland; pulse full, 103; &c. She died that n. Inspection.—The r. submaxillary gland was enlarged, with incipient purulent infiltration into the surrounding cellular tissue, especially towards larynx and trachea. Mucous membrane of upper part of larynx, rima glottidis and epiglottis œdematous. Mucous membrane of trachea and bronchial tubes nearly natural; r. lung posteriorly heavy and acutely congested; l. similarly, but less severely affected; there was no exudation of lymph from the mucous membrane of the inflamed parts. (*Lond. Med. Gaz.*, N. S., ii, 588. 1839-40.)

23. *a.* A patient, æt. 26, was admitted into the London Hospital with a generalised skin eruption, consisting of swellings varying in size from small papules to enormous tuberos masses, some of the latter being ulcerated. The eruption attained its greatest size on the face, legs, and upper part of chest. The patient died of exhaustion a few days later. On enquiry at the hospital in which he was treated previously to being admitted into the London Hospital, it was found that he had been admitted there on account of some swelling in the groin which was diagnosed as syphilitic. There was no skin eruption at the time. Iodide of potash in 5 gr. doses was ordered, and in a short time the eruption began to appear, which was considered to confirm the diagnosis of syphilis, and on this account the iodide was increased to 10 gr. at the end of a week. Ten d. later it was increased to 15 gr.

and later still to 20. He continued it without intermission from July 23rd to October 9th, when mercury was substituted. The eruption had been getting worse the whole time, but as it was throughout considered to be syphilitic the specific was pressed. On careful enquiry there was no reason to suspect that the man had really had syphilis. He lived for about a fortnight after the iodide was entirely left off, but during this time no material change took place in the eruption. (HUTCHINSON, *Archives of Surg.*, vol. i, No 1.)*

24. CELSO PELLIZZARI, in a paper in the *Archives of Dermatology*, July, 1881, p. 263, on some phases of the pathogenetic action of K. iod., reports a case where a man, aged 30, was for some syphilitic symptoms ordered 15 gr. each e. and some mercury during the day; the latter he soon left off, but he continued the iodide from March 20th to April 14th, when he became very ill and was admitted for what was supposed to be glanders. He had many large inflammatory nodular masses varying in size from that of a nut to an apple, seated in the subcutaneous cellular tissue. The nodules were round and situated under the skin, so much so that the latter did not take part originally in the morbid process. Abscesses formed, but healed slowly and left cicatrices. On omitting the iodide, the eruption departed, but recurred each time the drug was repeated. (MORROW, *Drug Eruptions*, New York, 1887.)

25. BESNIER (*Annales de Derm. et Syph.*, 1882) had a patient, a man, æt. 40, who consulted him for an eruption on the palm of the hand which was very difficult of diagnosis, but for which he gave him two grammes of K. iod. daily. This was followed in a week by an eruption on the face and thorax of veritable tumours, varying in size from a small to a large pea. They were of a reddish coppery hue, flabby, almost fungous, and presenting punctate depressions. Incision only gave exit to blood. (A similar condition was observed in a woman, aged 65). (*Ibid.*)

26. Dr. VALANUR observed (*Journal of Cutaneous and Venereal Diseases*, 1884), in a woman, æt. 49, with mitral disease, who had been given for 4 d. 2½ grammes of the iodide, that she was attacked with acute pain in her buttocks, thigh, calf of leg, and in the dorsal region. Then there appeared upon the parts small indurated nodules of the size of a nut, of a deep red colour, and readily appreciated by palpation. During 3 d., they developed in size, one or two attaining the volume of an egg. The iodide was repeated three times, and after each repetition the same symptoms appeared. (*Ibid.*)

27. TALAMON (*Journ. de Méd. et Chir.*, 1885) reports the case of a woman in whom 2½ grammes of the iodide produced an eruption resembling erythema nodosum. (*Ibid.*)

28. HALLOPEAU (*L'Union Médical*, 1885) observed the development of painful nodes in one of his patients, which was repeated every time he took the iodide of potassium. The tumours were oval in shape, reddish at the surface, and painful on pressure; they were chiefly situated over the anterior surface of the thighs. He also had iodic purpura. (*Ibid.*)

* Two plates are given, illustrating this case.—EDS.

29. Dr. PRINCE MORROW himself lost a patient from iodide poisoning, where tubers were developed, but there was much more general dermatitis than in Hutchinson's case. (*Ibid.*)*

30. A peasant woman, æt. 48, came under treatment for nephritis Feb. 25th, 1886. It had attacked her in a subacute form 3 months previously, and had not been treated medically. Previously she had been always healthy. The urine contained much albumen, some blood, and was in moderate quantity. She had ascites, anasarca, slight swelling of hands, and there was some effusion into the pleural cavities. Digestion sluggish, anorexia, hypertrophy of heart. The dropsical symptoms subsided rapidly under the use of hydropathic packings and pilocarpin. The blood disappeared from, and the albumen diminished in, the urine, but continued in it to a certain extent. At the end of 3 weeks the state remained about the same in spite of digitalis infusion and liq. kal. acet. But up to the end of March her general health was very satisfactory. She was able to leave her bed which she had kept for 4 months, and she could enjoy the open air. When the pilocarpin began to disagree, she ceased to perspire and had violent vomiting after every dose. The packings were discontinued, and a solution of K. iod. 6'0 : 200'0, a tablespoonful 4 times a day, given. March 30th.—She took 4 tablespoonfuls of the above solution, after which she had heat and some headache. Next d. she took 3 spoonfuls, and then discontinued it in consequence of a severe coryza and a white pimple on the dorsum of the nose. Seen on April 1st (3rd day of taking the med.), the following condition was observed. Her previously small and pretty features were swollen and deformed. The nose was twice its normal breadth, lips swollen, eyelids closed by large œdematous overhanging swelling. From the closed lids there constantly exuded a thin, dirty pus, which dried into yellowish-brown crusts, and when the lids were forced open this matter gushed from them as in blennorrhœa neonatorum. The sight as far as could be ascertained was unaffected. The whole swollen face and the head and neck were covered with irregularly placed papulous, pustular and bullous eruptions of different forms and sizes. A few of the papules and pustules resembled the iodine acne. Of the bullæ the smallest was lentil-sized, of dull greyish-white colour; they rose from the œdematous skin abruptly, were of a round or oval shape, some were rather reddish and more transparent like small blood blisters, filled with clear bloody or serous fluid. Some of larger size and irregular shape seemed to be caused by the confluence of several smaller ones; their contents were more turbid. The largest and most numerous of the blisters were of the size of a thumb-nail, of opaque white colour, or filled with clear reddish fluid. The former when opened discharged a drop of clear red or opaque purulent fluid; the rest of the contents consisting of a whitish-grey, greasy mass. There were other bullæ in

* Dr. Fox says (*Trans. Clin. Soc.*, vol. xi) that he has often been consulted for supposed syphilis, when the disease has been simply an iodide rash. Dr. Morrow too, asserts that cases of iodide poisoning "have been mistaken for syphilis, and the iodide may be continued, possibly in increasing doses, for the very condition which it has caused."

pretty large numbers on the rest of the body, especially the dorsal aspects of both hands. On the healthy skin the bullæ resembled the blisters that arise on gangrenous parts. The lower extremities and back were also similarly affected. There was no pain except a little burning where the blisters were present. But not the skin only, all the mucous membranes that could be seen, as of the nose, tongue, cheeks, and fauces were also covered with whitish, prominent, pemphigous eruption. There was aphonia. Next d. the state was the same. She had slept well, had several diarrhœic stools, the last of which consisted of about 3 tablespoonfuls of pure dark blood. The eruption to-day resembled the gangrenous blisters, they had a bluish-red colour, and when opened discharged a clear or opaque fluid, and their bottom was covered with a layer of white greasy substance. The larger whitish bullæ on the face were mostly open, and had assumed the form of deepish ulcerations covered with macerated flakes. An obscure systolic murmur was heard at the apex of the heart which was not there before. As the sores on the sacrum began to slough, the patient was sent to the hospital. April 5th.—Passed urine and fæces involuntarily. 7th.—Appeared a little better. The bullæ commencing to scab over; no new ones had appeared. Great fœtor of breath. 8th.—Collapse set in, and she died on the 12th. No p.m. (WOLF, *Berliner Klin. Wochens.*, August 30th, 1886.)

31. A strong young man, æt. 27, who 1½ years previously had had an acute kidney attack which had lasted a few weeks, applied to the reporter on May 4th, 1889, on account of a subacute circumscribed periostitis of r. tibia, the consequence of an injury. Saturnine lotion was applied, and he got a solution of 5 grm. pot. iod. in 150 grm. water, a tablespoonful 3 times a d. After the first dose at 8 p.m., after supper, there came on violent sneezing, coryza, and confusion of head. He tossed about in bed all n., complained of pressure on forehead, and drawing pains in sacral region. Early on the 5th the second dose was taken, whereupon he vomited his breakfast and observed red spots on his chest. The 3rd dose was taken at 2 p.m., when he was found in the following state:—Slight confusion, complains of headache, weariness of limbs, especially arms, violent pains in sacrum, anorexia, and metallic taste. Conjunctivæ highly injected, pupils dilated, sluggish. Nasal m.m. swollen and secreting copious watery mucus, tongue slightly furred. Over the front of the trunk and arms a measly-like eruption of small red spots. Pulse full, not easily compressed, 72. No increase of temperature. Pressure on both renal regions caused shooting pain. Urine sp. gr. 1026, dark colour, contained much albumen, and a small sediment contained fat globules and granular cylinders. The medicine was discontinued. Next m. the eruption had quite disappeared, the pulse quicker and softer, 90, the catarrhal symptoms nearly gone, and nothing but weariness remained. Two days afterwards the urine presented the same pathological conditions which had probably existed ever since his attack of nephritis 18 months previously. (GERSON, *Münch. Med. Wochens.*, June 18th, 1889.)

32. Dr. GRÖNOW, of Breslau, describes a rare form of iodism, with acute œdema of glottis. In all he refers to 9 cases; two are from his

own practice, the remainder are reported by Foerster, Fournier, Fenwick* and Walachowski. On reviewing these cases, the author draws the following conclusions:—1. That the œdema, which is sudden in arising, takes place early in the administration of the drug, generally within 24-48 h.; and that its intensity may be such as to call for tracheotomy. 2. That the quantity requisite to call forth the symptoms varies from 3 gr. upwards; in one case, though there were slight throat-symptoms earlier, yet it was not till the 6th d., when 200 grs. (of K. iod.) had been taken in all, that severe dyspnœa set in. 3. That other symptoms of iodism may be quite absent. 4. That the cause of these exceptional effects is not the presence of impurities (iodates), but that the pure drug is alone sufficient. 5. That local laryngeal symptoms could not be shown to be present, so as to predispose the part to the œdematous outbreak. 6. That the phenomena must be explained by the word idiosyncrasy. 7. That in some cases the idiosyncrasy persists, but that in others it rapidly disappears, the patient becoming tolerant of the drug. (*Brit. Med. Journ.*, May 10th, 1890: from *Therap. Monatschr.*, March, 1890.)

33. We have a charlatan in Chicago who administers heroic doses of K. iod. A great many of his patients have afterwards come under my care; and a large number of them have complained of a peculiar bruised, agonizing aching at the cardiac end of the stomach.† It was not associated with palpitation. (E. M. HALE, *Trans. of Amer. Inst. of Hom.*, 1889, p. 334.)

34. Dr. EHRMANN narrates 4 cases in which severe facial neuralgia occurred after K. iod. In the first, the patient, a strong working-man of 35, suffered most intense pain in forehead, face and teeth, with sensitiveness over whole distribution of fifth nerve, after taking 15 gr. of the drug.

A second, a man, æt. 42, after taking 30 gr. had pain in forehead and upper jaw, with tenderness in separate branches of the same nerve.

A third patient, a woman, æt. 28, suffering from syphilitic periostitis of tibia, after 15 gr. was attacked with violent pains in the sphere of the 5th pair.

A fourth, a sewing girl, æt. 25, suffering from rupia and pain in the extremities, after 30 gr. had moderate jaw-ache. All the patients had at same time œdema of lids, hyperæmia of conjunctivæ and lachrymation. (*Neurologisches Centralblatt*, April 15th, 1891, p. 248.)

KALMIA.

(See vol. iii, p. 69.)

I. 8. a. Dr. LOUIS FAUST, æt. 20, weight 148 lbs., dark hair and complexion; before proving, healthy; pulse 66-70. Commenced proving on July 1st, 1875, with tinct. 1st d.—Took 4 dr. Neuralgic pain in r. leg below knee; also in r. elbow going to shoulder and then

* See ii, 1.

† Dr. OWENS states that he undertook a proving of K. iod. some years ago, and elicited this symptom several times. (*Ibid.*, p. 335.)

to wrist, finally locating itself in elbow. Full dull feeling in the head. Feeling all over body as if I had been exposed to a soaking rain. 2nd d.—Took 5 dr. Dull feeling in head continued. Increase of pain in elbow, which again extended to wrist and produced sensation in whole forearm as if it were in a vice. 3rd d.—6 dr. Symptoms same as yesterday, only a little more intense. 4th d.—7 dr. Scraping sensation in throat all d. which caused desire to cough. Drawing tearing toothache. 5th d.—Took 10 dr. Neuralgia of face. Drawing tearing pain in epigastric region, aggravated by slightest motion, even talking. Nausea. Pain in the vertex and temples, sometimes alternating in these places. Toothache. 6th d.—11 dr. Headache in top of head, shooting to temples. Head feels as if it would burst. Rheumatic pains all over body, often changing their position, so that they cannot be localised by description, especially in shoulder, elbow and wrist. Feeling of lassitude in limbs as if I had walked a long distance. 7th d.—15 dr. Excessive burning in anus after stool. Stool somewhat harder to-day. Same pains in different parts of the body. 8th d.—20 dr. Stool this m. very hard and large, so that it could hardly pass anus. Excessive burning in anus after stool. 9th d.—25 dr. Constipation continued. No new symptoms. More of those rheumatic pains in different parts of the body. 10th d.—Took 30 dr. Constipation continued. 11th d.—An attempt at stool this m. was unsuccessful, as stool was too hard and too large to pass the anus. 11 a.m. passed a large hard stool with great difficulty. 2.30 p.m. took 30 dr. Sensation of rawness in throat causing constant desire to cough. At this point I suspended the proving for 13 d., as the constipation came so troublesome. It passed off as soon as drug was discontinued.

b. Dr. F— resumed proving July 25th. 12th d.—30 dr. Slight rheumatic or neuralgic pains all over body, but of no particular moment. 13th d.—Took 50 dr. Alternate rheumatic pain in the shoulder and elbow of r. arm, finally locating itself in elbow. Dull drowsy feeling in head, which changed to raging headache in temporal and occipital region. Sensation in the eyeball as if walls and roof of orbit were pressing on it. 14th d.—Wild unpleasant dreams all n. 10 a.m., took 30 dr. Rumbling and feeling of emptiness in stomach as if I had eaten no breakfast. 2.30 p.m., took 30 dr. 15th d.—Took 70 dr. Soon after taking medicine faint feeling, which soon left me, with dizziness. 10 a.m., pulse 80. Vertigo, worse towards noon. Lancinating pain in middle of humerus; darting pains through the ears. 4 p.m., pulse 68. Took 5j. Weakness below knees, as though I would fall down. 4.30 p.m., feel restless, go from one place to another looking for something and don't know what. Nausea; buzzing before ears. Urine increased but clear. Neuralgic pains in leg along inner side of tibia; this symptom I have felt more or less during whole proving. Pains in ankle joint, very severe at times. 10.30 p.m., pain in temporal region. 11 p.m., drawing sticking pain in hip and sacral region. 16th d.—After retiring last n. severe pain in r. knee, in vicinity of patella. Pain in l. ankle. Severe backache. Restless sleep. Unpleasant dreams. Awoke at 4.30 this m. with severe headache; after that I could only sleep a few moments at a time, and would awake out

of frightful dreams. Pain through r. leg even to toes. 10.30, was taken with pain in bowels, which drove me to stool; stool was diarrhetic and passed with slight tenesmus; soon followed by nausea. 10.30 a.m., pulse 72. Pain in molars, a shooting pain from temples to eyeballs. Dyspepsia. Feeling of anxiety. 4 p.m., pulse 66, took 5j. A gnawing pain in palm of hand, mostly in metacarpo-phalangeal articulations. Feeling of lassitude all over body. Irritable, feel like scolding everybody. 10 p.m., took 30 dr. Urine still increased. Pulse 54. 17th d.—Awoke this m. with full, dull feeling in head, which lasted for an h. after rising. I did not feel like moving. The same peevish feeling as yesterday. 9.30, pulse 70. 9.45 a.m., took 70 dr. Soon after taking medicine feeling of heat all over body, without change of pulse. Pain in r. knee under patella. 2.30 p.m., very sleepy, almost fall asleep over my books (not because the books do not interest me), cannot concentrate my mind on my books. Pain in neck and all the way down back. Severe pain in patella of l. leg. 18th d.—After retiring last n. could not sleep for 2 h., restless and tossing about in bed. I felt as though I had worked too hard and was too tired to go to sleep. 8 a.m., gnawing in epigastrium, with feeling as though I had not eaten anything. Stitches in r. hypochondrium. Fluttering of heart; this I had twice yesterday, but did not lay it to the K., but to-day it has attacked me with increased violence, and I can trace it to nothing else; it is accompanied by a feeling of anxiety, I feel as if something dreadful was going to happen to me. 9.15 a.m., pulse 62, took 70 dr. Same feeling of heat all over body after taking the medicine as yesterday. Sticking pain in little finger which shot all along ulna. Headache in temple shooting into eyeball. Constant pressure in eyes, can hardly keep them open at times. Frequent erections without desire and coming on spontaneously. After having studied, got up from my chair but was too dizzy to walk. 4 p.m., took 10 dr. Slight fluttering of heart, 9.30 p.m., pulse 64. 19th d.—Took 85 dr. Heat all over body as before. 10.30 a.m., very sleepy. One side of the nose has been occluded for 3 d. Felt yesterday as if I had what is commonly called a cold in the head. Gnawing in stomach as though I had had no dinner, which causes headache and nausea. 4 p.m., took 60 dr. Cutting pain on r. side of tongue, relieved by biting on it. Rheumatic pains in hips and down legs. 20th d.—Awoke this m. with a very painful pressure over the eyes, and temporal headache, which was temporarily relieved by cold water. Pain in the interscapular region. Pulse 70. Stool normal, but burning in the anus after stool. Headache only on r. side. Pain over r. eye. 3 p.m., feel very drowsy. Pain in shoulder lasting 15 m. Pain in whole length of the back. The headache has continued from this m. Pain in stomach with sensation as if something was tearing the walls from their connections. 21st d.—I did not feel like going to my books this m. Headache which last 10 m., then leaves me a few m., but only to return again. Sticking pain and weakness in wrist joint, almost disabling me in writing. Headache in occiput with pain in neck. 8 a.m., pulse 68; 10, pulse 80. Vertigo when getting up from a seat. Rheumatic pains in l. leg p.m., which lasted until I went to bed. 22nd d.—Pain in neck has not yet

left me. Feel very languid this m., with an occipital headache. 9.30 a.m., took ʒj. 10, pulse 84; great heat all over body. Cannot study. Restless, want to leave the office, but don't know where to go. 10.30, took another ʒj. A bruised feeling all over body. Pain in neck increased, mostly in 7th cervical vertebra. Sensation of fulness in head. Feel as though I would not like to be spoken to. Don't feel like going to the office. Took a book at home but could not fix my mind on it. Vertigo; a hungry feeling in the stomach; do not feel so bad this afternoon (3 p.m.), but there is still stiffness of neck, and rheumatic pains in leg. Soreness of hip. Took ʒj. Pain in region of submaxillary glands shooting to parotid. Feel very tired, can hardly walk. 23rd d.—Felt very restless after retiring last n., could not sleep. Awoke this m. at 4; could only sleep a few moments at a time; would awake out of annoying dreams. 8 a.m., ʒj. Headache on l. side from temple to occiput. 7 p.m., took ʒj. 24th d.—Awoke this m. with headache, relieved by cold water. 9.30 a.m., took ʒiss. Same pains which have so often been repeated in head, neck and back. Sticking pains in l. lung, under 3rd and 4th ribs, causing dyspnoea. Sleepiness. Dulness of head. Don't feel like studying. Chill (this symptom was felt several times before, but attributed to the weather; now I find I have a real chill). Before retiring, itching and burning all over body, as if I had been stung by mosquitoes. 25th d.—Same empty feeling in stomach as though I had had no breakfast. Alternate pains in shoulder, hip, and knee joints. Pressure in eyes, soreness of edges of lids. Pulse 54; feel very languid. Distress in stomach after dinner as though I had overloaded it, also thirst, though I have not eaten anything to cause either symptom. 3 p.m., very sleepy, fall asleep over my books. Feel very tired all e., almost too tired to record my symptoms. Took no medicine to-day. 26th d.—Rheumatic pains in elbow and leg. Some headache continued all d., same as before. Same sleepiness, though not so well marked as before; also slight chills over whole body. Discontinued proving.

c. On a subsequent occasion, resumed trial of tinct. 1st. d.—Took at 3.15 p.m. 30 dr., at 4.15 and at 7.30 40 dr. Pain between shoulder-blades, coming up over head into temples, not affecting the eyeballs. Scraping in throat. Rheumatic pains in shoulder and scapula. Feel like stretching myself. After taking the medicine, a heat all over the body, and flushed face, but no increase of pulse. 2nd d.—8 a.m., took 70 dr. Pain in epigastrium. Pain under angle of jaw. Slight burning during urinating. 10.30 a.m., took 90 dr. Dull occipital headache. Pain in hypochondriac regions. When going down stairs, sensation as if tendon of quadriceps extensor would give way and I should fall down stairs. Pulse irregular. Headache in occiput with pain in neck. Soreness of edges of lids. 3rd d.—Awoke this m. with pain in shoulders; they felt as if they had been bare all n. Pain in l. knee. Pain in sterno-cleido-mastoid muscle. Pain in teeth as if nerves had been laid bare. Sticking pain in lumbar region, worse on moving. Pain deep in l. side of nose. Pain and pressure in eyes. Dull headache in occiput and temples. Sticking pain in index finger of l. hand. Dull headache which cannot be located, it has con-

tinued all afternoon and e., at first it seems to be in one place and again in another, but is most marked in parts back of forehead. 4th d.—Pain in lumbar region. Urine increased. Pain in r. ear. 5th d.—Took 100 dr. at 8, and 300 dr. at 10 a.m. Cutting pains in bowels followed by a loose stool, which relieved the pain. Darting, aching pain in jaws. Pain in r. testicle in m., which went to l. in afternoon. Face flushed with the headache. Pain in lower incisor teeth. Pains about umbilicus. Pain in ball of great toe of l. foot, causing me to cry out. 6th d.—Took 150 dr. A feeling of qualmishness this m. Heaviness of eyes. Same headache continued as before, dull and hard to locate. Pulse 85. Same pain in ball of great toe of l. foot in e.; this I have had for 3 successive e. 7th d.—Urine increased. Pains in shoulders, especially r. 8 p.m., pulse 90. Head hot. Face flushed. Headache, mostly in temples and forehead, which was relieved by pressure. Qualmishness of stomach. Neuralgia of face, pains were transient but severe. Took no medicine to-day. 8th d.—Took 50 dr. Pain in the upper and lower r. molars and bicuspid, coming from malar bone. Pain in ball of r. thumb. Sticking pains in glans penis. Aching and heaviness of eyes. Sticking pains in both limbs and in r. elbow. (*Communicated.*)

9. E. C. STRADER, æt. 21, weight 182 lbs., dark hair and complexion, commenced proving Nov. 23rd. 1st d.—Took 15 dr. of tinct. Heat in l. shoulder extending to forearm, and to tips of fingers. Pain in r. shoulder. Sticking pain in thigh extending to knee. Pains in hands and in all the joints. Pain in little finger extending along wrist and ulna to elbow. 2nd d.—15 dr. Palpitation of heart and oppressed breathing, with anxiety. Pain in little finger, forcibly flexing it. Sharp pain in lumbar region. Frequent desire to urinate. Stitches in soles and toes, also in both upper and lower extremities. Alternate flashes of heat and cold all over body. 3rd d.—Took 75 dr. Pain in supra-orbital region extending to occiput. Sticking pain in l. elbow-joint. Sticking pain in r. shoulder-joint. Neuralgic pains in l. upper molars and bicuspid. 4th d.—Severe frontal headache lasting 2 d.; could not concentrate my mind on my books. 5th d.—Same headache. Took 50 dr. 6th d.—The headache has continued until now, incapacitating me for study. Had to stop taking the medicine on account of it. (*Ibid.*)

10. B. E. MEAD, æt. 23, weight 150 lbs., dark hair and complexion, commenced Nov. 24th. 1st d.—30 dr. of tinct. Pain in r. shoulder. Drawing pain in little finger of l. hand, extending up arm along ulna. Face flushed. Surging of blood to head and as it were against cheeks, l. cheek is uncomfortably hot. Pain in lumbar region; frequent desire to urinate. 2nd d.—50 dr. Body feels hot all over, then again cold. Headache in front part. Pain in lower extremities. Frequent (30—40 m.) desire to urinate, urine feels warm as it passes, small quantities passed at a time. 8.30 p.m., 75 dr. Sticking pain in all joints. Palpitation of heart. Headache in all parts back of forehead. Body feels alternately cold and hot. Limbs feel as if they had been beaten. Oppressed breathing. 3rd d.—50 dr. Headache. Cannot fix my mind on my books. Sticking pains in lumbar region. Pains in

extremities, both upper and lower. Feel anxious and uneasy. 4th d.—Frontal headache. Limbs feel as if they had been beaten. Urinate about once an h. 5th d.—This headache continued, with pains in different parts of body. 6th d.—Just as the former prover gave up the proving I had to do so, and also because of the persistent headache, which stopped when I discontinued taking the drug. (*Ibid.*)

II. E. P. MACOMBER, weight 135 lbs., light complexion and hair. Took at first 3 doses of 3rd dil., 10 dr. each, when I began to have effects. Dull heavy headache, confined to forehead and temples, especially marked in forehead, aggravated by mental effort, with a pale face. Shooting pains in jaws and teeth. Pulse irregular. Palpitation of heart. On walking slowly up stairs fluttering of heart. Irregular pulse, aggravated by mental effort. When leaning forward to write, violent palpitation of heart. Darting pain in upper cervical vertebræ. Shooting pains in r. shoulder. Pain in l. arm, extending from wrist to elbow. (*Ibid.*)

III. *Observations on animals.*—1. In the latter part of the winter and in the early spring cattle, desiring something green, eat this shrub, which is very poisonous. The first symptom of its action is intense thirst, the animal drinking all it can bear; thereupon follows trembling, weakness, staggering and jerking, abdomen being full of wind. This is soon succeeded by clonic spasms, at intervals of 15—20 m., which increase in severity till they become most violent convulsions. During the intervals the animal appears rational, and will try to get up and walk about, but in the effort falls into another spasm. Eyes become fixed, pupils turned upwards, head drawn backward, limbs rigid, abdomen bloated and bowels loose. If the animal recovers, it is apt to be in a state of prostration for a week or more, and seldom gets over the effects under 3—4 mos., during which time it is weak and nervous, and walks as if intoxicated, tottering as if unable to control the use of its limbs. (MEADOW, *Southern Journ. of Hom.*, April, 1890.)

LACHESIS.

(See vol. iii, p. 86.)

I. 21. Dr. EDW. RUSHMORE took on 1st, 2nd, and 3rd d., 10 dr. of 24th dil., on 4th d. 20 dr., and on 5th d. 25 dr., several times daily. 1st d.—Transient dull pressure on top of head near forehead; pressure in r. orbit, in region of supra-orbital nerve, while sitting reading; slight pressing pain in r. eyebrow on walking across room; pressure in l. malar bone while sitting bent forward; pressing pain in middle of l. lower jaw, returning for a short time after pressing on spot to fix the place. 2nd d.—Disinclination to prescribe for patients, would rather read, with dulness in forehead over eyes while walking in room, continuing on sitting down to write; pressure in l. occiput behind mastoid process while standing. 3rd d.—Fine sharp pricking shooting across inner side of l. tibia, about 3 in. below knee, a.m. 4th d.—Somewhat sharp pressing pain above l. temple. Pimple on outer margin of l. nostril, near lip, discharging yellow pus on being pricked with a needle; sore swelling on middle of lower lip as if a fever blister would form; could not sleep soon, mind full of thoughts; at midnight disturbed by mucus in throat, with sense of irritation there (had felt a little exposed to cold draught in e.). 5th d.—Woke with slight dryness in throat; still sore swelling in lip, and return of shooting in tibia. Retired at

11 p.m.; dull aching in l. eyeball soon after lying down, and pricking pain in l. ear while lying on it; could not sleep; about midnight fine pricking burning in l. groin, near superior process of ilium; arose at 2 a.m. and read and wrote for 2½ h.; then went to bed and got some sleep, feeling as well as usual when rising at 7 a.m. 6th d.—Repeatedly made use of wrong word in writing; pressing pain in l. temple; whole scalp of l. side sore to light—not to hard—pressure, this seemed to stop abruptly at middle line (continuing several d.); feeling of weakness and fine smarting, with lachrymation, in l. eyeball, relieved by closing lids; sensitiveness of margins of l. eyelids on first closing them, going off when holding them together (also on following days); fine shooting vertically in upper lip below outer border of l. nostril; fine shooting downward at l. side of root of penis; pricking, as if in middle of r. tibia, in front, sitting. (*The Organon*, iii, 285.)

LAPPA.

(See vol. iii, p. 114.)

I. 4. Mr. C. F. C.—, æt. 27, dark, tall, excitable, single. Proved tinct. in 1883. May 21st, took 10 dr. at 6 a.m. 8, slight pain in r. side, just below ribs; also in r. temple; languid and tired between 4 and 5 p.m.; slight frontal headache after supper. Took 20 dr. on going to bed. 22nd.—30 dr. before breakfast. An hour after felt dull frontal and temporal headache; between 1 and 2 p.m. dull pain through middle of chest, extending through to back, lasting about 15 m. Took 40 dr. at n. 23rd.—50 dr. in m., 60 at n. Headache at 2.30 p.m.; very tired at 4; pain all through l. shoulder, p.m., worse on raising arm. 24th.—70 and 75 dr. Very tired at 11 a.m.; slight pain in l. shoulder. 25th.—80 and 85 dr. Excessively tired all d.; frontal headache; at n. could not sleep, very restless, though without actual or pain.

He now discontinued drug, as he could not do his work. Pain in l. shoulder lasted 3—4 d., as did a pain in r. temple. The tired feeling was the most prominent symptom from first to last, and was of both mind and body; he wanted to sleep at the time. He thought his appetite, already good, improved; was very hungry, and could not eat enough. (*Trans. of Pennsylv. Hom. Med. Soc.*, 1883, p. 312.)

5. a. Miss M. W.—, æt. 27, lively and sensitive. April 29th, took 15 dr. tinct. in m. Two h. after had dizzy feeling as if she would fall, not unpleasant, if going to sleep, worse on lying down, it got less towards noon; felt tired. Repeated dose at n. 30th.—20 dr. twice. Same dizziness and fatigue. May 1st.—35 dr. and e. Same, better in open air and from walking. From 2nd to 5th inclusive to increasing doses, feeling same vertigo and fatigue, till on 6th, having taken 75—80 dr. in m., she came to Dr. Crowther, reporting dull, confused, heavy feeling in head, fear that something might happen; trembling and great excitement; thought she would faint; weak and tired, too much so to do anything; cold all over, cold sweat at times. Medicine was stopped, and she was quite well in 2—3 d., save for dizziness, which lasted (she thinks) about a week.

b. May 21st.—Took 25 dr. at n. 22nd.—35 dr., m. and n. Severe pain in head, extending from nape of neck to forehead, accompanied by feeling as if she would faint, and dull heavy aching in upper surface of eyeballs, as if eyes were tired by long reading,—they felt better when closed. Steady aching in muscles of throat all d.; inclination to tie something tight round throat. She continued taking increasing doses up to 27th, these symptoms persisting, but no new ones appearing; this d., taking 60 dr. m. and e., she had steady pain in r. side below ribs, extending thence to stomach, at times quite sharp. 28th.—65 dr. m. and e. Loose griped stools. 29th.—Same stools. Took no more for 2 d. 30th.—Numb aching in shoulders down arms to elbows and wrists, also in small of back down posterior surface of hips and thighs. 31st.—75—80 dr. in m. Same pain in limbs and back, general weariness and languor with desire to sleep; pain in arms worse from exercise; sleep poor at n., mind too active. Now discontinued drug.

c. From June 16th to July 10th took 3rd dil., in pellets, every 3—6 h. Noticed no effects save tired lazy feeling. (*Ibid.*)

6. a. Miss J. S. C.—, school-teacher, æt. 27, dark; quick, sensitive, vivacious.

nil 26th, took 10 dr. of tinct. at n. Very wakeful during n. 27th.—10 dr. m. e. Nausea between 10 and 11 a.m., again at 3.30 p.m.; dull heavy pain over r. temple, p.m.; occasional sharp, choking cough in larynx, 4—8 p.m.; dull pain in all of back, better for rest; very excitable all d. (The sudden death of a pupil may account for some of these symptoms.) 28th.—10 dr. in m., 20 at n. Aching in calves 8—10 p.m. 29th.—30 dr. m., noon, and n. Sore pain above l. temple 5 to 10 a.m., sharp pain 10—12, and dull afterwards till 5 p.m. At noon, nausea and desire to vomit. Quite nervous and excitable. 30th.—40 dr. 3 times. Sharp pain over r. temple about 4 p.m.; aching in l. groin, p.m.; some aching in legs; appetite improved. May 1st.—10 dr. in m. Dull pain over r. temple at m., lasting 15 m.; choking cough in larynx from 10 till 2; dull pain in lower extremities at intervals from 11 till 2; aching in calves with numbness and burning; numb in middle of back with flashes of heat. 2nd to 20th.—No drug and no symptoms.

21st.—15 dr. m. and n. Mind anxious and worried, as if something was to happen; aching and numbness of calves, p.m.; excitable all d. 23rd.—3 times. Dizzy, as if she would fall, afraid to try to walk; choking cough in 11—12; same aching of calves and nervousness. 24th.—45 dr. 3 times. Headache over r. temple and in occiput felt on waking, passing over after fast; after dinner, and again about 7 p.m., violent palpitation for about 10 m.; pain in region of liver all d., part sore to touch. 25th.—55 dr. 3 times. Dull over l. temple; aching in legs just above knees, all d., painful on movement; restlessness; fluttering and uneasiness about heart all m. 26th.—65 dr. 3 times. Over l. eye all a.m., over r. temple p.m.; aching of calves; fluttering at heart. 27th.—3 d. urine has been high coloured and offensive; it is better to-day. 27th. 30 dr. m. and n. Numbness of r. hand. 28th.—75 dr. 3 times. Dull headache on waking, better after breakfast; tired aching in legs; sharp pain above pubes just under l. scapula; sore pains in r. shoulder, and in l. arm above elbow, also under l. arm near axilla. 29th.—85 dr. twice. Legs and feet tired and numb; palpitation 2 p.m.; choking cough 4—6 p.m.; very nervous; pain in r. wrist, e. 30th.—95 dr. m. and e. Very tired and nervous. 31st.—105 dr. 3 times. Dull over l. temple; nausea all m.; pain in abdomen, causing dizziness, in e.; aching in legs; very sharp pain under l. scapula near axilla, lasting 2—3 m., about 10 a.m. 1st.—90 dr. in m. Took no more till 3rd. Sore throat, r. side, with cough 2 a.m. and about 5 p.m.; shooting in r. wrist, m. and again 4—6 p.m.; feeling of needles sticking in r. thumb. 2nd.—Dull ache in forehead on waking, on 3 p.m.; pain in l. shoulder, p.m. 3rd.—Palpitation in m.; 2 p.m., return of dull under l. scapula for a few m. 4th.—Dull headache on waking. Took 115 dr. 5th.—Very restless during n., could not sleep after 5 a.m., nervous. 5th.—Aching in legs; very tired and languid; pain in r. wrist. (Menses are impending.) 6th.—Aching in calves, and of metacarpal bone of r. thumb, which is sore to touch. 7th.—100 dr. a.m. Head dizzy; aching in r. side of throat; nausea all a.m. Very nervous, awake most of the time, mind seemed over-active. 8th.—115 dr. in m. 9th.—Dizzy; nausea. 9th.—Headache on vertex all d.; sick stomach in e.; legs all d., but did more walking than usual; languid and stupid feeling; menses were in e., more pain than usual in back and lower abdomen, especially 10—11 in 10th.—Very tired all d. Took nothing till 15th, when 100 dr. were taken at n. 16th.—Restless that n.; l. hand numb when she awoke, feeling soon passed off; aching in l. temple and on vertex next m., and aching in calves; mind troubled as if something might happen. Again took 100 dr. at n. 17th.—Aching of legs above knees in calves. Took 80 dr. in e. 18th.—Headache on waking; better after breakfast. 19th.—Nausea at 9.45 a.m. 20th.—No symptoms. 21st.—Severe headache on waking and on waking next m., lasting till 5 p.m. 22nd.—Began taking pellets of 3rd dil. every 3 h. Very tired and languid, rest at n. 24th.—Aching and fatigue in calves. 25th.—Dull aching over l. temple. 26th.—Heavy feeling on top and back of head; aching in calves. 27th.—No symptoms. 28th.—Headache on vertex in m.; tired and languid. 29th.—Dull ache on waking; better after breakfast. 30th.—Same. July 1st.—Two doses of Lappa. Headache all d. 2nd to 4th.—Two doses daily; no effects. Discontinued 5th. Menses reappeared July 5th; more pain than ever before, very severe in back.

7. a. Dr. CROWTHER, æt. 26, single. May 21st.—25 dr. a.m. and e. An h. after 1st dose had "gone" feeling in stomach, accompanied by empty eructations, worse after dinner, better in open air 3 p.m. 22nd.—35 dr. m. and n. Tired and sleepy all d. 23rd.—50 dr. twice. Bitter taste; no appetite; tongue thick and flabby, but clean. 24th.—60 dr. twice. Yesterday had heavy feeling across middle of chest; it is worse to-day; there is constant desire to press upon chest; sleepy and lazy. 25th.—75 dr. a.m. Walked much, and was out driving in wet and cold till 2 a.m. Next d. could hardly get out of bed, he ached so and felt stiff, afraid to move, sore all over. 27th.—Still stiff and sore, but rather better; sore aching all d. along l. lower ribs, which were painful to touch. Took 100 dr. at n. 28th.—125 dr. twice. Great mental and physical lassitude; very sleepy at noon; backache, low down; dull frontal headache; bitter taste. 29th.—Still same excessive fatigue or lassitude; aching pain at times in middle of r. chest, better in open air; pain in small of back; appetite variable; sleepy all d.; in e. sensation as if lungs were congested, with shortness of breath. 150 dr. at n. 30th.—Dull pain in r. chest, 2 in. in area, above and inside nipple, a sort of sore ache; drowsy and tired; sensation as of a hair in r. eye, with inclination to rub the eye; thirsty; hungry, but after eating a little seemed oppressed; at 10 p.m. oppression of breathing, with sensation of heat, though n. was cool and damp. 175 dr. at 11 p.m. 31st.—Tired and sleepy, too much so to think; same sensation in eye, beginning at 8 p.m. in the dark, and better for bright light. At n. 200 dr. June 1st.—Very restless last n., unable to go to sleep for a long time, and then awoke several times; pain in small of back, worse lying on back. Woke at 6 a.m. feeling quite bright. Took no more medicine. Sleep less restless than last n.; aching in forehead last n. and again this m.; lightness of head and dulness. 3rd.—Feeling brighter and better physically and mentally. (Prover thinks that his drowsiness and languor might be caused by the alcohol, to which he is unused in any form.)

b. 28th.—Prover had taken none of the drug for 3 weeks, but had experienced more or less dulness and drowsiness; also much thirst in e., not relieved by soda water. To-day took 3 doses of 3rd dil. in pellets. 29th.—Four doses. Less sleepy than usual. Great sneezing at 9 a.m. (had hair cut day before). 30th.—4 doses. Though up till 1 last n. awoke earlier than usual, feeling refreshed. July 1st.—Yesterday had much exertion, and did not get to bed till 3.30 a.m., but do not feel tired this m. Took nap p.m., dreamed of being murdered, and awoke in horrible fright. Aching under l. scapula after supper, lasting all e., worse sitting. Took 2 doses. 2nd.—4 doses. Slight aching under l. scapula at intervals during d., worse in m. 3rd.—3 doses. No symptoms. 4th.—Have lost much sleep last 3 n., but do not seem to feel it.

c. 5th.—Took 3 pellets of 30th every 3 h. 6th.—4 doses. Last n. had dreams of great exertion. 7th and 8th.—4 doses. No effects. 9th.—Severe backache on awaking, did not want to move, but it was better when he got up. (*Ibid.*)

8. Mr. J. L. P.—, æt. 24, teacher, single, of quick sanguine disposition. Took one dose of 30th, June 8th, a.m. Thought his mind unusually bright and active; everything seemed vivid. 9th.—4 doses. Dull, lazy, drowsy, p.m.; trifling headache on vertex. 10th.—Extremely languid and weak in knees; dull frontal headache; very sleepy, particularly towards e. and indoors. 11th.—One dose, a.m. Terrible headache, bearing and throbbing; stretchy, sleepy feeling; slight pain in small of back; thought he noticed slight tenderness in chest. He discontinued drug because he was "so sleepy and tired, and had to give up proving or business." The tired feeling (which he never experienced before or since) lasted 3—4 weeks. (*Ibid.*)

9. Mr. H. R. M.—, train despatcher, æt. 22, quiet and firm in disposition. Took 2 pellets of 30th every 3 h. from June 23rd, when he was drowsy all d., worse toward e., completely exhausted at n.; but from 24th to 26th no effects were noticed. 27th.—Slight dull headache about 1 p.m., continuing till he got to sleep at n. From 28th to July 6th no effects.—On 7th he took 3 pellets for a dose, when he again felt drowsy, and extremely weak and tired. 8th.—Feeling less tired, still sleepy. 9th.—Discontinued drug. Drowsiness lasted several d., but wore off gradually. (*Ibid.*)

II. *Poisonings.*—1. A woman of 30, for "bearing-down," had applied a burdock leaf across hypogastrium, retaining it there from m. of 18th to e. of 20th May, 1884. Dr. NEATBY saw her on m. of 20th, and found whole abdomen covered with a vesicular eruption, most pronounced where leaf had been applied; here skin was in-

tensely red, covered with innumerable fine vesicles, and edges of patch were raised. There was intense itching and burning, worse from warmth, at n., and in m., also aggravated by rubbing, especially when light; rubbing at one part seemed to increase irritation all over. A similar rash appeared on face. Next d. there was sticky discharge which stiffened the linen, and many of the vesicles had become pustules. For several d. discharge continued, and rash at last went off with much coarse desquamation. Face continued for some d. to get fresh crops of spots; skin was stiff, and small scales appeared here and there. On June 1st skin was so irritated here, with œdema about eyelids, that rhus was given, with advantage. It was stated that the application of either hot or cold water, even with the softest sponge, was felt like a sharp scrubbing-brush, and caused furious smarting, burning, and pricking. The last outburst on the face was on June 3rd, and in a few d. after this skin had regained its integrity. (*Hom. World*, 1887, p. 301.)

LILIUM.

(See vol. iii, p. 130.)

I. 13.* *a.* Dr. E. H. P.—, sanguine temp., in good health, pulse 65. March 27th.—Took 10 dr. of I_x dil. at 7.30 a.m. At 10 began a pulsating headache, l. side, that continued till e., worse from motion or noise, relieved by lying down; eructations all d. 28th.—15 dr. Dull heavy pain in l. temple, with feeling as if head was enlarged; paroxysms of tearing pain in l. arm from shoulder to elbow; dull heavy pain in region of heart; feeling of great weakness, with vertigo on sudden motion, continuing all d.; faint empty sensation at epigastrium, with tasteless eructations; urine exhibits large deposit of phosphates. 29th.—Pulse 80 when sitting before eating. Took 15 dr. Dull, heavy headache on l. side, becoming throbbing after noise or jar; foul taste in mouth, relieved by eating; tasteless eructations; great weakness all over; slight exercise causes violent palpitation; urine as before. 30th.—No medicine; headache continues, seeming deep-seated, and attended by feeling of uneasiness; urine normal. 31st.—25 dr. Pulse 87 sitting, 117 standing; temp. 99° ; some headache, with pressure outward; steady pain in bowels, relieved by soft dark stool. April 1st.—Pulse 80 and 98, temp. 99° ; took 30 dr. Dull, left-sided headache from 10 a.m. to 6 p.m.; dull heavy pain in region of heart from 2 to 7 p.m. 2nd.—Pulse 90 and 110; took 35 dr. a.m. and p.m. Same headache, with general malaise, from 2 to 7 p.m.; occasional pains in region of heart, increased by exercise; sharp tearing pain from l. shoulder to hand. 3rd.—Pulse 66 and 85. Took 40 dr. before eating and before retiring. Paroxysms of sharp pain in region of heart, so severe he must grasp the side, leaving feeling of great weakness all over. Pains in l. arm continue. 4th.—Pulse 90 and 120, temp. normal. Took 45 dr. m. and e. Headache continues, also pains about heart and in l. arm; feeling of general prostration; appetite lost. 5th.—Pulse 80 and 100. Took 50 dr. m. and e. Symptoms as before. 6th.—Pulse 80 and 96. Took 75 dr. before eating. Head and heart symptoms as before; neuralgic pains in l. upper teeth, extending to ear; no appetite. On 7th and 8th took same dose with same results; from 9th to 13th took no medicine, and symptoms gradually abated.

* None of the provers in this series (13—17) knew what they were taking.

b. 14th.—Pulse 83 and 97. Took 10 dr. of tinct. m. and e., continuing such dosage up to 18th. Steady sharp pain in region of heart; neuralgic pains in l. arm as before; rheumatic pain and lameness in l. leg when walking. 15th.—Pulse 87 and 111. Same pains in heart and l. arm; darting pains in l. face, from teeth to ear; urine shows phosphates. 16th.—Pulse 70 and 85. Same headache; circulation seems very weak, pulse very compressible, sphygmographic tracings since 8th are very low but regular; still phosphates in urine, and so to end of proving. 17th.—Pulse 72 and 90. Dull headache, worse towards e.; some pains in heart and l. arm; severe pains in l. cheek towards ear and temple; pulse much stronger. 18th.—Same symptoms. 19th.—Pulse 90 and 108. 20 dr. m. and e. Same symptoms; great weakness. 20th.—Pulse 68 and 85. 25 dr. m. and e. Same symptoms and great weakness of circulation; skin becomes numb on pressure. 21st.—Pulse 70 and 93. Doses as yesterday. Same pains in face and heart. 22nd.—Pulse 67 and 95. No medicine. Pains in head, face and heart, with general malaise. 23rd.—Pulse 73 and 94. 50 dr. before eating. Pains from teeth to ear very severe, also about heart and down arm; some vertigo and nausea all d.; circulation weak. 24th and 25th.—No medicine; symptoms abating. 26th.—Pulse 81 and 103. Took 50 dr. in m.; pains returned violently, arm seems weak; hiccup and eructation. 27th.—No medicine; symptoms abating. 28th.—50 dr. Headache and cardiac pains as before. 29th.—No medicine; symptoms abating. 30th.—Pulse 93 and 120; 50 dr. in m. No new symptoms. May 1st and 2nd.—No medicine; symptoms quite gone by 2nd. 3rd.—Pulse 98 and 129. Took 85 dr. before eating; pains about heart return; pulse irregular, increased by slight motion; face-ache returns in paroxysms, quite severely; frequent urination. No more medicine taken. On 4th, pulse 65 and 88; headache and great prostration; trembling and weakness of l. arm; numbness in various parts. 5th.—Pulse 69 and 78; dull headache, malaise, and exhaustion; no other symptoms. Sexual desire was markedly increased from April 17th onwards, and nocturnal emissions were frequent. (*Ibid.*, 1886, p. 237.)

14. a. W. H. S.—, a healthy man, of nervous-sanguine temp.; pulse 75, resp. 17. March 9th.—Took 10 gr. of I_x trit. before eating. No symptoms during d.; in e. was restless and nervous. 10th.—Twitching sensations about head and in pectoral muscles; slight frontal headache. 11th.—Headache over l. eye, worse on motion and out of doors; slight vertigo; nervous feeling in l. chest; cross and irritable. 12th.—Nervous and restless all d. Took another 10 gr. 13th.—Same symptoms. 14th.—Same nervousness; urine of strong odour, sp. gr. 1021, increased phosphates. 15th.—Feel less nervous; urine as yesterday. 16th.—Well as usual; urine normal. 19th.—Took gr. $3\frac{1}{2}$ of crude drug before eating. No symptoms during d.; slight headache towards n., with increased pulse. 20th.—Awoke with sharp pains through r. lung, worse out of doors; some headache and vertigo; nervous feeling returns, with twitching about heart. 21st.—Sharp pains in chest have subsided, but twitching in heart remains. Feels exhausted; urine of strong odour; phosphates in excess. 22nd.

As yesterday. 23rd.—Nervousness continues; no pains; some ulence and two actions of bowels (unusual). Twitching in heart dually subsided, and by 26th he was well.

6. May 2nd.—Took 10 gr. of crude drug before eating. Soon throat began to feel sore and dry. 11, throat worse, face flushed, dache in occiput and r. side; pulse 78; legs feel heavy; shooting ns in various parts, worse in chest. 3, pains in throat less severe; onsil enlarged, slight exudate upon it; pains all over at times; very table and cross, feel like swearing; nervous feeling is returning, not apply mind to business or anything else. E., mind runs on d thoughts; feel very "ugly;" want to swear one minute and a lewd story the next (quite unlike usual disposition); nervous tching in l. chest returns. 3rd.—Passed a very restless n., dreaming aptuously all the time; "to say I feel devilish will express my uning exactly;" throat improving. On waking this m. was seized h severe pain, extending from os pubis through to rectum; it was ere and cramp-like, and was relieved only by movement of bowels; etite capricious, wants sour or sweet dainties, this craving alternates h desire for food; mental state continues same, "lewd thoughts less me, I want to swear without cause, I never experienced such a e before." 4th.—Slept poorly; horrid lustful dreams all n., felt austed by them; frontal headache; mental state as before; throat rly well; urine of strong odour. 5th.—Slept better last n. roat about well; bad taste in mouth; twitching in l. chest continues. —8th.—All symptoms subsided. (*Ibid.*)

15. T. J. B.—, man of phlegmatic temp.; in good health, pulse 78. y 27th.—Took 10 gr. of crude drug at 8 p.m. Heaviness of head h drowsiness, yawning, and languor; dull aching in small of back, ending forward it feels as if it would break; legs feel too heavy to y; soreness all along spine with stiffness, cannot bend forward out pain; sore aching in region of scapula. All symptoms red by sitting, or standing, or walking about. At 3 a.m., pulse 86; e light-coloured and profuse. 28th.—Pulse 86. Took 5 gr. of le drug. Dull frontal headache; itching of hand as if stung by des; pain along spine, worse in lumbar region; feeling of lump in at, with pulsations in it when lying down; sharp neuralgic pain : l. eye, extending to vertex; heavy tired feeling in legs, with sting pains from groin down inner side to knee. 29th.—P. 80; ralgic pains in frontal region; pressing pains in cardiac region; e light coloured, profuse, with whitish sediment; stool difficult. l.)

16. A. W. W.—, man of lymphatic temp.; has never been ill; e 65. April 3rd.—Took 10 gr. of 2x trit. dry on tongue at : a.m. 7.30, neuralgic pain in l. testicle, inf. and post. portion, of entary duration, but returning at intervals for $\frac{1}{2}$ h. 7.37, ralgic pains in r. temporal region, afterwards in r. foot and toes. , peculiar taste in mouth, no cause; neuralgic pains in foot, also in r. 7.55, salivation, with chilliness down back; pulse normal. 8, ralgic pains in r. temple and foot; itching of calf. 8.15, chilliness ns, rumbling and griping in bowels. 8.20, pressure in perinæum ;

some other part of the body. Since noon have had some dull backache in lumbar region, worse while sitting; and have urinated oftener than usual since 2.30 p.m. (urine natural). Feet cold greater part of d., and cold chills have gone over body occasionally. 3rd d.—Slight occipital headache since 10 a.m., lasting till after supper. Since noon have had backache, centring from 4 to 5 p.m. in lumbar region. 4th d.—For 5 m. after breakfast distressed sensation in epigastrium. From 4 to 5 p.m. headache in occiput, with the backache and a tired feeling. Now and then in afternoon piercing pains in upper third of femur. 5th d.—About 1.30 a.m. awoke with dull heavy occipital headache and sick stomach. In a short time went to sleep again, but had troublesome dreams. Arose at 7.30, with back part of head feeling too large, and with sense of fatigue; but all symptoms passed off after breakfast, and I have since felt quite well. (*Ibid.*)

23. EVERETT B. FINNEY, student, took 5 gr., and, a week later, 10 gr. without effect. (*Ibid.*)

LITHIUM.

(See vol. iii, p. 139.)

I. 2. c. Dilute muriatic acid was saturated with L. causticum and carbonicum, and evaporated. In m. a drop was put on tongue, upper surface of which became numb, as if fat were on it. After 3—5 m., throbbing pain in l. humerus, extending upwards from middle, at different intervals, as if something were dropping or slipping outward; painful dulness in r. side of head, though not sharply defined, also in upper part of l. side.; painful dulness in l. lower back teeth; unusual weariness after exerting arms, and burning in them. After an h., throbbing pain in r. ankle. After 2½ h., pain in heart, upper and inner part; frequent heat in face. (*Hom. Viertelj.*, xiv., 97.)

7. Dr. GOSEWICH took ¼ dr. of 3rd dil. of above with sugar of milk. After about 2 h. he had several slight sensations—feeling of warmth in pit of stomach, more towards l. side; pain in middle of vertex; pain in forehead above r. eye; pricking in anus; dull pain through whole head; frequent eructations; uprising of something acid and stinging in throat (frequently); feeling as after a purge, as though diarrhoea would ensue; dull pressive pain between shoulders, and lower down on each side of spine, between shoulders and small of back; constant pain in back; heartburn; pain in lower hollow teeth of l. side. On 2nd d., in m., feeling of heat and weakness in stomach, as after a purge; pain in back, only felt on remaining seated in one position for a long time. On 3rd d. spasmodic twitching of r. upper lid; difficult breathing through nose, as in catarrh; uprising of food and sour water; aching between shoulders, extending through to chest; sharp but not violent pain in lower l. chest, transient, but frequently recurring. Same d., p.m., dull pain in same back teeth and at same time as yesterday; tip of nose red, sore, and somewhat swollen, with a rather sensitive pain,—all went off on 2nd d. without suppuration. (*Ibid.*)

LOBELINUM.

Alkaloid obtained from *Lobelia inflata*.

I. 1. Dr. OTT took $m_{\frac{1}{100}}$ of acetate at 2.25, 2.56 and 3.10 p.m. Before experiment, pulse was 74, resp. 17, temp. (in mouth) 99°. At 2 m. there was tickling and dryness in throat; pulse was 73, resp. 19. At 7 m. pulse 70, resp. 17, temp. unchanged. At 13 m., pulse 69,

resp. 17, temp. 99.5° . At 17 m., pupils dilating in stomach; pulse 68, resp. 18. At 22 m. At 30 m., pulse 72; resp. 18; temp. $99\frac{1}{2}^{\circ}$. ing and vomiting. At 38 m., pulse 74; resp. 18. At 47 m., pulse 77. At 54 m. At 61 m., pulse 70, resp. 18; temp. (hitherto) 99° . At 78 m., pulse 65; resp. 19; temp. pulse 68, resp. 18; temp. same. At 106 m. prostration, and disposition to sleep. (*Chicag Nervous Dis.*, xi, 68.)

III. 1. Same, in experimenting on the frog a progressive paralysis which finally stopped connected with, if not wholly due to, paralysis of were found insensitive to stimuli. (*Ibid.*)

MAGNESIA PHOSPHOR

There are some provings of this salt in the Dec., 1889; but as they were all made with the 200th they must (according to our rules) remain until confirmed by provings with lower attenuations.

MERCURIUS.

(See vol. iii, p. 201.)

II. 51. a. A young man of 21, of delicate (the first time) a chancre. It is doubtful whether not. He took M., and under this medicinal inflammation and became almost phagedænic. The nevertheless continued, and the case became still patient became much emaciated, lost strength, feeble. There were enlarged inguinal glands, w About a mo. after the appearance of the chancre the scalp. This, at first erythematous, changed covered with thick crusts. The scalp was a with them. Soon, the same cutaneous manifestations on the back and r. arm; and, less freely the throat became sensitive, and on the tonsillar ulcers with a greyish base. The mercury continued and the condition grew worse and worse several of the ulcers became more copious, so layers formed, more or less conical (rupia). At appearance of the chancre and 1 mo. after the had begun, the patient changed his medical course of treatment. The M. was discontinued. K. iod. and iron. A marked improvement in

The worst ulcerations began to heal, and the chancre itself was affected for the better; the general health was proportionately ameliorated.

b. I saw the patient 10 d. after the change of treatment. He was thin, of delicate appearance, and extremely pale. On the ulcerations of face and arms rupia-like crusts were still present; but I was informed that these ulcers were rapidly healing, some of them were indeed nearly cicatrized. A new eruption had appeared for some d. past on l. arm, chest &c.; it consisted of pustules only. The ulcerations in the throat, though deep, were limited to the tonsils. The eruption on the body, though on both sides, was not strictly symmetrical. (HUTCHINSON, *on Syphilis*, 1889, Obs. lii.)

52. On the 19th July, 1890, an inquiry was held at the Coroner's Court, St. Luke's, N., respecting the death of Horace Chandler, a carman, of Bunhill Row, St. Luke's. Mary Ann Chandler, the widow, deposed that about 3 weeks ago her husband complained of a pain in his throat, and he said he thought he had inhaled poison from using blue ointment on his horses. He had a dirty habit of eating his meals without washing his hands, and witness had warned him of the danger several times. At length his face began to swell, and his mouth became very bad, and at last he was obliged to go to a doctor. After being under treatment a fortnight he died. Dr. Lathbury, of 36, City Road, said he attended the deceased, who suffered from intense thirst, and would drink a gallon of milk a day. Since death witness had made an autopsy, and found the spleen and the kidneys almost eaten away. The stomach was blackened with a pigment of mercury. The cause of death was chronic mercurial poisoning. Verdict accordingly. (*Chemist and Druggist*, July 28th, 1890.)

53. Mr. CHARLES T—, aged 23, the subject of this paper, took half a grain of blue mass at a dose till he had taken five doses, at intervals of one month (?). This was by his own prescription, "for biliousness." Soon after taking the last dose his neck became stiff; his throat assumed a dark-red colour and felt hot and contracted; deglutition difficult and accompanied with a "cracking" sensation; tongue rapidly enlarged, salivation, followed by thick sordes on the tongue and a slimy appearance as far down as he could see, and a sense of suffocation, especially when attempting to lie down. He also felt nocturnal bone pains, and perspired freely when warm in bed or when making slight exertion. The tongue was not so large as to force the mouth open. These symptoms had become fully developed 6 h. after invasion. Though hardly able to be dressed, and advised by friends to quit business, he stuck to his post—the cashier's desk, where he could sit constantly—and employed no remedies. The next day while sitting at the desk, he suddenly began to spit out mouthfuls of thick, salty, yellowish green pus, mixed with blood. This caused a shock, and consequently I saw the case. My attention was immediately drawn to a hard, glistening, nipple-shaped aperture in the centre of the upper surface of the tongue, its altitude and diameter each being about two lines. The aperture connected with a cavity in the midst of the muscle, and had given vent to the pus. In consequence of the discharge, the tongue had subsided to near its proper size, and the

patient felt relief from the sense of suffocation. Aside from the unusual symptoms recorded above, the case was then apparently one of ordinary mercurial poisoning. (CARLETON, *Hom. Times*, 1880, p. 81.)

MERCURIUS CORROSIVUS.

(See vol. iii, p. 236.)

II. 29. *a.* A patient who had been delivered 3 months previously and had been in continual ill health since, came to Dr. H— on 15th Jan., complaining of pain in the throat, rhagades at angles of mouth, specific-looking papules on face, breasts, and axillæ, large papules on genitals, and enlarged lymphatics. He prescribed K. iod. internall and on 17th, about 3 p.m., applied a sol. of corrosive sublimate (sol. Plenckii) to genitals by means of cotton wadding, and painted chest and mouth with it. On her return home, she complained of great pain about body, and suddenly fell to ground, unconscious. An h. after she was found in a helpless state by the neighbours, and was conveyed to hospital, where, at 6 p.m., she was registered as suffering from peritonitis. On 18th she was anæmic and fainting. There was inflammation and vesication wherever the sol. had been applied. On 19th vomiting returned, of greenish character, with threatening collapse. The cauterised parts appeared leathery and dry. In e. she had several brown-coloured watery stools. 20th.—Collapse increased; large deposit in urine; abdomen painful to pressure. 21st.—Profuse diarrhœa mixed with blood and matter, and great pain all over body. 22nd.—Collapse imminent; hyaline casts in urine. 23rd.—Vomiting returned; hiccup, of which there has been more or less since 19th, is now troublesome; diarrhœa still present; cauterised surfaces are granulating. 25th.—Pulse scarcely perceptible, and at noon the increasing collapse ended in death.

b. The autopsy showed among other changes the intestines congested throughout; in ileum and large bowels inner surface was congested and discoloured, with diphtheritic ulcers on upper part; mucous membrane swollen and ecchymosed. Extensive peritonitis, small intestines glued to pelvic organs. Left Fallopian tube was distended, and contained pus. Slight parenchymatous degeneration of kidneys. (*Med. Press and Circular*, June 11th, 1890.)

30. A young woman, 24 years of age, after a violent emotion, aborted at the third month of her pregnancy. Two days later she had a rigor, and the lochia (abundant at first) became scanty and fœtid. She was ordered irrigations containing $\frac{1}{2000}$ of corrosive sublimate. Instead of calling in the nurse to give the injection, the patient's sister took upon herself to inject into the rectum $\frac{1}{3}$ of a litre of the solution, containing 17 centigrammes (about $2\frac{1}{2}$ gr.) of the sublimate. In the course of a few m. the patient was seized with an intense general tremulousness, more marked in the upper extremities; her voice became feeble and consciousness dull. On the arrival of the doctor, who was immediately sent for, half an h. had elapsed since the

injection had been administered. The patient's face was pale, and her skin cold and clammy. She was unconscious; pulse 130, small and feeble; respiration 56, shallow and irregular. The tremors had disappeared, but the tonus of the muscles was increased to such an extent that the limbs preserved the position in which they were placed for more than a minute. Attempts to induce the patient to swallow gave rise to attacks of dyspnœa. A solution of albumen was injected into the rectum, together with hypodermic injections of tincture of musk. The skin was rubbed with hot cloths and alcohol. Notwithstanding this treatment, the breathing became more and more embarrassed, and it was found necessary to resort to artificial respiration. The pulse became imperceptible, and the face cadaveric. Death appeared imminent; but, as the heart still pulsated feebly, the treatment was persisted in for upwards of 3 h. The patient then began to show signs of returning life, and she recovered consciousness 1½ h. later. She was convalescent in about 4 d. The patient had never shown any symptoms of hysteria, and everything pointed to the sublimate as the direct cause of the attack. (*Lond. Med. Record*, Nov. 15th, 1886.)

III. 6. KLEMPERER experimented on rabbits by subcutaneous injection of M. corr., to ascertain condition of kidneys induced by it. In acute cases, where amount of drug was large and death rapid, a considerable amount of renal congestion was found. If life was prolonged 5-10 h., hæmorrhages were found, chiefly in parenchyma, and there was also cloudy swelling of epithelium. If duration of life was still longer, parenchyma showed marked signs of inflammation. These were seen to some extent in the tubules of the cortex, but were less obvious there than in the straight tubules; in the latter inflammation quickly led to necrosis. In half the cases there was a deposition of chalk, together with degenerative parenchymatous inflammation; the former appeared 18-25 h. after death, at first in the casts found in the diseased tubules, and similar deposits occurred later in the straight tubules. Added to the above conditions, was generally a slight affection of the glomeruli. When the poisoning became more chronic, the parenchymatous inflammation was less marked; the necrosis of cells in the straight tubules occurred only to a slight extent, and calcification was absent; but in the interstitial tissue the signs of inflammation were abundant. In the kidneys of dogs there was a parenchymatous nephritis, which terminated, not in necrosis, but by fatty degeneration of the cells; a deposit of chalk occurred only to a very limited amount. (*Lancet*, 1890, ii, 409.)

MERCURIUS BROMATUS.

I. *Proving*s.—I. Dr. WERNECK took ¼ to ½ gr., which caused slight pressure and pain in bowels. 1 gr. caused increased secretion of urine, slicky pains, and several loose stools. 1½ gr. caused nausea, retching, increased urine, and after ¼ h. violent painful vomiting, increased

cutaneous secretion, salivation; it also affected stomach and digestion. 4 to 6 grs. caused 4 or 5 loose stools. (GRÄFE und WALTHER, *Journ. f. Chirurgie und Augenheilkunde*, xiv, 2, p. 216—229. 1830.)

2. HÖRING took $\frac{1}{4}$ gr.; this caused very disagreeable sensation in gullet, slight pinching in belly. After $\frac{1}{4}$ gr. these symptoms were aggravated, also pressure in stomach; after 2 h. 2 loose stools, increased salivary secretion. After 1 gr. disgusting taste, rough, scrapy feeling in fauces causing cough. After 1 h. pressure in stomach, 4 watery stools. He had the most violent pain in abdomen and painful tenesmus; he got quite weak, pulse slow and small. He vomited twice during pain in abdomen, with great effort. The abdomen was drawn back towards spine, very painful to touch, increased secretion of saliva and urine. During the pain the body was covered with perspiration, owing to the great anxiety. Several weeks after this trial he was troubled with many boils on different parts of body, especially in l. axilla and l. arm. As fast as one boil healed several others appeared; he could get no rest day or night. He went to Wildbad, took the baths and drank the waters, and was not well till after 3 weeks. (*Wirkungen des Broms*, 1838.)

3. HEIEMRDINGER took $\frac{1}{8}$ gr., which caused nasty metallic taste, increased saliva, burning pains in throat and stomach, eructation, violent retching, obstinate vomiting of viscid, later bloody mucus; some dysenteric stools, often only of viscid bloody mucus, with violent tenesmus; oppression of breathing; sometimes trembling of body or limbs; pulse quick, small; anorexia, thirst, great dejection, belly retracted, urine increased. (*Inaug. Diss.*, Tübing., 1838.)

III. *Experiments on animals.*—1. In animals death occurred either quickly with convulsions, or slowly with emaciation. P.M. showed m. m. of stomach greatly inflamed (after large doses), extravasation of blood in its tissues, which were sometimes emphysematous. The m. m. of remainder of intestinal canal, especially the rectum, inflamed in various places, the lungs collapsed, dirty red, of doughy feeling (HEIEMRDINGER, *l. c.*)

MEZEREUM.

(See vol. iii, p. 293.)

II. 4. On July 7th, at 6 p.m., I saw a child of 4, who had eaten several berries of M. 2 h. before. She had had a convulsion shortly before being brought to the surgery, but at this time there were no other symptoms. On exhibiting an emetic the child vomited freely and brought up two nearly whole berries, and a quantity of fragments probably representing 2 or 3 more. As the child showed no very marked symptoms, she was sent home, where at 9 p.m. I saw her again. At this time the irritant poison displayed itself in swollen lips, tongue furred and swollen to about twice its normal size and protruding beyond the lips, great difficulty in swallowing, extremities cold, pulse 130 and very weak. I ordered demulcents and castor-oil. T

latter acted freely, getting rid of some half-dozen berries; and next m. child was convalescent, and all signs of irritation had disappeared save that tongue was quite raw (glycerine had been applied to it). (EAGAR, *Brit. Med. Journ.*, 1887.)

MITCHELLA.

Mitchella repens, L. Partridge berry. Nat. ord., *Rubiaceæ*.

I. *Provings*.—I. Dr. T. C. DUNCAN, æt. 25, in good health save for some slight febrile symptoms in e., due to undue brain-work. Nov. 22nd, 1855, took 10 dr. of tinct. at noon and n. 23rd.—Awoke from most refreshing sleep, brain clear, feeling light and buoyant in spirits, and much better than usual. Took 10 dr. 4 times. 24th.—Slept very poorly, had troublesome, frightful dreams. Brain feels dull and mind stupid; abdomen distended, as with flatus, especially transverse colon. Took 10 dr. twice. Bowels were costive; appetite not so good as usual; back very weak after a two-mile walk. 25th.—Sleep very unrefreshing; brain still dull. Took 10 dr. twice. Costiveness; flatus; eructations; urine scanty and high-coloured; all muscles of extremities feel sore. 26th.—Slept but poorly; felt tired and sore, especially in muscles. Took 20 dr. at 7.30 a.m. Fauces dry and irritable (they have been so at times since 1st d.); brain very dull, anterior lobe feels heavy; thirsty; pulse 80. At noon repeated dose; dull pain between shoulders; pricking sensation in centre of back of tongue. Thin stool at 3 p.m.; whole alimentary tract feels cold, transverse colon tender on pressure; thirst; great lassitude; general malaise; muscles of entire body feel sore, especially in lower extremities. Urine 42 oz. in 24 h.; sp. gr. 1038; deep yellow colour, strong acid reaction; copious white flocculent sediment, showing much uric acid and chloride of sodium. Uneasiness in renal region; slight aching in trapezii. 5 p.m.—Took 30 dr. Pain still in trapezii; dysphagia, owing to constriction of pharynx; lassitude. 10 p.m., 40 dr. 27th.—Woke in a fright; felt as if I had been up all n.; headache, whole brain seems dull, especially cerebellum; dull aching in back over kidneys; all muscles of body feel tired, especially those of lower extremities; dysphagia; tonsils enlarged, especially l., not congested. Urine of last e. 1040, that of this m. 1032. Took 50 dr. Brain very dull, cannot concentrate thoughts, and whole perceptive faculty is blunted; eyes feel dull and heavy; muscles as yesterday; dull pain over kidneys, and seemingly in them; uneasiness at neck of bladder, urging to urinate; deglutition difficult, breathing hurried; burning in stomach, which extends all along œsophagus; dull pain in transverse and ascending colon; acid eructations; yawning and stretching; burning in coronal and throbbing in occipital region inside skull; pulse 72 at times laboured, then quick and hurried; whole head feels bad. 11.10, burning of l. ear; great burning at neck of bladder; dull aching in trapezii 1 p.m.; only 19 oz. of urine in last 24 h., mean sp. gr. 1036. Drawing pain in r. testicle; uneasy feeling at heart, as

if its contractions were interfered with; nausea; dull pain epigastrium. 11 p.m., drowsy, mind still very dull, could not keep mind on subject in hand; still dull lumbar pain; general malaise somewhat relieved by taking an electric shock; eyes feel weak. Took 50 dr. 28th.—Sleep much more refreshing; brain feels lighter, but far from clear; dull lumbar pain. Sp. gr. of last night's urine 1031 of this morning's 1032. At 7.30 a.m. took 100 dr. 8.30, costive stool, with tenesmus; burning in lumbar muscles for 10 m.; aching in back, running down through muscles of limbs; dull heavy aching in cerebellum. 9.30, rush of blood to face, nose feels full as if would bleed; pulse 80; burning in stomach and œsophagus; lassitude forgetfulness; dull aching in calves; fulness of frontal region; eyes feel dull and weak; slight nausea; brain very dull; burning in tongue; pain in back increased; depression of spirits, with sighing; dull pain in l. ring finger. 11, continued frontal dulness; great aching in lower extremities, especially in tendons and ligaments about knee-joint sharp shooting pain in an upper l. molar; some enlargement of l. submaxillary gland; griping in colon; burning in r. fingers; heat in kidneys; throbbing pain in r. head. 1 p.m., urine showed 23 oz. in last 24 h.; mean sp. gr. 1030. Great depression of spirits. Symptoms of m. continued up to n., especially pain about knee-joints, hindering motion, which nevertheless relieved; dull aching also in r. hip-joint. Chill over whole body, with flashes of heat; very sensitive to cold. Dull and drowsy, can drop to sleep at any m. Feel totally unable to attend to duties, and must stop drug. 29th.—Awoke with very severe headache; stiff and sore all over body, especially in all joints of lower extremities; loins and eyes the same; dry hacking cough; unsteadiness in first walking, exercise relieves. 9.30, great dulness of brain, with feeling of fulness; burning pains over region of heart, with feeling as if its action was being interfered with, its beats at times slow and regular, then quick and hurried; bowels costive. 1.30 p.m., still great pain in knees, and some in back; dull aching in r. shoulder; scalp feels hot. Urine of 24 h. 29 oz., mean sp. gr. 1032. Spirit reviving, appetite returning, and brain feeling somewhat lighter; can think better. Pains in joints and ligaments have moved up into bellies of muscles; dull aching in r. ear. 10, head feels as if being relieved of great pressure from without, most of which has been upon the anterior lobes; severe frontal headache for 2 h., just behind superciliary ridges; muscles of lower extremities and both shoulders very sore; griping pains in bowels have returned; scalp sore to touch, especially over region of "benevolence." Urine still of high sp. gr. (1030-4); slight nausea; urging to stool; dull aching still in loins; much mucous in bronchi. 30th.—Slept well; feel this m. much better than last several d., brain quite clear; pain and soreness in muscles much less. 1 p.m., less lassitude; urine of 24 h. is 24 oz., mean sp. gr. 1031. 1st and 2nd.—Some pain lingering in muscles of back and legs; otherwise feeling well. (*U. S. Med. and Surg. Journ.*, i, 253.)

2. A lady in perfect health (uterus ascertained *per speculum* to be normal) took *M.* in teaspoonful doses of tinct. 3 times a d. for 3 weeks until uterus became irritated and the seat of severe pain. Examinati

now revealed an engorged condition of the cervix uteri; it appeared dark-red and swollen. Urethra and neck of bladder were swollen and irritated. Secretion of urine was notably increased. (P. H. HALE, in Hale's *New Remedies*, 2nd ed.)

MORPHINUM.

(See vol. iii, p. 498.)

II. 25. I was called in great haste to M. C—, who was said to be very ill. I found him in a state of unconsciousness, not always complete; there was loquacious delirium; speech was interrupted and incoherent, it turned mainly on what had most interested him the d. before, viz., a municipal election. He frequently endeavoured to leave his bed, though submitting each time to my prohibitions. There was trembling of muscles of face; very rapid movements, he was not tranquil for a m., sometimes carphology; pupils were dilated; there was incomplete paralysis, especially on r. side, of both motion and sensation; pulse was hard and full, 96; there was thirst; head was burning and face very red. Before my arrival the symptoms were said to have been much more marked. It seemed that that m. at 9 o'clock an old-school physician had injected subcutaneously 7 milligr. of the acetate for a painful torticollis. In $\frac{1}{4}$ h. slight somnolence had come on, which had lasted 10 m., then numbness and formication in extremities. The pain being calmed, M. C— had risen from bed (where he had been till now), but had felt very weak on the legs, and had fallen towards the r. side; the limbs on the r. side were paralysed, those on the l. being numbed and heavy. Thereupon ensued a rapidly increasing cerebral excitement, rising $\frac{3}{4}$ h. later to the delirium in which I had found the patient. For 5 h. more the unconsciousness continued complete, then intelligence returned by degrees. Towards 10 p.m. the delirium had ceased. The cerebral excitement went off very slowly; n. was sleepless. Next m. at 7, there came on intolerable nausea lasting 2 h., during e. twice vomited yellowish glairy matter. The paralysis and insomnia went off gradually, taking 5 d. for their entire disappearance. (VAN DEN BERGHE, *L'Hom. Militante*, iii, 98.)

26. KERN relates the case of a patient to whom a suppository, containing gr. $\frac{1}{10}$, was applied at noon. Next m. he sought his physician, complaining of intense pruritus extending over the entire surface. Erythema supervened almost simultaneously, beginning about perinæum and scrotum. At various points scratching had given rise to the appearance of small bullæ. There was considerable fever. Next d. fever had diminished, but erythema had spread over entire surface, sparing only lower extremities. Penis and scrotum were much swollen. Desquamation took place by the end of a week. (*Philad. Med. Times*, Aug. 23rd, 1884.)

III. 11. DR. GRÉHAUT, experimenting on dogs, has found that

during the artificial sleep caused by M., the exhalation (and therefore presumably, the quantity formed in the body) of carbonic acid falls to $\frac{1}{3}$ of its normal amount. (*L'Hom. Milit.*, iii, 461.)

MUREX.

(See vol. iii, p. 320.)

I. 4. MRS. C— was furnished with 12 powders of 3rd trit. for proving, to take one n. and m. She reported the following effects:— Heavy dull pain in forehead, beginning about 4 p.m., and lasting till she went to sleep, relieved by tying head up tightly; shooting in eyes; red spots on face; swelling of face in m. for several d.; itching of face and forehead, only temporarily relieved by scratching, while salt water though causing smarting, relieved the itching. Nasty flat taste in mouth. On waking in m., tongue yellowish; appetite impaired; heavy pain in pit of stomach, going to heart, where it is sharp, felt while lying on back and relieved by sitting up (after a month); watery urgent, forcible, flatulent diarrhoea 3 times a d., before stool cutting and griping in hypogastrium, extending downward and to back, after stool slight tenesmus. Urine scanty; after micturating, pressure with desire to pass more; menses 2—3 d. too early first mo. (after 4 d. of drug), lasted usual time, dark, clotted, and copious; at second month they were 16 d. early, and lasted only 2 d., copious, pale, and thin followed by bland transparent leucorrhoea; during menses, for three occasions, pain crossed womb from r. to l., then rose to stomach, and went to l. chest; heavy sore pain in uterine region at intervals for 3—4 d., soreness there on bending forward and going up stairs, better while still; pressing down in womb, worse standing. Heavy sore pain about heart, worse lying on back and (still more) on l. side, better from moving about; sharp pain about heart. Stiffness of neck and l. shoulder in m.; weak, tired all over, stiff in limbs; shooting in limbs, now in one place, now in another,—l. wrist to elbow,—in finger joints of both hands; lameness; constant heavy dull pain in hips, most in r.; rheumatic cutting and shooting pains in knees, as if in bones, extending to ankles. (RUSHMORE, *The Organon*, iv, 131.)

NAJA.

(See vol. iii, p. 328.)

II. 8. A Hindu, æt. 40, was bitten on bare r. shoulder by a black cobra at 12.30 a.m. On inspection 5 m. later two small puncture were found over deltoid, from each of which had oozed a drop of clear serous fluid mixed with blood. He complained of burning pain, rapidly increasing in intensity, in an area round bites about size of a saucer. At 12.45 he felt pain shooting towards throat and chest; but was calm and collected. Pupils were dilated, but responded to light; pulse was normal, and there was no embarrassment of respiration. In 5 m.

more he began to lose control over muscles of legs, and staggered when left unsupported. At about 1, paralysis of legs having increased, lower jaw began to fall, and frothy and viscid saliva to ooze from mouth. He also spoke indistinctly, like a man under influence of liquor. At 1.10 he began to moan and shake his head frequently from side to side. Pulse was now somewhat accelerated, but regular; resp. also was quickened. He was unable to answer questions, but seemed to be quite conscious. His arms did not appear to be paralysed. Hitherto small quantities of brandy and water had been administered; but now liquor ammoniæ was injected, 25 min. under skin of forearm, then same dose into basilic vein. No improvement followed; he continued to moan and shake his head from side to side, as if trying to get rid of viscid mucus in throat. Resp. was laboured, but not stertorous. Another 25 min. was now injected into jugular vein, but without benefit; breathing gradually became slower and slower, and finally ceased at 1.44, heart continuing to beat 1 m. longer. There were no convulsions before dissolution. (HILSON, *Indian Med. Gazette*, Oct., 1873.)

NAPHTHALINUM.

A crystalline substance prepared from tar, $C_{10}H_8$.

II. *Poisonings*.—1. a. The peculiar effect of N., even of the purest specimen, upon the urinary secretion has been noted repeatedly by various physicians. Dr. PICK, of Coblenz, calls special attention to this objectionable feature in the *Deutsche Med. Woch.*, No. 10, 1885, as expressed by a frequent and inordinate desire to urinate, and violent burning sensations in the urethra after micturition. In a 2½ years' child, suffering from chronic intestinal catarrh, five daily doses of 0.25 grm. were administered. After the twelfth dose the catarrh itself was improved, but the following untoward symptoms appeared all at once: Violent desire to urinate, reddening and tumefaction of the external urethral orifice, and œdema of the prepuce. As soon as the N. was discontinued these unpleasant after-effects of the drug ceased instantly.

b. Dr. PAULI, of Lübeck, reports in the *Berl. Kl. Wochenschrift*, No. 10, 1885, similar evidences of untoward symptoms caused by this drug. He treated five children, all affected with chronic intestinal catarrh, with N. (0.1 to 0.3 grm. every 3 h.), and found the drug, though very effective if persisted in against the disease, still to produce what he regarded as a constitutional intoxication. The face assumes a pale-yellowish hue; the children either grow restless or lie quietly as if stupefied by a narcotic. (*Therap. Gazette*, Oct. 15th, 1885.)

III. *Experiments on animals*.—1. Experiments with N. on rabbits showed that, when fed with it, the fundus of the eye was either thickly studded with numerous small brilliant points—compared to the appearance of the sky at night—or there appeared a large white spot usually at lower part of pupil, which increased in size and concealed the vessels of the choroid. Similar spots appeared later in other parts of the fundus.

disorganised, and the choroid atrophied as in dislocative choroido-retinitis. The papilla showed œdema, then inflammatory proliferation with a free passage of leucocytes into vitreous. The lens showed first an accumulation of transparent fluid at the posterior pole, and the formation of vacuoles separating the fibres of the peri-nuclear zone; at a later stage the fluid appeared to penetrate into the nucleus itself, the fibres being disorganised, the capsular epithelium disturbed, the entire lens swollen, its anterior portion stained with iris-pigment, finally, crystals of sulph. of lime were to be found in its substance, and in some cases the posterior capsule was ruptured. The vitreous becomes detached from the retina first at its posterior pole. Crystals of sulph. of lime surrounded by leucocytes were found in the external layers, these increase in quantity and the whole vitreous becomes more fluid, especially at its centre. The aqueous humour contains albumen from the first appearance of the cataract, and the albumen increases in quantity with the increasing opacity of the lens. Precipitated albumen was found in aqueous chambers. Iris and ciliary processes remain normal. (*Archives d'Ophthalmologie*, 1887, 113.*)

NATRUM NITROSUM.

Sodium nitrite, NaNO_2 .

II. *Poisonings*.—1. Dr. HAY finds that sodium nitrite, in a dose of 5, 10, or 20 gr., accelerates the pulse and causes throbbing and sense of fulness in head and eyes, with slight flushing of face. The sensations of throbbing and fulness last an h. or more,—the longer the larger the dose. (*Pract.*, March 1883.)

2. a. To 18 adults—14 men and 4 women—we ordered 10 gr. of the crude nitrite in \mathfrak{zj} of water, and of these 17 came back, protesting loudly that they were unable to take it. One man, a burly strong fellow, suffering from a little rheumatism only, said that after taking the first dose he felt giddy, as if he would “go off insensible.” His lips, face, and hands turned blue, and he had to lie down for $1\frac{1}{2}$ h. before he dared move. His heart fluttered, and he suffered from throbbing pains in the head. Another patient had to sit down for an h. after the dose, and said it “took all his strength away.” Another said that in about $\frac{1}{2}$ h. after taking the first dose his heart came on beating very fast, and he throbbed all over. He felt very sick, but did not actually vomit. The women appeared to have suffered more than the men. One said that 10 m. after taking the first dose—she did not try a second—she felt a trembling sensation all over her, and suddenly fell on the floor. Whilst lying there she perspired freely; her face and head seemed swollen, and throbbed violently, until she thought they would burst; she felt sick, but did not actually vomit; this lasted about 3 h. Another woman said she thought she would have died after taking a dose; it threw her into a violent perspiration, and in less than 10 m. her lips turned quite black, and throbbed for hours; it upset

* HESS, BOUCHARD, and others have repeated these expts. with the same result.
—EDS.

her so much that she feared she would never get over it. The one of the 14 men who made no complaint after taking 10 gr. powerfully affected by 15. He suffered from violent nausea, and head, he said, felt as if it would split in two.

b. To 16 patients—12 men and 4 women—we ordered the nit in 5 gr. doses, and none of the women and only half of the men were able to go on with it. The symptoms complained of were those experienced with the large dose—faintness, nervousness, and pain in head. Nausea with eructation was of frequent occurrence, and in one or two cases there was actual vomiting. A young woman of 24 said she felt the effects of the medicine in about 10 m., and had to lie down. She felt sick, and then vomited, the vomiting lasting off and on for 2 h. She had to keep her bed the whole d., and was so weak and nervous that she thought she was dying. Another said the medicine upset her so much that she went off in hysterics, and could not hold a limb still. She lost all the colour from her face, becoming deadly pale, and had a terrible headache, which was worse when she moved, especially when going upstairs.

c. To 13 patients—all men this time—we ordered the drug in 3 gr. doses, and in only 4 cases was any complaint made. These patients, however, suffered from the usual symptoms. One said “the medicine kept rising so, that he could not keep it down.” Another complained that it “turned his lips blue, gave him a headache, and made him feel giddy;” whilst the other two suffered chiefly from pains across the forehead.

d. Several observers have met with unpleasant symptoms as a result of the administration of nitrite of sodium. Dr. Ramskill mentions a young lady who, after taking 15 gr., fell down with livid lips and staring eyes in a most alarming condition. Dr. Ralfe prescribed 12 gr. doses to 3 patients; all returned in a few h. with blue lips, in a state of semi-collapse, evidently produced by the drug. (RINGER and MURRELL, *Lancet*, Nov. 3rd, 1883.)

III. *Experiments on animals.*—1. A black cat, weighing 5½ lb., was injected under the skin of the back with 4 c.c. of a 10 per cent aqueous sol. In 14 m. the animal was panting, resp. being 148—160 and superficial. The tongue was protruded, and of a dark colour. The pupils were widely dilated, and there was great muscular weakness. These symptoms increased in severity, urine and fæces were passed, there was slight opisthotonos, and in 20 m. after injection the animal was dead. At the autopsy, which was made immediately, it was found that the muscles were unusually light in colour, and that their contractility, tested by the interrupted current, was quickly lost; in fact, in 20 m. it was quite gone. On opening chest and cutting aorta, blood was found to be very dark, almost like treacle. Lungs had a dark chocolate tint and were speckled. L. ventricle of heart was contracted, while R. was dilated, and no contractions could be obtained in either auricles or ventricles, even with the strongest current. On opening abdomen the dark colour of liver at once attracted attention; and further examination showed that stomach, intestines and bladder were firmly contracted. (*Ibid.*)

NATRUM PHOSPHORICUM.

Sodium phosphate, $\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$.

I. I. E. L. CORSON took 20 gr. After 4 h., slight dizziness, and passage of a yellowish-brown watery stool, containing fæcal lumps, another similar stool at 6 h., another, more profuse, at 10½ h.; before each weak feeling in rectum and sphincter, had to use great effort of will to prevent untimely evacuation. 2nd d., 6.30 p.m., sudden urging to stool, which was copious, painless, and easy,—first part fluid, second containing fæcal lumps. 3rd d., two gumboils. Later, took 2 gr.; nothing noticed but fulness of head towards e. Next d. took 6 gr. once, and 2 gr. 5 times; soon after first dose, fulness and heaviness in head, and slight dizziness, while studying; sudden urging to stool at 6.30 p.m., difficult to retain fæces, stool was mushy, yellow-brown, with flatus and momentary colic. On 3rd d., no stool; on 4th, desire for stool at 9 a.m., but only passed with difficulty two small lumps; normal stool this e. and next. Through m. of 5th d., at times while studying, fulness and dull aching in forehead. On 6th d. took 4x dil. at short intervals; fulness at root of nose and in ears, e. 7th d. (also on 10th), soreness in hypogastrium after urinating, e.; better lying on back, worse on belly; after rising, bowels loose, rumbling in abdomen; after breakfast a small dry difficult dark brown stool, requiring much straining (same next d.). From 6th to 9th d., four nocturnal emissions. 11th d., bladder seems incapable of properly expelling contents, flow soon stops, and straining is required, each effort resulting in a small spirt of urine; sharp pain in r. temple, several times; colic pains in lower abdomen, with desire for stool; much flatus before stool, in e., while walking after supper. 12th d., slight burning in eyes, producing slight lachrymation, and exciting rubbing of eyes. 13th d., slight colicky pains while walking after supper. On 14th d., took 6x dil. every 15 m. Very flatulent during d.; urine greatly increased and pale p.m.; in e. momentary colicky pains, with discharge of flatus; on retiring, pain over each eye, worse when closing eyes. 15th d., urine very copious after rising in m. 16th d., fatigue on slight exertion. 17th d., urine scanty and dark. 18th d., sharp cutting in hypochondria and l. iliac region. (ALLEN's *Encyclopædia*, vi, 601.)

NUPHAR.

Nuphar luteum, Smith. Small-flowered yellow pond lily. Nat. Ord., *Nymphæaceæ*.

I. *Proving*s.—1. a. Dr. PITET took 4th dil. irregularly for several d. On 6th d. he had some colic, and frequent prickings on post. surface of l. thigh. On 9th and 10th d., pressive headache in forehead and l. temple. On 11th there was excessive moral sensibility, causing great pain on witnessing sufferings of animals; headache in forehead, and at times in l. temple, ceasing in open air. There was diminution of sexual thinking and feeling during 10 d., opposite effect occurring during succeeding 4 d. After 10—12 d. there appeared on different parts of body a number of red blotches, tolerably regular in outline, ovoid or circular, prominent, and covered with little scales of silvery white—in short, resembling psoriasis. There were a few

on post. surface of arms, but they were most numerous on ant. surface of legs; they itched violently, especially in e.; friction removed the little scales, which were rapidly reproduced, remained a few days, and then fell off again from the scratching induced by the itching. This eruption lasted six weeks; as it disappeared, and the scales ceased to be reproduced, skin at seat of each blotch became pale red or yellowish.

b. Subsequently, Dr. P. took frequent doses of 4th and 6th dils.—4th d., sweetish taste several times. 7th d., boring pain, in transitory attacks, in l. forehead, e. 8th d., soft stools, preceded by some colic, for several d.; complete absence of sexual desire, penis retracted, scrotum relaxed; lancinations in r. great toe, e. 9th d., painful sensation behind sternum, when running, as though subjacent organs were violently shaken. 10th d., heaviness of whole head, at midday; dull or tearing pains, sometimes in forehead, at others in whole upper half of head; dull deep lancinations behind l. frontal eminence; face pale, discoloured eyes, though not feeling ill; still entire sexual insensibility and atony; constant restlessness and fatigue in legs; painful drawings in ant. muscles of l. leg; great impatience at slightest contradiction. 11th d., very painful bruising shaking pain in brain at every step in walking; dull pains in l. ant. cerebral lobe, and occasionally beneath orbital plate. 12th d., painful bruising shocks in r. brain anteriorly when walking. 15th d., diarrhœic stools in m. and e., preceded by violent colic pains in rectum. 16th d., same all n. 17th d., 4 diarrhœic stools, smarting and burning in anus after each; in e. some flatulent colic; urine deposits a reddish sand, which is hard and adheres to vessel. 18th d., dull deep colic pains during d., all round waist; 4 diarrhœic stools as before; continued sexual depression. 19th d., 4 similar stools, two 4—5 a.m.; slight painfulness over whole ant. surface of stomach, with sense of weakness at epigastrium; lancinations in r. testicle; general sense of weakness. 20th d., diarrhœic stool in m.; some pain in r. testicle. 23rd d., dull pain and sense of painful weight in r. orbit all d., and since m. also in r. ant. cerebral lobe and occiput; (when standing in sun, a quantity of brilliant sparks filled field of vision, converging from circumference to centre),—this was frequently perceived subsequently, principally after hard coughing; (paroxysms of very acute but transitory pain in r. great toe, when walking). 25th d., dull pains, sometimes lancinating, about r. ant. cerebral lobe; painful heaviness in orbit, at base of skull,—a very frequent symptom since beginning of proving. On the 29th d., strength, flesh and healthy complexion, which had diminished, began to return.

c. Same proved 6th, 7th, and 8th dils. during 12 d.—8th d., deep dull pain at lowest part of l. lumbar region and in post. sup. part of ext. iliac fossa, coinciding with a similar but not constant pain in internal iliac fossa of same side; sensations like fleabites, in different parts, for several d. 9th d., lancinations in l. anterior brain. 10th d., same, and similar but less violent sensations on other side; painful pressure in r. temple. 12th d., diminution of erections and sexual appetite; walking, even slowly, causes painful stitch in l. flank, relieved by pressure; weakness of limbs in e.; yellow diarrhœa, especially in m., had occurred for 3 d. past; to-day there were 5 or 6 stools, without colic or epigastric trouble, except at times a sense of weakness there. On following days all symptoms of 12th d. continued, stools being always more numerous about 5—6 a.m. 20th and following days, dull pains in anterior part of base of brain, on level with floor of orbits; very painful feeling of weight in temples, m.; stitches, as from needles, in rectum, above anus; sensation like fleabites on different parts of skin of body and limbs. 25th d., dull pains at base of r. orbit, forehead, and occiput; soft diarrhœic stool, preceded by colic, which disappeared after the stool; dull transitory pain in r. testicle, for several d. in succession; similar pain at extremity of penis, r. side, several lancinations in l. testicle there. On 20th and following days, a red, slightly prominent patch, covered with flexible white scales, and itching violently, on inner surface of r. arm, near axilla; followed on 25th d. by a red, oval, prominent patch on l. arm, exactly like a patch of psoriasis, covered with silvery scales, which fall off and are renewed every few d., itching violently, especially in e.* (*Journ. de la Soc. Gall.*, iii, 129.)

* With reference to these cutaneous symptoms, Dr. Pitet thinks it right to mention that he is of scrofulous constitution; and that though he had never had any eruptions previously to his proving N., four years later he suffered from general psoriasis, and every year since then two or three patches of it have appeared.—Eds.

NUX MOSCHATA.

(See vol. iii, p. 411.)

. 16. One m. I received an urgent message to attend a farmer of the country, who had been taken very ill during the n. On my arrival I found him lying on a sofa, with his knees drawn up, in a crazed condition, crying out, "Oh my head!" His wife informed me that he had gone to bed the previous n. quite well, and had slept till about 6 a.m. When he attempted to get out of bed he found himself giddy and could not stand, had great pain in head, and could not distinguish objects round him. He could now be roused to answer questions when sharply spoken to, and told me that he had great pain in head and great thirst; that his mouth and tongue were parched; that he had great numbness of the limbs. He was quite unable to

Pulse was 70, regular; temp. normal; pupils somewhat contracted, acting to light and accommodation; tongue clean, dry; heart-beats normal. His wife now told me that the previous e., for boils on neck, she had grated up a whole nutmeg and given it him in

I administered calomel, followed by castor oil; and next m. I found him quite well but for a little headache. (BENTLIF, *Brit. Med. J.*, Dec. 21, 1889.)

7. a. A patient ate one nutmeg as a cure for diarrhoea, and all day was stupid, giddy, and very drowsy. The symptoms passed with use of castor oil and strong coffee.

A middle-aged woman took a nutmeg, scraped and mixed with water, for arrested menstruation. Two h. after taking it she was seized with extreme thirst, giddiness, and prostration; but to her the painful effect was, in spite of the prostration, an intolerable restlessness, causing her to tramp up and down the room almost incessantly, holding on to the various articles of furniture for support; there was also "tightness of the chest," obliging her to loosen her dress. The symptoms continued (in spite of an emetic, strong coffee, and salivary pills) more or less all e. and n., and then passed off completely.

A young lady, one e. about 7, ate a whole nutmeg, being fond of it. Shortly afterwards, feeling sleepy, which she ascribed to having had up the greater part of the previous n. at a ball, she went to bed, and slept very heavily till late next m., when she was with some trouble awakened. She got up and dressed, but had no appetite for breakfast, felt very drowsy, and vomited slightly several times. When I saw her about 10.30 a.m., vomiting had stopped, her face was pale, and she was unable to raise her eyelids; she did not complain of any giddiness, or of great drowsiness and disinclination for exertion. The symptoms quickly passed off under the use of strong coffee, cold douching, fresh air, and ammonia.

. I was called one e., about 10, to see Mrs. E. M.— I found her complaining of giddiness, faintness, and disturbed vision. Pulse was 60, skin cold and clammy, pupils dilated; no pain anywhere. I told her she had taken the whole of a medium-sized nutmeg, scraped and steeped in gin, as an emmenagogue. An emetic brought away

a large quantity of the nutmeg, and heat with stimulants restored the circulation. Next m. patient was well but for a feeling of lassitude—(Ibid., May 14 and 28, 1887.)

ONOSMODIUM.

Onosmodium virginianum, D.C. Nat. Ord., Boraginæ.

I. *Proving*.—1. Dr. W. E. GREEN. (This is the third proving of the drug have made upon myself, and there is no essential difference in the effects produced.) Oct. 1st, 1884, 7.30 a.m., drank of water 6 fluid ounces; 7.45, ate breakfast, consisting of broiled steak, 2 ounces; potatoes, 3 ounces; eggs, 1 ounce; bread, 4 ounces; butter, $\frac{1}{2}$ ounce; syrup, 4 fluid drachms; coffee, 6 fluid ounces; water, 4 fluid ounces. 10 a.m., drank of water, 8 fluid ounces, and 12.30 p.m., 6 fluid ounces. Ate dinner at 1 p.m., consisting of roast meat, 2 ounces; potatoes, 3 ounces; slice tomatoes, 3 ounces; bread, 3 ounces; butter, $\frac{1}{2}$ ounce; water, 8 fluid ounces. 4 p.m., drank 8 fluid ounces of water. Ate supper at 7 p.m., consisting of broiled steak, 2 ounces; potatoes, 3 ounces; eggs, 1 ounce; butter, $\frac{1}{2}$ ounce; bread, 3 ounces; syrup, 4 fluid drachms; milk, 8 fluid ounces; water, 6 fluid ounces. 9 p.m., drank 6 fluid ounces of water. During the 24 h. passed 28 fluid ounces of dark straw-coloured urine, of natural odour, slightly acid reaction, and 1026 sp. gr. 2nd.—Observed same regulations as yesterday, and so throughout proving. To-day passed 27 ounces of dark straw-coloured urine, natural odour, slightly acid reaction, and 1027 sp. gr. 3rd.—Am feeling very well this m.; slept well last n., and ate my breakfast this m. with usual relish. Bowels and kidneys acted naturally; tongue clean; skin moist; pulse 72, and normal in volume and regularity; temperature 98°6'; vision in both eyes $\frac{10}{10}$; fundus oculi normal; hearing in r. ear $\frac{3}{3}$; l. ear $\frac{1}{1}$. 9 a.m., took 60 min. of tinct. Within 10 m. commenced to feel sensation of numbness and weakness in legs from knees down to feet. 9.20, dull, heavy pain in frontal region and in both temples, also in mastoid region. Slight sense of intoxication, dazed and uncertain feeling of mind. There is uncertainty of action. Have to stop to think whether or not I am going right or doing the right thing. 9.30, very nervous and tremulous; my hands tremble so that I can hardly write, usually my hands are very steady. Pulse 84 and regular. Increasing secretions in mouth and throat. Have a feeling of lightness about me, something like that experienced when taking chloroform. Slightly flushed feeling in face. Decided forgetfulness; will start to say something, and before the sentence is finished will begin to talk on some other subject. Quite talkative, but in a disconnected way. Dull pain in mastoid regions. Sharp darting pains in l. temple. 10, am very forgetful; started to get into my buggy, but before I reached the door I forgot where I was going, and went to some other part of the house; I forget everything. Am very restless, constantly moving about without cause or reason. The movement neither aggravates nor relieves my symptoms. I write very fast, with all my might, but cannot keep pace with my thoughts. Before one sentence is completed will begin upon another. I omit words and leave out letters. In writing or talking I cannot concentrate my thoughts. 10.15, darting pain in l. temple. Slightly blurred vision; feeling of tension in eyes; want to look at far-off objects. Numb, tired feeling in popliteal spaces, worse in l. Tired, wearied feeling in limbs like one feels when just getting up from a spell of sickness. 10.30, very impatient; can't go fast enough; my team travels too slow have not the patience to let them walk over the rough places in the road. Dull pain in top of eyeballs; a feeling of tension in eyes as when straining them to read small print. Want to look at things very far away. It is not pleasant to look at near objects. Want to keep the eyes very wide open. The eyes feel as if they were very wide open. 11.30, felt as if I would have a chill. This symptom continued to occur every d. at about 12 or 1 o'clock for several d. after I stopped taking the medicine. Pain in r. frontal region and dull pain through temples. Pulse 66. 12 m., took 60 min.; soon after had darting pains through r. malar bone, and numbness 12.20 p.m., tired feeling in forearms and flexures of elbows. Aching in elbow- and wrist-joints. Shooting pains in phalangeal articulations of l. hand. Disagreeable

aching all over, as though I would have a chill. 1 p.m., took 60 min. My restlessness has subsided, and I feel sluggish and dull. Feel better when lying down. Dryness of mouth and throat. Clammy, sticky feeling in mouth. Ate dinner at 1 p.m. with usual relish. My symptoms were all temporarily relieved by eating, excepting tired feeling in limbs. As I walked to my office, I experienced dull aching in calf of l. leg. Disagreeable numb feeling in l. forearm and leg, worse in leg. Dryness of mouth and pharynx. Slight laryngeal cough, with gluey, sticky expectoration. 2.30, feel very drowsy and stupid. 3, took 60 min. 3.30, mind is dreamy and in a state of apathy; cannot think. No pains, only a weary feeling pervades entire body. Pulse 66. 4, mouth and throat very dry. 6, took 60 min. 6.30, much depression about heart, as though it would stop beating. Pulse 66 and weak. Occasionally the diastole seems prolonged. In going to my office this e. my legs felt so weary and unsteady that I could scarcely walk. Have perspired very little to-day, though the weather has been exceedingly warm. Ate supper at 7 with very good relish. 7.30, felt so tired that I was compelled to lie down. Slept for one h. and awakened much refreshed, all my symptoms alleviated excepting the mental lethargy. 8.30, diffuse colicky pains in abdomen below navel; a general bellyache. Time seems to pass very slowly; minutes seem like hours. Have no resolution to do anything. I have been sitting here for an h, trying to write a letter, but have not yet made a beginning. Vague, listless, and indifferent thought occupies my mind. My ears ring, and my head feels light, as when taking quinine. Constant laryngeal cough. Uneasy colicky sensation in lower abdomen as if diarrhoea would come on. 4th.—Went to bed last n. at 11, slept well all n. and awoke at 6 a.m. I feel this m. sore and tired as though I had done a hard day's work. Have an annoying laryngeal cough, with white sticky expectoration. Pulse 66, irregular and weak. Sexual desire much impaired. 7 a.m., took 30 min.; ate breakfast, but with little relish, I could not eat my steak. Had a soft mushy evacuation at 8. During the past 24 h. I passed 21 fl. oz. of dark straw-coloured urine of highly acid reaction, normal odour, sp. gr. 1027. 8.40, I do not feel well this m. I am slightly nauseated and have a clammy disagreeable taste in my mouth, also an unpleasant feeling in stomach. In fact, I feel sick all over. Have a depressed feeling about my heart as though it would stop beating. Pulse 81, rather full and slightly irregular. Am very restless this m.; cannot be still; am constantly moving about. Time passes very slowly. I have no headache this m., that left me yesterday afternoon; and, until recently, not so much of the numbness and weakness of legs. Have had some eructations during m. 9.30, weary numb feeling in legs and popliteal spaces, deep-seated. 10, 30 min. Constant dryness of pharynx and post-nasal passage, with frequent efforts to clear them, expectorating a small quantity of white sticky secretion. Have a feeling of fulness, or a stopped-up feeling, in ears. Hearing is much impaired. H. d., r. ear = $\frac{8}{8}$; l. ear = $\frac{12}{13}$. Vision in both eyes = $\frac{8}{10}$. Optic disc hyperæmic and retinal vessels engorged. 1 p.m., 30 min. Have had nervous sensation of hunger in stomach all d. 4 and 7, 30 min. Ate supper at 7.10, but had no relish for it. Have had colicky pains and a sick nauseated feeling all e. Much disagreeable belching since supper. Abdomen feels distended and bloated. The colicky pains are like those produced by drinking largely of ice water. 5th.—Went to bed last night at 10.30, feeling very weary. Sleep was much disturbed by frequent awakening. Have a general tired feeling this m., as if I had done a hard day's work. My sleep did not rest me. Sore lame feeling across small of back. Have slight hacking cough, with tough, sticky, white expectoration. Ears feel as though I was suffering with catarrh. H. d., r. ear = $\frac{11}{11}$; l. ear = $\frac{2}{8}$. I usually pass water very often, and several times during n., and only since I have been taking this medicine I do not get up at all during n., and only evacuate the bladder 3 or 4 times during the 24 h. In walking this m. I had a general tired, sore, and lame feeling. During the past 24 h. I passed 20 fl. oz. of brown-coloured urine, of balsamic odour, highly acid reaction, and sp. gr. 1030. It was heavily loaded with urea. 7 a.m., 60 min. 9, much oppressed about heart. Pulse 84, and rather weak. Much dryness of throat and nose. Weary, numb feeling in knees and legs. Tingling in calves and feet, most marked in l. Am quite nervous and tremulous. Very restless. Bowels moved at usual hour; action yellowish, soft, and mushy. 10, 60 min. H. d., r. ear = $\frac{8}{8}$; l. ear = $\frac{7}{8}$. 1 p.m., 60 min. Much dryness of mouth, throat, and nose. Constant naso-pharyngeal expectoration. Pulse 66. The system seems to become tolerant of the remedy, and, excepting the deafness,

I seem to be much less affected to-day. 4, 60 min. My symptoms have all been modified to-day. 9, 60 min. 6th.—Was quite restless last n., and awoke rather early this m. Did not relish my breakfast. Pulse 84. H. d., r. ear = $\frac{11}{8}$; l. ear = $\frac{3}{8}$. Much depression about heart. During the 24 h. I passed 25 fl. oz. of dark urine, highly acid, and sp. gr. 1030. Bowels moved same as yesterday; same character of stool. 11 a.m. and 1 p.m., took 5ij. r. 15, pulse 102 and full. Face feels flushed and swollen. Ears feel stuffed and full. Eyes feel tense; vision blurred. Disturbed co-ordination of muscles of legs in walking. Lips, mouth, throat and nose feel very dry and parched. Sore scraping sensation in throat, momentarily relieved by drinking cold water. Crave cold drinks to relieve the dryness, but am not specially thirsty. 3 and 6 p.m., repeated dose. Have had very dry throat and mouth all d. Throat perfectly dry and stiff. Very full feeling in head and face. Skin dry. No perspiration, though weather is exceedingly warm. H. d., r. ear = $\frac{6}{8}$; l. ear = $\frac{6}{8}$. Vision blurred. Vision in both eyes = $\frac{6}{10}$. Optic disc hyperæmic retinal vessels engorged, worse in l. eye. Bloating distended feeling in abdomen. Pain and stiffness across lumbar region. 7, pulse 90. General feeling of distention and fullness in entire body. Dull, heavy, frontal headache. Pain in both mastoid regions. Legs, from knees down, feel very tired and weary. Aching in knees. Am very drowsy and dull, and very forgetful. Ate supper at 7.30, which relieved throat considerably. 8, have much colicky pain in bowels, and feel as if diarrhoea would come on. I am quite sick, tired, and weary to-night. 7th.—I passed a restless, sleepless n., and awoke very early this m., suffering from dull occipito-frontal headache, and a tired, sore feeling all over. Was hurried out of bed to stool. Had a soft, yellowish or greenish, stringy stool; urgent, and accompanied with mucous tenesmus. During the last 24 h. I passed 17 fl. oz. of very dark urine, highly acid and 1030 sp. gr. Have a very tired and numb feeling in popliteal spaces, and aching in knees. My legs feel as though they would not support the body. Pulse 96, weak and irregular. Decided naso-pharyngeal catarrh, with constant accumulation of white, sticky phlegm. H. d., r. ear = $\frac{6}{8}$; l. ear = $\frac{7}{8}$. Vision in both eyes = $\frac{7}{10}$. 9 a.m., passed a small, greenish or yellowish, stringy stool, intermixed with mucus and blood, and accompanied with tenesmus. I feel very badly in general this m. Am tired and stiff all over. Legs and knees feel tired and numb, and biceps and muscles of forearm feel sore, as when overworked. I have felt all the m. as if I would have a chill; am also very restless and nervous. 8 p.m., have felt all e. as though I had been taking quinine. H. d., r. ear = $\frac{1}{8}$; l. ear = $\frac{3}{8}$. Vision in r. eye = $\frac{1}{10}$; in l. eye = $\frac{1}{10}$. 8th.—Slept well last n., and relished breakfast this m. Pulse 84, irregular. Passed during the 24 h. 23 fl. oz. of dark-coloured urine, highly acid, and 1025 sp. gr. H. d., r. ear = $\frac{1}{8}$; l. ear = $\frac{3}{8}$. Vision much the same as yesterday. 11 a.m., return of weary numb feeling in legs and knees; also feel decidedly chilly, but not so much as yesterday. Had one soft, yellowish, mushy stool. 9th.—Slept well last n. Pulse 80, irregular. Depressed cardiac feeling almost gone. H. d., r. ear = $\frac{1}{8}$; l. ear = $\frac{3}{8}$. Vision in both eyes = $\frac{1}{10}$. Disc and retinal vessels in r. eye normal; disc yet slightly choked in l. eye. During the past 24 h. passed 45 fl. oz. of straw-coloured urine, reaction neutral, normal odour, and sp. gr. 1019. Sexual desire has from the first been almost entirely obliterated. Cardiac oppression existed throughout. (*Hahn. Monthly*, June, 1885.)

2. a. Mrs. C.—, æt. 30; brunette; has always enjoyed good health; appetite good; bowels inclined to constipation; pulse 75 and regular. March 20th, 1885, commenced taking O. at 8.30 a.m., and took one teaspoonful every 3 h., until 4 doses were taken each d. Fifteen m. after taking first dose my throat began to feel sore and raw, and it hurt me to swallow. These symptoms were rapidly increased after taking second dose. During afternoon the soreness subsided on r. side, but continued on l. At 3.30 p.m. I commenced to have dull feeling about head; aching in front, worse over l. eye. My throat is growing worse; it is a dry, raw, sore, rough feeling, and pains me severely. There is slight accumulation of white, sticky phlegm that keeps me constantly clearing my throat; throat is stiff and voice is husky. Soon after taking last dose at 5.30, head began to ache severely in l. temple and over both eyes worse over l. I experience same sensation over bridge of nose. I am very dull and sleepy. 21st.—I slept well last n., but had many dreams that were rather agreeable in character, and awoke this m. feeling very tired. I had but little appetite for breakfast. Soon after taking 1st dose at 8.30, throat began to get dry, sore, and raw

and the same sticky mucus began to appear. Head aches in front and back, and I have sharp pain under l. breast. During forenoon bowels have been very much bloated, and the distension has distressed me. I have also suffered with severe colicky pains, mostly in lower part of abdomen. Loosening clothing and lying down upon back afforded relief. I am forgetful, and mind seems confused. I have a tired feeling like one who has been sick, or is exhausted by long watching; this weariness is most marked in lower part of back. Soon after taking third dose, at 2.30, head began to ache over both eyes, and I became very nervous and restless, tremulous and impatient, with constant desire to move about. Later, I became dull and drowsy, mind confused and body extremely enervated. I do not want to move, but sit in a dreamy, listless mood. My breasts feel swollen and sore, with itching about nipples. When I walk I have pain low down in back. 4.30, I have just slept an h., and find all my symptoms gone on awaking; they soon return, and are again relieved by going into open air. After taking fourth dose, at 5.30, my symptoms were aggravated in about the same order of recurrence. Eyes feel tired, and as though I was stretching them wide open. Lids feel heavy, as if I had lost much sleep. I have passed a small quantity of highly coloured urine twice since early m. I have had but little thirst to-day, much less than usual. 8.30, throat is still sore, and head still aches. 22nd.—I went to bed at 10 last n., but could not sleep on account of severe pains low down in abdomen, like those produced by taking cold during menstruation. The same pains awoke me this m. I took my first dose at 8.30, and in a few m. became very nervous; my hands tremble, and I am restless. My head soon began to ache, and a listless feeling of mind came over me. I find myself gazing at objects across the room, and am completely lost in imperfect thought. I do not wish to talk or make any effort. I have been sneezing a great deal this m., and l. side of nose and l. eye seem to be affected. Throat is dry, raw, and painful, and voice is husky; and there is constant but scanty accumulation of white, sticky mucus in throat. At 1.30 I was taken with pain in l. hip. My back has ached severely this afternoon, and I have suffered from uterine and ovarian soreness, bearing-down pains, and engorgement of breasts. 23rd.—I slept well last n., but sleep was interrupted by dreams. At 10.30 I had pain in bowels, caused, I think, by gas. My bowels move every d.; before taking the medicine I was constipated. Soon after taking dose at 8.30 I began to sneeze; grew nervous and restless; then head began to ache, and throat got dry and sore. During forenoon head has ached through back and front, and over eyes, mostly over l. Head and eyes confused. Pains in l. breast from nipple through. Severe, heavy, bearing-down pains in womb. Sharp cutting and throbbing pains, also dull, heavy, aching, and slowly pulsating pains in ovaries; pains begin in one ovary and then pass to other, leaving a soreness that lasts until pains return. The uterine and ovarian pains are increased by external pressure, by walking, and by the pressure of the underclothing; I had to remove the corset. These pains lasted for many d. A general soreness in lower part of abdomen. Lips and mouth are dry, and yet I have no thirst. I am very drowsy, listless and dull. When I give up to this feeling and sleep I am better. Going into open air also relieves me. 24th.—I slept well last n., but dreamed much. Soon after taking the medicine I had return of same symptoms, in about the same order as yesterday. During d. I have had great distaste for water, and but little appetite. Have had nauseous belching, colicky griping pains, rumbling in bowels, bloated abdomen, and depression about heart. 25th.—Dreamed much last n., and was frequently awakened by uterine and ovarian pains. Am very sore this m. through lower part of abdomen. I have a general feeling as though menstruation would come on; back aches severely, and breasts are swollen and painful. Have a general tired and exhausted feeling all over; am nauseated, sick and nervous. Have much colicky griping pain; distended abdomen; rumbling in bowels and belching; much leucorrhœa, whitish, yellowish, and exco-riating, causing itching made worse by scratching. Urine scanty, highly coloured, and voided frequently. Depression about heart; pulse rapid and irregular; pain in region where heart beats. This disturbance about heart makes me apprehensive lest I should die. Soon after taking first dose, nervousness was increased, and, within 15 m., head began to ache in front and back, worse through temples and over eyes. This was soon accompanied by sneezing; sore, raw, and dry throat; husky voice, and pains in back, womb, and breasts. Am very drowsy this afternoon; have aching in l. side of head and over l. eye. Distended abdomen,

have to loosen my clothes; colicky pains; belching and nausea. Frequent desire to urinate, though there is but little passed. Depression of heart. Weary feeling after a long spell of sickness. Pains over hip-bone of l. side. Tired, weary, and numb feelings in legs, knees, and hands. My legs feel weak, and tremble as though they would not sustain my body. I stagger when I walk, and cannot use my hands well, they are so tremulous. I have pains in finger-joints. These symptoms have attended me, more or less, throughout. I have had no thirst to-day and but little appetite. After taking last dose, I had flushed face, and full bloated feeling all over; am very nervous and tremulous; cannot hold my book, or control my muscles to walk or to write. The least exertion causes great tremulousness. I am also restless and forgetful; will start to do one thing, and do another. Cannot get things right; started to go into the dining-room, and went upstairs. These symptoms usually exist in m., and soon after eating a meal. 26th.—Have had about same symptoms to-day as yesterday. Am much depressed in spirits. I feel as though something terrible was going to happen, and I am powerless to prevent it. My bowels are inclined to looseness. I took the last dose to-day.

b. In a former proving of the drug, the symptoms were somewhat dissimilar. Then I took smaller doses, and continued the drug for more than three weeks. When I commenced to take it then, I was suffering slightly with ovarian pains. These were allayed upon first taking the drug, and a degree of sexual feeling was excited. After taking the drug for a few days, the ovarian pains, accompanied with uterine pains and severe, excoriating leucorrhœa, reappeared, and the sexual feelings were entirely extinguished. This time the ovarian and uterine pains, with the sexual passion were developed at the beginning, and gradually increased to the end. The symptoms have been most severe and almost unendurable. The pains in my back, womb, ovaries, and breasts continued unabated for several d., until my menstruation came on, which was too early and for one day very profuse; then it almost stopped. Before, it came on 4 d. too early, was natural in character, too profuse, and lasted too long. This condition of irregularity lasted for several months. During the last stages of the former proving I was much more nervous than now, and had much less control of my muscular movements. The leucorrhœal discharge was also worse. There were other differences, mostly in degree, which I cannot enumerate. (*Ibid.*)

OPIUM.

(See vol. iii, p. 459.)

I. 36. A lady informed me that whenever she took laudanum it caused dull aching in nape and occiput, feeling of a band round neck, with sensation as if throat would burst, and as if blood were rushing into head. There was also sickness, constant retching, food vomited at once; she was light-headed and sleepless. Next d. perfect prostration. (Morphia had same effect upon her, only with more sickness and prostration.) (BERRIDGE, *The Organon*, iii, 284.)

II. 22. A man had taken by mistake a preparation of O. intended for external use. After 5 h. he was found lying on his back, face pale and slightly livid, features drawn, eyelids closed; no expression of suffering; complete relaxation, limbs remaining wherever placed; somnolence, from which he was with difficulty drawn. Sensibility was much blunted; pupils very contracted, punctiform; pulse about 100, small and compressible; beats of heart distinct but enfeebled; temp. 38°; no nausea or spontaneous vomiting. The most remarkable phenomena were those of the respiration, which was reduced to 5 or even 4 in m.; then, after a long pause of absolute apnoea, one heard a rattling or stertorous sound accompanied by a slight elevation of the chest and a semi-inspiration, which was followed, without interval, by

ep and full, but single one. The slower the breathing the more ked the pallor and lividity of the face. Electricity (induced ent) through phrenic restored and maintained the respiration, and :2 h. patient had completely recovered. (ARNOULD, *Bull. Méd. du 4*, 1879, p. 51.)

OSMIUM.

(See vol. iii, p. 533.)

II. 5. a. H. B—, æt. 38, platinum refiner, consulted me Dec. 13th, 3, for a troublesome rash on face and upper extremities, which had 1 there for 3 mos. He had always been in good health, and had er had syphilis. He had been following the same occupation for ears, and in it had on several occasions been exposed to the fumes smic acid. He had continued well till 2 years ago, when he had a ilar though less severe eruption on the skin, accompanied by nse smarting of eyes (1—2 h. after exposure to fumes), relieved by n air, but leaving eyes weak for a d. or two, so as to prevent ding, all objects seeming surrounded by a coloured halo; eyes were and swollen. There was also severe irritation of larynx and chea; tongue was furred, and sensitive to hot and cold drinks; he l colicky pains in abdomen and evanescent attacks of indigestion (to ich he had never been accustomed); tendency to piles; pain in is, the beginning of an acute nephritis, for which he was confined ed for 10 d., urine being at first scanty and of colour of porter. lth about that time and since very variable; some d. he would feel ectly well, and on others very miserable. This attack lasted os. It may be interesting to note that patient has 4 children, of m the 3 elder are perfectly healthy and free from all skin affections. youngest, a boy of 15 mos., is suffering from eczema at the ent time.

. The present attack began 3 mos. ago, with redness and swelling e skin of hands and arms, which showed a crop of small pimples, npanied by intense itching and becoming gradually vesicular. The hich is confined to the face, neck and forearms, is seen on ination to consist of numerous isolated patches of vesicles situated an elevated base, which latter is hard and brawny, and pits slightly essage; towards the edges the patches consist of only one or two les on the summit of a large papule. The contents of these les are in all cases watery. There is occasionally cracking of the ted skin, and constant slight oozing. The itching is at times ot unbearable, and causes him to be much more irritable and short- pered than has been his wont. The eyes are slightly suffused and able, and the sight is weak. The tongue is clean but deeply red in places, and in one spot appears denuded of epithelium over ace $\frac{1}{2}$ in. in length and $\frac{1}{8}$ in. in breadth. (J. G. BLACKLEY, *Monthly m. Rev.*, xxviii, 170.)

6. J. B—, a fellow-workman of the above, came with a similar tory. He had been employed at intervals for three years, and after

exposure to the osmic acid fumes experienced same effects upon the nose and larynx, and at times noticed that skin of face was red and covered with "fine pimples with watery heads." The hands and arms remained free till 3 mos. ago, when some large pimples appeared upon the knuckles, and gradually spread over the hands and arms. At present hands and forearms are covered with large or elliptical patches, varying in size from that of a sixpence to a florin. The patches are red, slightly raised, and covered with fine scales arranged in a concentric manner, resembling the later stages of psoriasis. Most of the patches are deeply fissured. He has also several large papules on the neck. The patches are intensely prurient, especially on rising in m., and on stripping at n. On examination with ophthalmoscope veins at fundus are found to be large and tortuous, but retina is otherwise normal. Refraction + 1.5 spherical. (*Ibid.*)

PARAFFINUM.

A tasteless, inodorous, fatty matter, resisting action of acids and alkalies by dry distillation of wood, peat, petroleum, &c. (It is probable that paraffin for medicinal purposes, identical with petroleum, and that its effects may be similar to those of kerosene, are the same as those of the latter.) No special indications for that drug. We have thought it better, however, to prepare it separately.—EDS.)

I. 1. In the *Hom. Recorder* of Sept., 1890, there is a "pathogenesis" of P. from the pen of the late Dr. Wahle. It is a collection of dubious features of all documents of the kind from this source, which can only be indicated here.—EDS.

II. 1. a. Mrs. A. M—, æt. 36, came to the Royal Infirmary at 9.55 a.m. on March 15th, 1890. She stated that she had been drinking for a fortnight, and that that m., while still not the sober, she had intentionally drunk a good half-cupful of paraffin. The time could not be accurately ascertained, as her clock had stopped, but it seems to have been before 6 a.m. After about $\frac{1}{2}$ h. had passed she began to suffer pain and to vomit; she vomited twice or three times a mouthful or two at a time, and on the first occasion she vomited there was more than a tablespoonful of blood in the vomited matter. (During the previous week she had had several attacks of vomiting due to drinking, but no hæmatemesis and no pain.) The pain increased rapidly, and became so bad that she thought she was going out of her mind. On admission her hands and tongue were very tremulous, and her tongue was distinctly red and glazed-looking at the tip and edges, the dorsum covered with a thick white fur. The r. pupil was somewhat dilated, the l. normal; both reacted rather sluggishly to light. She complained of pain in the pit of her stomach. Temp. 99.8, pulse 120. One tenth of a grain of apomorphine was given hypodermically, and 6 m. later she vomited about 6 oz. of matter which had a strong odour of paraffin. It consisted almost entirely of yellow matter floating in a golden-yellow fluid. She then drank a large cup of water, and thereafter the dose of apomorphine was repeated; 2 m. later she vomited material similar to the last, but diluted with the water just swallowed. There was no blood on either occasion. Abo

day she passed a scanty stool, consisting almost entirely of red blood. Her menstrual period had ceased normally almost a week before, but there occurred a slight return of the flow that d. At 1 she was ordered a simple warm water enema (a pint and a half), to be repeated after an hour's time. On each occasion the enema brought away a stool having an intense odour of paraffin, but containing no blood. She passed 12 oz. of urine, which also had a very marked odour of paraffin; by allowing the urine to stand the paraffin was rendered visible, floating as a thick scum on the surface. At 7 she complained of abdominal pain. Another warm-water enema was given, and brought away a stool without any blood; the odour of paraffin was present to a less degree than before. Shortly after this she passed 40 oz. of turbid urine, lighter in colour, but with a marked odour of paraffin. The temp. at 4 p.m. had been 100.2° , but at 8 p.m. it was a degree lower. Mr. Charles Arthur, the dispenser to the Royal Infirmary, kindly undertook to distil 10 oz. of the first sample of the urine, and 10 oz. of the second. As the result of distillation and redistillation about 6 c.c. of pure paraffin were collected; and Mr. Arthur estimated that at least an equal quantity was lost in the process, owing to the want of sufficiently delicate apparatus. The two samples were kept separate during the first distillation, and it was found that the first contained about twice as much paraffin as the second; thus a total of at least 25 c.c. of paraffin must have been excreted by the kidneys.

b. At 9 the patient was found lying with her knees drawn up, complaining of severe burning pain, chiefly at epigastrium. There was marked tenderness on pressure over that region, and over the l. lumbar region; she said her abdomen was swollen, but it was not at all noticeably so. She was still vomiting occasionally, but no odour of paraffin could be detected in the small amount of mucus which was brought up. She could extend her legs, but said that she had less pain when they were drawn up. The exacerbations of pain produced a marked increase in the tremors of her hands. On taking the bedclothes off her abdomen to examine it, there was a distinct though not strong odour of paraffin from the skin. Her breath emitted a strong odour of paraffin. At 10.15 the abdominal tenderness was more general and more marked, so fomentations were ordered every two hours, and she was fed with warm milk given frequently in quantities of an ounce at a time. She had just been vomiting. At 3 a.m. on the 16th the abdominal tenderness was less, though she was still lying with her knees drawn up to diminish the pain. The odour of paraffin from the breath was not so strong. She had not slept at all, and occasionally imagined she saw cats in the room. She said, however, that she had not slept the previous n. either. She was still vomiting now and then, so 15 gr. of subnitrate of bismuth were given, which checked the vomiting for a time. At 5 a.m. she passed 8 oz. of urine with a trace of paraffin odour, and a slight "greasiness" on the surface after standing. When she was seen at 11 the pain and tenderness in her abdomen were much less in degree, and had changed in character. The pain had become griping, and was situated near the umbilicus. The tenderness was in the r. iliac fossa and lumbar region. She had not vomited since 8 a.m.,

and did not vomit again. Her breath, but not her skin, still had the odour of paraffin. Temp. 99.8° , pulse 110. About $\frac{1}{2}$ h. later she passed 3 oz. of dark red urine, containing both blood and albumen copiously. In the afternoon the pain was much easier. She passed 3 oz. of dark crimson urine, which gave a marked reaction with tincture of guaiacum, and contained $\frac{1}{2}$ gr. of albumen and $12\frac{3}{4}$ gr. of urea per ounce. At 11 that n. she was sleeping quietly; her breath still emitted the odour of paraffin. By midnight her temperature was normal, and did not rise much above normal again. Half an h. after midnight (March 17th) she passed 6 oz. of ruddy, amber-coloured urine, which gave a slight reaction with guaiacum, and contained a trace of albumen and 17 gr. of urea per oz. Shortly after midday she passed 10 oz. of urine similar in colour to the last. Guaiacum showed a trace of blood but there was no albumen; the urea was 18 gr. per ounce. Later samples showed neither blood nor albumen. The total urine passed on the 17th was 28 oz. In the afternoon the paraffin odour had gone from the breath, and there was only very slight tenderness in the abdomen, hypogastric in position. The tremors in the hands had almost gone. On March 18th her bowels were moved, but there was no blood in the stool. That evening she needed a drachm of bromide to procure sleep. During the d. she passed only 13 oz. of urine, containing almost 12 gr. of urea per ounce. The next d. the urine was practically normal again, both in quantity and quality. She was discharged on March 22nd. She had no feeling of illness, and was eating and sleeping well, her only remaining symptom being slight tremors (S. W. CARRUTHERS, *Lancet*, 1890, ii, 442.)

2. a. A gentleman began using paraffin as a hair restorer about Feb. 1st, a little being rubbed on the scalp every n. The following is his report:

Feb. 1st—28th.—No result apparent; indeed, hair seemed to be getting much thinner. March 1st—31st.—Had a hard dry cough, worse on lying down after applying the P. Often coughed for $\frac{1}{2}$ h. at a time. No pain of any sort, but was frequently kept awake for an h. or two in the n. with the cough. I did not seem to have a cold at this time, and the cough went away during very cold weather with the wind in the east. April 1st—30th.—Began to have bad headaches in back part of head, from crown down to nape of neck; these always came on during any mental exertion, such as casting a few columns of figures. I woke every m. regularly at 4 with a headache of this sort and feeling more tired than when I went to bed; also frequently had a crick in the neck, and a feeling of pain and stiffness in the r. leg when getting up and starting to walk. About same time became extremely constipated, with considerable bleeding from every motion and veins on nose got much more marked than ever they had been before. Complexion was dirty yellowish; no appetite; loss of flesh much perspiration on least exertion. About May 7th I left off using the P., and in a few d. bleeding stopped, and constipation got much better; headaches also gradually got better; in about a fortnight they were entirely gone. (My hair is not very different from what it was when I started.)

b. My wife used P. for six mos. in the same way, beginning 3 mos. before me. Her hair is now very much thicker. For last 2 mos. she had constant headaches down back of neck and head: it was this which enabled me to find out the cause of mine. She also suffered very much from constipation, and complained of great weakness, always feeling tired. Suffered much from corns; also got a wart on hand and pimples amidst hair and on neck; great itching of skin, especially on head; scabby eruption behind ear. These symptoms gradually disappeared on discontinuing the use of P., but a month after she had a very severe earache ending in suppuration, which has lasted a fortnight.

c. The people next door, who were also restoring their hair, complained of the most frightful headaches, which they were told were neuralgic. (BURNETT, *Hom. World*, Aug., 1891.)

3. Dr. DYCE DUCKWORTH observed case of a workman in a paraffin manufactory. He often spilt some on his trousers, and generally saturated the parts over his thighs; his hands and forearms were often covered with the oil. After working for a week an eruption appeared. There is now (after 3 weeks), on front of thighs and legs, and on back of forearm, a vesicular rash; it is everywhere similar in character; on thighs there are some thickened patches of cuticle and sordes covering part of the eruption; the vesicles are aggregated in places and isolated at the margins; there is no itching in the affected part, but some irritation is complained of. Two d. later:—patient has had two baths; some of the cuticle, &c., is removed from the thigh, and nature of disease is better seen; some vesicles seem inclined to be pustular at their summits; a hair is seen in the centre of each of them. (*Med. Times and Gaz.*, 1864, II, 650.)

4. Dr. OGSTON communicates effects on workmen similarly brought into contact with P. in a manufactory at Aberdeen. Eruption of nodules and pimples speedily appears on exposed skin of those who are for the first time engaged in the manufacture, lasting for a few weeks or months, and then generally diminishing and disappearing. In a few exceptional individuals it does not disappear, but, assuming a chronic character, produces so marked and prolonged an affection of the skin that the general health becomes impaired, and the cessation of the employment becomes a necessity.

a. In the acute and recent form, the skin of hands, wrists, arms, feet, and legs becomes covered with a rash of bright red nodules, closely approximating to each other, and usually largest and most numerous on wrists, or wherever dress tightly embraces skin,—dorsal aspect of parts being most severely affected, palms and soles enjoying complete immunity. Similar nodules arise, though to a less extent, on face, neck, and other parts of body to which the oily matters find access. On examining minutely the skin of those so affected, the following are the leading peculiarities of the eruption:—The bright red nodules, hard to touch, tender on pressure, varying little in size (= about a grain of barley), are of a rounded form, and consist each of a single hair-follicle with the parts immediately around it, which are inflamed, indurated, and reddened; the hair emerges from the very summit of the nodule,

and the orifice of the follicle is much enlarged and easily visible to the naked eye as a "pin-hole" aperture; the dilatation extends to the deeper part of the follicle, which forms the kernel of the inflamed knot, the retention of its contents evidently contributing to the inflammatory induration around; the gaping mouth of the follicle exhibits masses of cast-off epithelial scales, dry and friable instead of greasy and tenacious. The nodule has little of the tendency to run on into suppuration observable in an ordinary comedone, and its contents cannot be squeezed out; on the contrary, the redness and induration, after remaining for some little time, gradually diminish and finally disappear leaving the hair-follicle enlarged, and its mouth gaping so as to exhibit the retained epithelial masses, mixed with dirt. In fact, the acute form consists of successive crops of these nodules, the skin between them retaining its natural pliancy and elasticity. Men with dark complexions and strong hair are especially liable to this persistent patency of the hair-follicles, those of fair complexions and light reddish hair escaping comparatively unaffected.

b. When the disease assumes a chronic form it exhibits the following characteristics:—The backs of feet and toes, the dorsum of the hands and fingers (between, not over, the joints), exhibit a peculiar honeycombed appearance of the skin, which is elevated, thickened, and inelastic, so as to hinder flexion. These patches are of natural colour and not inflamed (except where an isolated papule exhibits the appearance described under the acute form); they consist of densely grouped arrays of hair-follicles, with indurated cutis between and around them, the follicles packed with dry, brittle accumulations of epithelial scales so extensive as to be easily visible through the dilated mouths of the follicles—these being large enough to admit the extremity of an ordinary probe. The hairs themselves have disappeared from these patches, having probably become atrophic from the pressure of the epidermic masses, while cracks and bleeding fissures traverse the indurated parts, and in rare instances a follicular abscess gives variety to the picture. Knuckles, palms and soles remain unaffected. In the subjects of the chronic malady the complexion is pale and the tongue foul, while the loss of flesh betrays the effect of the sleepless nights caused by the constant irritation and pain of the skin of the affected extremities. (*Edinb. Med. Journ.*, xvii, 554.)

5. In 1886 I was consulted by a man who had formerly been employed in a factory where much paraffin was used. (He suffered from an inveterate eczema, and found that this was greatly improved whilst working with P.). He told me that the vapour had a singular effect, making some of the workmen insane. They can see things that are actually not visible; for instance, they will see the rails in a station whilst a train is on them. They desire to kill people. Boys (who are much affected). will jump at a straight wall and try to scramble up it. (*CLARKE, Hom. World, July, 1891.*)

6. G. M—, æt. 2½, suffering from rickets, and having a penchant for drinking everything that came in his way, had imbibed some paraffin. An emetic and a purge had got rid of a good deal of it, but when he was brought to me a month afterwards he had, in addition

PHOSPHORUS.

to his rickets and a cough, bad appetite; pallor, with dark rings in the eyes; every now and then seems to collapse, goes into a corner, keeps quiet, will not play. He was quite bright in e.; had cold in bed, complaining of burning fever, and then going cold and clammy. I gave him phosph. 2, and in three weeks he had lost pallor and dark rings, and had ceased to mope, but had come out all over small vesicles, which discharge, the matter having the odour of paraffin. (*Ibid.*)

7. In America, "paraffin oil" is used by women in washing their faces, a tablespoonful being put into a bucketful of water, as it makes the linen of a better colour. Dr. BLIEM has seen cases in which this practice has been attended with unpleasant consequences to the dresses. One of them experienced the following symptoms:—occipital headache, loss of strength, emaciation, diarrhoea, dyspepsia, characterised by fulness on slight eating, accumulation of gas, and severe attacks of suffocation, finally relieved by eructations of gas. (*Southern Journ. of Hom.*, July, 1890.)

PHOSPHORUS.

(See vol. iii, p. 553.)

II. 34. a. While taking the out-patient department of the City Infirmary for Mr. Rhys Griffiths on Sept. 14th, 1889, H. D—, a servant, aged 15, came as a patient. She complained of pains all over her, great headache, vomiting of blood twice, faintness and languor, unquenchable thirst, and inability to take any food. A few days previously she had been in perfect health. The illness began on Sept. 7th with headache and faintness. Pains in the back had become the most intense symptom. On the 13th she had vomited a pint of blood, "dark thick stuff." The next day she had vomited one or two ounces of blood. On the 13th she noticed that her vomit had become yellow. Her bowels throughout had been very constipated. On examination I found that the patient showed extreme prostration. Her cheeks were brightly flushed, the tongue dry and black, and her breath extremely offensive. The pulse was 120, weak, thready, quick, and very compressible. Thinking the case was one of acute specific fever probably, I took the temperature and was surprised to find it 98.5°. The girl was plump and well nourished; there was no well-marked jaundice of face and body. The heart and lungs were normal. The whole of the abdomen was very tender to palpation. The liver dulness was diminished, and the liver area very tender. The above symptoms, and especially from the history of sudden onset, and the normal temperature, I came to the conclusion that this was one of acute yellow atrophy, or phosphorus poisoning. On examination she could recall having taken nothing injurious or poisonous of any kind; and after beating about with non-leading questions, I asked her whether she had had any rat poison in her possession before her illness. She at once answered, as if it were quite a familiar idea to her as connected with her illness, that she had had some,

her mistress had given her to spread for rats. She stated most positively she had taken none, and had not touched it except with a knife, with which she spread it on bread. However, the admission of possession seemed sufficient, and I admitted her on the phosphorus-poisoning diagnosis. She passed into a condition of coma the same e., and after renewed hæmatemesis died at 7 a.m. next m. Her urine was secured previously, and found to be very highly coloured, with a deposit of epithelial cells like bladder-cells; free from albumen; it gave most brilliantly the crimson reaction with mercurous nitrate typical of tyrosin, and on evaporation showed numberless sheaths of fine tyrosin needles and transparent glassy plates of leucin. Besides these, there were numerous hedgehog balls of coloured acicular crystals looking like uric acid.

b. The necropsy was made by Mr. Thomas, house surgeon, 30 h. after death. The weather was warm. The rigidity was marked. The body was plump and well formed, but generally jaundiced. There were no petechiæ. A liquid like coffee-ground stuff streamed from the nose. On opening the abdomen the liver was found to be shrunk out of sight beneath the ribs. The bowels were distended and darkly stained. The pericardium contained two ounces of straw-coloured fluid. The l. side of the heart was contracted, and the r. flaccid; there were no clots. The tissue was friable and stained yellow. The lungs were slightly congested. The stomach contained about two ounces of "coffee-ground stuff." The mucous membrane was stained black on the top of the rugæ, and was very thick, soft and friable all over. The intestines were full of "coffee-ground stuff" in the ileum and jejunum. The mucous membrane was in the same condition as that of the stomach. The large intestine was full of black-stained soft fæces. The liver was small in size and solid in consistence; it weighed $45\frac{1}{2}$ oz. The capsule was adherent and thickened. The gall-bladder was empty. In the middle of the under surface of the r. lobe was a natural fissure half dividing it into two lobes. The surface was of a uniform, bright chrome-yellow colour. On section it was found to be soft, intensely yellow, friable, greasy to the touch, and showing the lobules clearly marked out with fatty and congested areas. The liver resembled, when broken, yellow fæces more nearly than anything else. The cortex of the kidneys was very pale, soft, and friable; pyramids congested; capsule normal. The spleen was of normal size, pale and diffuent. On opening the skull Mr. Thomas detected a distinct smell of phosphorus, and on making sections into the brain this was apparent to all in the room. The brain was otherwise normal. No luminosity could be obtained from the organs.

In the inquest held on the case the most interesting fact was obtained that the girl had been giving a "dark *séance*" to other girls, and had rubbed the paste into her hands and face to produce blue flame, just before the onset of illness. She denied to me most positively having taken any by the mouth; and though she told me nothing of the *séance* she had said that she felt bad first after spreading the paste for rats. Probably she was ashamed of the *séance*, and had really felt bad after anointing herself for this. The question therefore arises

whether death could occur from inunction of rat paste, which seems probable here. There is no case on record, I believe, of such a death. Could she have rubbed the paste on her teeth and tongue, to emit blue flame possibly? From the severity of symptoms it looks as if much poison had been absorbed. There was no cause for suspecting suicide; the hymen was intact, and the uterus appeared to be just menstruating, a Graafian follicle having just ruptured in the left ovary, and her whole bearing was utterly unlike a suicide. Another point of interest in the case is the fact that the poison could be diagnosed from the symptoms alone. Had I been a believer in acute yellow atrophy as a disease apart from phosphorus poisoning, I should probably have put down the case to that; but believing the two to be one and the same thing, I was sufficiently pertinacious in my cross-examination to hit on the right track, and to prove the necessary possession of phosphorus. The patient died in the usual time, on the 8th day after initial symptoms. (HILL, *Lancet*, 1890, i, 398.)

35. a. W. S—, æt. 32, ship's steward, 5 feet 10 in. in height, was admitted on June 12th, $\frac{1}{2}$ h. after swallowing the greater part of half an ounce of phosphorus paste (Roth and Ringeisen's). The stomach was at once washed out with five or six basinfuls of warm water; 3 gr. of sulphate of copper were mixed in a pint of warm water, and given to him to drink. It was immediately vomited. The fluid with which the stomach had been washed out had a strong smell of phosphorus, and was luminous in the dark. In the subsequent course of the case the most prominent symptoms were vomiting and depression, with for a short time a very slow pulse, 46. Jaundice was first noticed on 16th, in conjunctiva, and the urine was of a dark red-brown colour, due to bile-pigment. It was acid, of specific gravity 1020, and contained no albumen. On the following day the jaundice was more marked, especially on the face and chest; the tongue was furred; there was some tenderness over the liver, but the area of dulness was not diminished. The vomiting continued; he passed 40 ounces of urine, of a brownish-black hue, in the 24 h., and the motion passed on June 18th was very foul, and like chalk-and-water. The motions retained this character; the intensity of the jaundice increased, and there was tenderness over the liver. Nocturnal delirium subsequently became marked. On 22nd, the respirations had the so-called Cheyne-Stokes character, and were only 8 per m. The pulse was 50. A round-worm (*ascaris lumbricoides*), six inches long, was found in the vomited matter. On 24th, the temperature rose to 100.6° ; the pulse was 120, and the respirations had risen to 26. On 25th, temp. was 102.2° ; pulse 124, full, bounding; and resp. 28 per m., stertorous. The stupor in which the patient had previously remained was passing into coma. The motions and urine were passed involuntarily, and the perspiration was profuse. At noon, temp. was 102° ; at 3 p.m., 102.4° ; at 8, 102.6° ; at 11, 103.8° . Pulse was then 162, and resp. 44, stertorous. He was in a state of profound coma. At 1.30 a.m. on 26th, temp. was 105° , pulse was 150, and resp. 54. At 2 a.m., temp. was 105.2° , and pulse could not be counted. The coma continued until death. Temperature at 3 a.m. was 106° ; at 3.30, 106.4° ;

at 4, 107° ; at 4.30, 107.4° ; at 5, 107 after death, 108.6° .

b. The necropsy was performed deeply jaundiced, was of a brownish-section had a black tarry appearance frothy blood, mixed with minute oil-g weighed $13\frac{1}{2}$ ounces, and was very so had a pale reddish-yellow appearance inner coats of the large arteries were staining being noticed here and there. in size, weighing only $42\frac{3}{4}$ ounces, of soft and flabby, with thin edges, so that it was greasy-looking. On section it brownish-yellow colour, bloodless, with The gall-bladder contained a little thin (weight—r., 8 ounces; l., $7\frac{3}{4}$ ounces) loosely attached, so that they were easily organs had a pale and oily appearance. its substance was soft, and of a tarry The stomach contained some fluid and its coats had the general yellowish appearance or congestion could be observed. The microscopical examination, the organs gone fatty degeneration. This was more had disappeared more or less completely globules of oil were seen to be studded of the heart had lost the striated appearance minute molecules of oil. Extensive fatty granular epithelium of the kidneys. Microscope showed the deep brownish-yellow (*Med. Journ.*, Nov. 20th, 1886.)

36. A married woman, $\text{aet. } 20$, too 11 d. later. Had nausea and vomiting depression. Towards end, insensibility rhagia.—P.M., skin and conjunctiva stained $\frac{3}{4}$ of a pint of dark claret-coloured blood from capillary hæmorrhage from irritation. Its whole surface had a yellow of some rugæ which were bright pink Upper part of small intestine affected contained a quantity of almost colour weight 26 oz., both its outer and internal atrophy, except that there were great hæmorrhage in patches. Lobules of liver visible, in others stood out in bold patches, in strong contrast to deep dark discoloration. Gall-bladder contained 3ij of of bile. Urinary bladder empty, kidneys bile-stained, of greater depth and so

Capillary hæmorrhage into r. lung and pleura, pericardium and stomach. (*Lancet*, July 14, 1888.)

37. Dr. NATHANSON, in a Berlin graduation thesis, discusses the effect of phosphorus poisoning on the liver. He follows Virchow in drawing a sharp distinction between the infiltration of the liver-cells by fat-globules and their metamorphosis into fat. He treated hardened sections with ether, and found that when these were from a healthy subject no change was produced thereby. When they were from a liver affected with fatty infiltration, the fat-globules were dissolved, the remaining cell-structure continuing pretty much as it had been before. When, however, the sections were taken from bodies which had died of phosphorus poisoning, the structure was entirely obliterated by the ether, and the same occurred in the case of sections of the kidneys from the same subjects. The inference is that poisoning by phosphorus produces a true fatty metamorphosis of the tissues of the liver and kidney. (*Lancet*, June 28, 1890.)

38. An aged woman, after an attack of asthma, was much weakened, and had a dry spasmodic cough, which brought back the dyspnœa. I gave her Phosph. 3 every 2 h. "Immediately," she said, "on taking the first spoonful, there came on, between the nose and eye, on the l. side, a peculiar sensation, like a strong pressure, or a pain proceeding from a nerve. At the same time it seemed as if the globe of the eye was swollen and pushed out of the orbit. The eye is painful during the cough, but especially the middle and side of the nose. On the forehead there was a drawing headache, describing as it were a semicircle." These symptoms troubled the patient so much that she determined not to repeat the medicine. She attempted this next d., however, but with recurrence of precisely the same results. (*Revue Hom. Belge*, Avril, 1875.)

PHOSPHORUS HYDROGENATUS.

(See vol. iii, p. 605.)

III. 1. HUGO SCHULZ, after 13 experiments on animals, arrives at the following conclusions:

a. Ph. hydr. has a narcotic cerebral action, like that of Ph. itself.

b. Its action on the spinal cord is also that of Ph. The author has observed motor paralysis, arising from the spinal motor centres; hyperæsthesia, depending on the spinal centres of sensibility; excitation of sexual and vesical irritability; shivering; tremor.

c. He has not noticed any marked alteration in the blood, or in the abdominal organs. The fulness of the abdominal vessels was very variable.

d. The lungs nearly always showed lesions of inflammatory nature. (*Rev. Hom. Belge*, Févr., 1891.)

PHYTOLACCA.

(See vol. iii, p. 625.)

II. 10. On Dec. 10th, 1889, I was engaged in cleaning, scraping and slicing some fresh roots of Ph., preparatory to making a tincture with them. While doing so I happened to touch—about 2 p.m.—the lower r. eyelid with a finger damp from the moistened root. About 5 my eye began to feel “sandy” when I winked; then tears began to flow; and on looking into a glass I found that the eye was quite red. About 5 I had to go out, but the cold air did not increase the lachrymation, and sight was not affected. All e. was unable to read for the flow of tears; there was no pain, but sense as of sticks or sand-pap in eye. Slept well, but on awaking next m. could not open eye on account of agglutination of lids. Conjunctivitis was greater than that of previous e.; sight was good, but on looking at electric lamps in e. saw on their upper right-hand quadrant a brilliant carmine spot, or ball, about $\frac{1}{16}$ of the whole circle.

A repetition of the experiment, performed with the utmost lightness of touch, resulted in same conjunctivitis and lachrymation, but minus the optical phenomenon. (N. IRVING THAYER, *Amer. Hom.*, June, 1890.)

PILOCARPINUM.

(See vol. iii, p. 34.)

II. 5. Upon one occasion I took 1 gr. of the nitrate by the mouth. In 15 m. there was flushing of face with suffusion of eyes; this was soon followed by flow of mucus from the nose, resembling very much that of an ordinary coryza, increase of salivary secretion, and profuse perspiration. These effects continued to increase for an h., when they reached their height; dimness of vision now occurred, lasting $\frac{1}{2}$ h.; perspiration literally streamed from every pore; the saliva constantly filled the mouth (quantity expectorated in 3—4 h. was found to be $\bar{3}xvj$). Temp., which in first $\frac{1}{2}$ h. had risen half a degree, fell to normal; pulse was full and rapid, but became less so after 1 h. Effects of drug continued 4 to 5 h., when they gradually disappeared leaving no ill consequences behind. (HARTZELL, *N. Y. Med. Rev.*, April 12, 1879.)

III. 1. The experiments of Ringer, Murrell, and Morshead have shown that P. acts like muscarine on the frog's heart, slowing, weakening, and finally arresting it in diastole. They find, nevertheless, that P. restores for a time the action of the heart when stopped by muscarine, increasing the strength more obviously than the frequent use of the contractions, the latter augmenting more decidedly under antagonists like atropine and duboisine, whose influence also lasted a much longer time. (*Journ. of Phys.*, ii and iii.)

2. It is now commonly agreed that the special effect of the drug

on the sweat-glands is due to an action on the peripheral nerve-supply, and not on the "sweat centres" in the cord, since all the spinal nerves to a limb may be divided, and yet the sweating occurs in that limb. Some d. after section, when degeneration of nerve-terminals has taken place, then sweating does not follow the use of the drug. Small doses injected directly into the salivary glands increase—very large doses arrest—the secretion, even when the salivary nerves are divided, so that there is probably some direct action on gland-cells as well as on peripheral nerves. (PHILLIPS, *op. cit.*)

PIPER METHYSTICUM.

"Kava-kava" of Tahiti and other Pacific islands. Nat. Ord., *Piperaceæ*.
Tincture is made from root and extreme base of stem.

I, II. *Proving and Poisonings*.—1. a. Dr. GRISWOLD, æt. 42, health good, but is vulnerable and susceptible. Oct. 26th, 1875, took 10 dr. of 3rd dil. 4 times a d., increasing dose to 15 and 20 dr. by end of week, when he discontinued it. During this time a "toning-up" seemed induced by the drug, so that he could do more reading than formerly, without fatigue and with relish.

b. Nov. 20th.—Has taken for 3 d. past 10—15 dr. of 2nd dil. No symptoms save slight sensation of fulness at different parts of brain, mostly in frontal region. At midday meal to-day appetite unusually good, but food had not its usual relish or taste. He had taken drug 15 m. before eating; and it had caused dulness, fulness and pressure in forehead, with vertigo on elevating head or moving it to either side. After meal pressure shifted to lateral and occipital regions, and on lying down increased to a considerable degree,—not, however, to real pain. It was relieved by movement. At following meals everything was tasteless; there was sense as if mucous membrane of mouth and tongue was covered over, and its sensibility lost; tongue was not coated. Occasionally, in spite of this, food was taken as with ravenous haste. This e. warm glow over upper part of body, but no marked increase of heart's action; uneasy sensation, as of pressure and weight, on each side of head above ear. 22nd.—No symptoms, though 10 dr. were taken 4 times yesterday. On rising took 20 dr., and within 2 m., while dressing, dizzy blindness came on, less on closing eyes, and it could be somewhat overcome by will; it was followed by rush of blood and fulness,—also pappy taste in mouth, warmth of stomach, and slight pain in abdomen above umbilicus. These symptoms soon passed away, leaving unusual languor of brain. 23rd.—No head symptoms after a m. dose of 40 dr., and he felt well all d. Repeated dose at n. 24th.—Latter part of n. sleepless, mind at work; worn tired feeling before and on arising; dizziness and frontal pressure even when lying in bed. Took 40 dr. Well till e., when from 5 to 9 he felt dizzy, came near falling several times; swimming sensation and faintness. At n. brain felt tired; headache at r. temporal region, across eye and bridge of nose, with sense of pressure along sides of nose halfway to tip (the r. temporal pain is not uncommon to him when fatigued, other symptoms are). 25th.—Last n. took 2 teaspoonfuls at bedtime. Stupid sleep followed, preceded by heavy pressure on whole frontal part of head; in after part of n. active vivid dreams, alternated with half-conscious waking. Awoke with very worn feeling of brain. After getting about took another 2 teaspoonfuls. A feeling followed as if drug had descended and impressed lower part of system, producing trembling sensation of bowels and lower extremities and blood-vessels connected therewith. On going downstairs drug seemed to come through circulation upward, reaching brain and producing exhilarative dizziness and disposition to swing and stagger, as if one were under the influence of alcohol. For ½ h. or more felt talkative and happy. Dizziness soon disappeared, and left a generally "toned-up" condition of brain and nervous system; on commencing to move dizziness returned. Urine this m., when first passed, was hot, and burned urethra; at 10 a.m. it was neutral and bland. Bowels, hitherto regular, constipated. Felt all d. unusual life, vigour, and exhilaration. Took no more medicine. 26th.—Reaction

relieved by slight motion, increased by large, continued, and was affected in like manner by mental exertion; whole back congested, sore inside and tender to outside pressure, and of ordinary size. Gradual improvement in e. Bowels still cor d. teeth have been very sensitive to cold water or air, and Severe pains and soreness of back of head have gradually (cerebellum) only sensitive. The feeling of over-size co frontal to occipital, sometimes also to lateral, regions. Agree with pleasant youthful freshness and vigour, both of body general tonicity comes on as during primary stage of the med muscular action, as then, so easy as to be almost involuntary paired, finds himself walking fast without knowing it, leg running away with (or from) him. 29th.—Large and na for 4—5 d. Felt well till towards e., when, some business a came on about middle of forehead, proceeded outward to after retiring at n. followed around sides of head and attacke tion was not extremely painful, but was indescribable; it wa compressed in every direction, especially from front to back. highest tension, could not sleep first part of n., and latter could lie still but a few minutes at a time, it seeming as if he compressed to death if I remained quiet long; hands sought perceptible increase of heat; no thirst. Constrictive or com to chest and stomach as well as to brain, though in less de proving eyes felt wide open, and hearing more acute than us gradually diminished; and from Dec. 1st to 7th he felt unusu ache, &c., as on Nov. 29th recurred, with (as then) an emiss thing happened every week or so till end of January. (*Hah*
2. Dr. HILLER, æt. 29, health good. Dec. 7th, 1876 saturated aqueous sol. of P. meth. about 8 a.m. It soon pr over body, dull heaviness across forehead, pain in l. supra-orb well during n., stool a little loose this m. Took another li after felt dull aching in l. shoulder; aching and tingling in better in motion; flush of heat on both cheeks; pain in numbness in r. elbow; sharp shooting pains in l. temple. of a tinct. made from dry root. Immediately, stitches throu; back; at intervals, sharp shooting in l. supra-orbital nerve

from galvanic current; heaviness in forehead; legs feel heavy from knees downwards, while walking. 3 p.m., felt somewhat drowsy and stupid, with dull frontal headache, during whole afternoon and e. 14th.—Has been annoyed with aching pain in r. wrist, worse when writing. This continued all next d. also. 16th.—Crampy pain in stomach lasting $\frac{1}{2}$ h., relieved by pressing stomach against edge of table, and by motion; aching in wrist began at 10.30, with soreness and slight prickling pain running up arm to elbow. Pain had gone by 1 p.m.; dull aching at intervals in r. frontal eminence, better in open air and when moving. No further symptoms. (*Ibid.*, p. 618.)

3. a. Dr. M. A. WOLFF took tinct. 3 times a d. for about a month, doses from 6 dr. to 3 and 4 teaspoonfuls. 1st d.—Soon, uneasiness in head; after $1\frac{1}{2}$ h., aching in whole l. arm, and flushing heat in l. hand, which in time changed to aching in middle and third fingers; after 4 h., pain in 2nd joint of l. thumb; after 5 h., fatigue in both thighs, as if unable to stand on them, and pain in l. toe; after $8\frac{1}{2}$ h., headache and sleepiness, so great that he could hardly attend to a patient; very drowsy all d. 2nd d.—Great frontal headache all d., at 8 p.m. ache especially over eyes and deep-seated; very hungry at midday, but unable to eat much either then or in e.; feverish heat in l. auricle and l. hand, continuing up to 12th d.; at n. sensation as if tongue was covered with fur or velvet. 3rd d.—Went through work with uncommon cheerfulness and ease; afternoon nap dreamful; woke with great dryness of mouth and heavy perspiration. 4th d.—Sensation of desiring a stool all d.; burning in urethra on micturating; heaviness in upper chest behind sternum, as if filled with wind that cannot be eructated; pain in l. knee when walking; pain in l. foot, at outer and under border, foot itself feeling cold, with pain in r. big toe; wakefulness during usual sleeping-time; at n. fragmentary sleep from 12.30 to 4.30 a.m., with varied and exciting dreams. Got up at 4.30; did excitedly all kinds of unusual office work; slept soundly 1.30 to 2.45 p.m.; curious, nonsensical, wild dreams. 6th d.—Pain in l. foot and toe. 7th d.—Continual desire for stool; very small and hard stool (on 2 previous d. it had been large and hard); pain in joint of l. thumb, aggravated by pressure, and in toe of l. foot. 8th d.—Immediately after 1st dose, pain in frontal part of head; pressure behind eyes; singular pressure in lobules of pinna of l. ear. Also on this d., pressive pain in front of head, especially l. side, and deep in upper part of orbits, moving eyes hurts; formidable appetite at 8 p.m.; feeling of weakness in l. hand; thumb-pain recurs, intermittently, for several h.; weariness of lower extremities all d.; unusual drowsiness during d.; a painful lump, threatening to become an abscess, has appeared on r. forehead, just above inner canthus of r. eye. 9th d.—Swelling is still there, but redness and pain have gone; weariness in legs; pain in r. foot; in spite of lateness and fatigue could sleep little at n. 10th d.—Lump still swollen, but less painful. 5 p.m., frontal headache, just above eyes, with soreness of back about 2nd dorsal vertebra—this last felt still, but only on pressure, at 11.45; transient pain in l. knee; felt lazy and drowsy, in e. quite worn out; feverish feeling in face and hands (especially l.). From 11th to 13th d. lump on forehead gradually disappeared; bowels were, as heretofore, costive; on 12th n. a very vivid dream of a fire. 14th d.—Pain and heat in whole r. foot and dorsum of l. hand, at 11.30 p.m. 15th d.—Pressure in head, back of eyes; weariness of lower extremities all d.; pain in r. calf; midday sleep very heavy, much drowsiness after it. 16th.—Pain in calf keen to-day. 17th d.—Slept a great deal during d. 18th.—Frontal pain, l. side, in e.; desire for stool all d.; at noon pain in phalanges of r. foot, in e., while walking, in l. foot also. 19th d.—E., frontal headache; curious sense of fulness in face, as of pressure from inside outwards; stomach bloated; disagreeable dragging pain in whole l. arm; pain in r. wrist and foot, and in toe of l. foot; still frequent urging to stool. 20th d.—Forced a hard stool, which caused prolapsus ani; frontal headache at 9 a.m., worse at 3 p.m.; slept from 5 to 6, hoping to sleep it off, but at 6.30 it was so severe as to compel him to take *nux vom.*, which aggravated, and then bell.: it was very bad before going to sleep at midnight, but had disappeared when he was called up at 2 a.m.; it came on again 21st d., but had gone when he woke on 22nd d. On this last d. pain in r. great toe at noon; heat in l. hand, fingers, and ear, 10 a.m. 24th d.—Pain over eyes, radiating from r. supra-orbital region; restless n. 25th d.—Headache, with pressure in upper part of orbits; pain in both calves, after bathing; many uneasy sensations during d.; feverish heat at 9 a.m. 26th d.—In m. great pain in lower

b. In the drinkers of kava, he states, consciousness and reason are in no wise altered; the mental faculties are even said to be sharpened, and bodily exertion to be more easily borne. After a time there occurs a condition of happy carelessness, a dreamy consciousness prevails, the limbs become languid; gradually the will loses its power over the muscles, co-ordinate movements cannot readily be executed; the drinker lies down, may gradually fall asleep, more often falls into a somnolent, soporose state. When taken in excess there is intense nausea and headache; paresis of extremities, nervous trembling and somnolence quickly supervene. (*Berl. klin. Wochenschr.*, Jan. 4th, 1886.)

III. *Experiments on animals.*—1. LEWIN found that, injected into the subcutaneous cellular tissue of cold- or warm-blooded animals, the resin produced local anæsthesia, the part becoming insensible to all irritants, and looking ischæmic. The constitutional symptoms resembled those produced in man. The paralysis induced is a central one. It reaches first the motor spinal ganglia, then the sensory, and finally, perhaps, those of the brain itself. (*Ibid.*)

PITURINUM.

Alkaloid of a solanaceous plant—Pituri—belonging to subdivision Duboisia, Hopw. (Ringer).

I. *Proving.*—1. Mr. PERCY GABB and I have recently made some experiments regarding the action of P. on the human subject. Our observations were made on four men, aged respectively 17, 20, 23, and 48. We found that $\frac{1}{8}$ to $\frac{1}{10}$ gr. given hypodermically produced in these cases well-marked symptoms, and in all the observations from which we now draw our conclusions this dose was administered. We made twelve observations. We find that piturine produces faintness, pallor, giddiness, tremor, hurried and superficial breathing, increased frequency of pulse, contraction of the pupils, and perspiration. We shall now speak of each symptom separately.

a. Faintness and pallor were noted four times, and on one occasion the man became pale, but did not feel faint; the faintness was only slight, except once, when he said he felt as if he would “faint away.”

b. Giddiness was several times very marked. It occurred 6 times in our 12 observations.

c. Tremor affected the whole body, and was rather rhythmic in character; the head shook a little, and the hand and arm, especially when the arm was raised. The muscles also twitched a good deal, even the muscles of the face. This symptom occurred 4 times.

d. Respiration.—Breathing was quickened in seven cases, namely, by 6, 6, 12, 14, 24, 24, and 44 beats per m. respectively.

e. Pupils.—In every instance the pupil became slightly but decidedly contracted a very few m. after the injection.

f. Perspiration occurred ten times, in some cases standing in drops on the body. We are inclined to think that the perspiration is especially abundant on the legs and feet, but the excess we there noted may be due to the greater accumulation from the bedclothes hindering evaporation.

g. In no instance did it appear to affect the mouth, producing neither dryness nor salivation.

The symptoms passed away completely in 20 m. to $\frac{1}{2}$ h.

h. We made 4 observations respecting the influence of the topical application to the eye on the pupil, and in every instance the pupil became for a short time contracted, and then widely dilated. We used a 1 per cent. solution, but this caused considerable smarting, which became less on the second application a few m. after, and ceased on a third application after a few m. more. The pupil became widely dilated, but generally responded a little to light. The dilatation began in about $\frac{1}{2}$ h., and lasted only for a short time, disappearing in one case in 8 h., in another in less than 24 h., and in a third the pupils became nearly equal in 24 h.

i. Mr. Tweedy saw the patients and examined the eyes while under the influence of the piturine. He reports as follows: "I have little to add to your account of the effect on the eye of the local application of a solution of piturine, except to note that, although the pupil was widely (not fully) dilated, the accommodation was almost unaffected. The patients could read quite well, and they did not complain of much mistiness. Piturine seems to be a weak mydriatic; strong enough to dilate the pupil for a few hours, but not sufficient to impair the action of the ciliary muscle. Except the smarting, a weak solution of atropine—say $\frac{1}{30}$ gr. to an ounce—would produce the same symptoms as the 1 per cent. solution of piturine, perhaps even including the preliminary contraction. Ophthalmoscopically I discovered nothing." (RINGER, *Lancet*, March 1, 1879.)

III. *Experiments on animals.*—1. *a.* In a previous communication to this journal (i, 377) we showed that P. manifests many of the properties of atropine. It causes drowsiness, dilates the pupil, produces general weakness with convulsive twitchings, and antagonises the action of muscarine on the heart. It possesses, however, two properties distinct from those of atropia; it produces sickness, and in large doses greatly increases the salivary secretion. Even in the properties in which it resembles atropia there are points of difference. For atropia chiefly dries the mouth and dilates the pupil, and these effects endure many h.—indeed, the dilatation of the pupil may last even days; whilst only large doses produce drowsiness, general weakness, and twitchings, or quicken the respirations. On the other hand, the earliest effect of P. is manifested on the breathing, which becomes quick and shallow; then follow general weakness and—after large doses—severe muscular twitchings, whilst the pupil undergoes far less dilatation, and that lasting a shorter time, than after atropia.

b. We now record some experiments to show that P. antagonises the action of pilocarpine also on the heart (here follow five observations to this effect). We see, then, that P. will quicken and greatly strengthen a heart slowed and much weakened by pilocarpine, and even restore the contractions when arrested by it. We were thus anxious to know if P., in this respect resembling atropia, like that drug paralysed the inhibitory apparatus of the heart. Mr. Waters, of the Physiological Laboratory at Cambridge, kindly performed this experiment for us, and found that P. has no direct influence on the number or force of the heart's contractions, but so affects the vagi that electrical stimulation o

them no longer slows or arrests the heart, but increases the frequency of the beats. (RINGER and MURRELL, *Journ. of Phys.*, ii, 132.)

PLUMBUM.

(See vol. iii, p. 642.)

II. 43. Dr. G. L. WALTON records a fatal case of lead poisoning in which ataxia was the prominent symptom. The patient was a man, aged 54, whose first manifestation was numbness in the hands. This passed off; then numbness showed itself in the l. foot, and persisted, gradually spreading up the leg till it reached the back. This numbness and an increasingly staggering gait were the chief things he complained of. There was an uncomfortable sensation in the head, hardly amounting to headache. He had no eye troubles, no pains, no wrist-drop, no loss of power in the limbs, no vertigo, no gastric crises. He could not stand with his feet together and his eyes closed; there was some loss of sensation in the l. leg, knee-jerks natural, no ankle-clonus, pupils natural, urine natural. The opinion was formed that he was suffering from neuritis of obscure causation. Two months later, the suggestion having been made that the case might be one of arsenical or lead poisoning, examination was directed to these points, and after the administration of iodide of potassium, lead was discovered in his urine, but he still had no blue line and no wrist-drop, and no other manifestation of lead-poisoning. The patient was treated with iodide of potassium, and continued to excrete the iodide of lead, but he steadily grew worse, and died four months after the lead was first recognised. The only source of lead poisoning that could be found was an old kettle; it was tin-lined, and some water boiled in it for some time was subsequently found to yield traces of lead. (Three cases of pseudo-tabes from lead poisoning have been reported by Dr. J. J. Putnam.) (*Bost. Med. and Surg. Journ.*, Oct., 1890.)

44. A chemist advised a girl to make vaginal injections of a strong solution of pl. ac., and furnished her with a large quantity of the solution. A friend of the girl's having asked her what the medicine was for, she replied that it was for purging. Thereupon the friend some d. afterwards took a tablespoonful of the solution. Almost immediately she had a violent pain in epigastrium, flushes of heat and perspiration came on her face; she had desire to vomit, weakness, vertigo, confusion, everything seemed to tremble and waver before her; her temples felt as if squeezed in a vice and were the seat of acute shooting pains. She went to the chemist's, but fell down unconscious on coming thither. The poison had been taken $\frac{1}{4}$ h. She got an emetic and water to drink, which caused her to vomit. After 1 h. (9 a.m.) she had violent colics, she pressed on her belly, rolled on the floor, and screamed. The pain was all over the belly. This attack ceased after 2 h. more. She had at same time supra-orbital headache, palpitation. She had 3 tetanic convulsions, her skin was bathed in sweat, she had acute prickings in hands, forearms, throughout the lower extremities, and then the limbs

grew stiff, the jaws were closed convulsively; all movement, even standing, was impossible for 10 m.; then she had shivering chilliness, and recovered somewhat. She was taken to the hospital, where she got a quantity of sulphate of soda in solution. Her symptoms on admission were—face little altered, colour pretty bright, skin fresh, pulse very small, rather quick, regular, tongue clean, red at edges. She has a styptic, acrid taste, abdomen soft, sensitive to pressure, especially at epigastrium and l. side; on these parts the pain is considerable, and ascends œsophagus to throat. She has had one stool since the accident. She complains of great pain in lumbar region; the menses, which had ceased 2 d. previously, reappeared at 9 o'clock. During the d. there were frequent chills and 2 or 3 attacks like that described, with pricking on the skin and contractions of jaws and limbs, violent supra-orbital pain, shootings and constriction in temples. Pulse stronger and slower. During n. sleep much disturbed by dreams, more frequent spasmodic attacks, formication in limbs.—Next d., November 18th, same state, giddiness, contraction and shooting in temples, supra-orbital pain, tinnitus aurium, styptic taste, pain behind sternum and in epigastrium, no appetite, tongue red, prostration, fatigue, frequent stupefaction. Seidlitz powder.—19th. Same epigastric pain, formication and cramps return occasionally, but less frequently and less severely. The purgative has caused several loose stools without colic.—20th. On account of the continued pain in epigastrium 20 leeches were applied. The following days the appetite returned and she felt pretty well. She has only occasionally formication in the limbs.—22nd. Left hospital quite well, except a little pain behind sternum and in epigastrium. (*Journ. des Conn. Med.-Chir.*, Oct. 1st, 1851.)

45. A man, æt. 33, house painter, entered asylum May 28th, 1878. As early as April 14th he had been easily affected and moved to tears, and on this d., suddenly and without premonitions, he lost consciousness, grew pale, collapsed, and only came to himself after some convulsions. This crisis, immediately followed by vomitings, ended in a burst of tears. On the 18th he had a similar attack, and there was persistent sleeplessness. By May 1st, straitened in his affairs, he worried himself immoderately; his disposition sound, he could not bear contradiction, scolded his workmen, did his own work badly. A prey to impulse, he took to drinking, and could not let his wife alone day or night. Sleep failed entirely, or if it came was troubled with frightful dreams and nightmares. He had no memory for recent occurrences. 15th.—He is plunging into excessive expenditure; continually running away to Paris; has altercations with coachmen loses his watch or has it stolen, also his money; buys hats by the dozen, and accumulates stores of material for his work. He had previously suffered from arthritic attacks of saturnine origin. He was now put upon K. iod., and on admission to asylum his certificate was "Folie paralytique." He did not know what he was doing, had exaggerated ideas of his wealth, wished to give 50,000 francs to the poor &c. June 5th.—Delirium of ambitious type, with loss of memory and unconsciousness of his surroundings; he received his wife's visit unmoved, and did not seem to know that they had been separated. E

soiled himself night and day, and was vexed when this was noticed. Improvement set in from beginning of July, and went on to complete cure. (DOUTREBENTE, *Ann. md.-psych.*, Mai, 1879.)

46. Man, æt. 60, colour-grinder, had had saturnine troubles in 1875. Two mos. ago he was again seized with severe colic and obstinate constipation; therewith he lost appetite and grew weak. Admitted to hospital Feb. 7th, 1879; though much emaciated, he seemed still vigorous. Skin and conjunctiva were of sub-icteric tint; he complained of sharp darting pains in abdomen, coming on paroxysmally, and bowels had not acted for 10 d. Belly was retracted, and on palpation intestines seemed hard and constricted. Slight localised pressure, as with finger, increased pains, which, on the other hand, were calmed by applying open hand to abdomen. Urine was abundant, amber-coloured, and threw down a copious brick-dust deposit. Tests showed absence of colouring matter of bile. There were no nervous symptoms, and no atrophy of extensors of forearm. L. knee presented a slight arthropathy, but there was complete absence of the usual pains along the limbs. Radial and other vessels were hard and incompressible, and seemed to roll under pressure; sphygmograph showed short and vertical ascent, a prolonged summit, and a regular descent with but slight undulation. There was cardiac dilatation with hypertrophy, and decided pulmonary emphysema, especially on l. side. (HARDY, *Gaz. des Hpitaux*, Sept. 18th, 1879.)

47. a. A man of 30, a year or two after commencing work as a house-painter, began to have what he called rheumatism in his wrists and ankles. They were stiff and lame, and very weak and painful, particularly in the m. when he went to work. After a time he became troubled more and more with neuralgic pains in all parts of the body, and with great pain in stomach and bowels, accompanied with obstinate constipation. About July, 1874, he was obliged to give up the work on account of the severity of the pain, and has never resumed it. His symptoms at that time, as nearly as I can gather them from his mother, were the ordinary symptoms of lead colic, accompanied with more than the usual cachexia. He had great pain in the stomach, and at times in all parts of the body, so severe as to be almost unendurable; most obstinate constipation; great difficulty in urinating, due, I suppose, to a spasm of the muscles around the urethra and of the sphincter vesicæ, for great difficulty was experienced in passing the catheter, and the subsequent history has proved there was no permanent stricture.

b. June 1st, 1875, I saw him for the first time. His present condition is as follows: He has but little strength, and is barely able to sit in a chair or walk across the room. His teeth are much decayed and loose; the edges of his gums are red and raw and ragged, and frequently bleed, and there is a slight blue line, as spoken of by most authors. His tongue is coated yellow or white, and his breath has, at times, a very fetid smell. His urine is free from albumen, sugar or lead, and is generally natural, but occasionally loaded with a dark brown sediment. His bowels are obstinately constipated, except that a few times he has had slight diarrhœa, and once a mild attack of dysentery. He has several times vomited yellow mucus and bilious matter. His

in agitation. He retains his muscular force, can hold himself upright, but is shaken by frequent oscillations; he walks hesitatingly, tremulously, and does not feel the floor well, having frequently woolly feeling in soles. He sometimes has lightning pains in thighs, from above downwards; also pains as of torsion. Memory is diminished, but intelligence seems unaffected; voice is drawling and jerking, he speaks without force, using several expirations to produce a word. The movements of the tongue also are very slow; the mouth, when he speaks, twists to the right side; he has diplopia in r. eye. R. arm shows alternate movements of contraction and relaxation. Thermo-æsthesia is intact, but not so sensibility to touch or to pain. A prick is scarcely felt in r. arm, and not at all in l., which is paralysed; on piercing deeper there is just a little sensation on the l. side. When, while walking, he closes his eyes, his gait becomes slower, more uncertain and hesitating.

b. This man had come under treatment in 1869 for saturnine encephalopathy—his first attack. Then, till January of this year, his health had been good; but at this time he began to suffer from creeping, at first intermittent, then continuous; from arthralgiæ; and finally from inability to use the l. arm. It is 5—6 d. since he began to suffer from the choreic movements. He was ordered K. brom., which calmed somewhat the jerks, and made his nights quieter. The other symptoms remained unchanged. On examination of chest on March 2nd, heart-beats were heard feebly, as if from a distance, and range of dulness is diminished. He complained then also of a constrictive pain round the waist, not very severe, but which he had had 5—6 years. Up to 16th symptoms varied, but showed little real improvement; creepings were very annoying in soles, and he felt as if walking on nuts. From this date, however, there was progressive diminution of pains and jerks, and restoration of motor power; this went on to perfect cure. (*Bull. de la Soc. Méd. Hom. de France*, xix, 33.)

49. a. In the middle of Dec., 1882, I was called to a married woman presenting some curious symptoms. She had obstinate constipation with colic and retraction of belly; one or two vomitings of food each d.; slow and hard pulse; insomnia; anorexia; discoloured skin; and suppression of menses for 2 mos. What struck me most, however, was the fœtor of breath and the blue line on the gums characteristic of lead poisoning. She had previously been in a hospital with similar symptoms; had come out improved, but a few d. after returning home had fallen ill again. Two of her children were affected in a like manner: the husband, who took his meals from home, was quite well. Under purgatives and tonics these patients recovered, save for some pallor and weakness.

b. But now twelve other cases occurred in the same neighbourhood, again among women and children exclusively. Besides the above symptoms, 2 of these presented a severe arthropathy of the knees, anæsthetic patches, and a semi-paralysis of the extensors of the forearm. Later, fresh cases of increased gravity occurred, localising themselves in 3 or 4 houses immediately surrounding that of my first patient. Among these appeared invincible constipation, frightful pains, vomit-

tenesmus and faint feeling after it. These symptoms gradually passed off in course of 2—3 d. The looseness of bowels was followed by constipation, which was soon corrected by nux vom. (E. V. Ross, *Hom. World*, June, 1890.)

9. A gentleman, æt. 25, in good health, took gr. $\frac{1}{8}$ — $\frac{1}{8}$ of Podophyllin twice daily for a fortnight, and experienced lassitude, nervous depression (especially in m.), vertigo or sense of fulness in head, anorexia, coated tongue, nausea, and occasionally vomiting of mucus and bile, pain in bowels, with copious semi-solid or liquid stools, pale greenish-yellow or brown, which, when frequent, produced excoriation and burning at anus. Three mos. later he took a single dose of $1\frac{1}{2}$ gr., and, besides many of the above symptoms, hæmorrhoids and prolapsus ani occurred. I know several patients who always suffer from prolapsus or from hæmorrhoids after taking only $\frac{1}{4}$ — $\frac{1}{2}$ gr. (PHILLIPS, *op. cit.*)

II. 7. A young man chewed off the end of a root while examining some herbs. Next m. felt well till he ate his breakfast, when he felt nauseated, but gulped up tasteless wind only. His tongue was furred like yellow frost on a board. Heavy feeling in stomach, as if full; it ached and seemed full of gas; he would rub it and try to force the wind out, if he could only pass wind he would (he thought) get relief. Head-ache through forehead, a dull steady ache, worse from eating; eyelids heavy, with desire to sleep; roaring and crackling in ears; no appetite; thirst, unrelieved by drinking; water tasted brackish; bad taste in mouth—dry, slimy, brackish; weak and prostrated; customary colour gone; blue rings round eyes; aching in knees and up thighs, a dull heavy, indefinite pain; arms and back pained, also loins; urine red and dark. Bowels moved 3 times 1st d.; belly felt bloated and ached—a steady ache, relieved for a short time by passing flatus or stool, but coming on again in 5—10 m., better from 2.30 to 3.30 p.m., then recurring till after dark, relieved for a short time after eating. Next m. aroused at 4 by urgent desire for stool, which gave him scarcely time to hurry out of bed; stool was thin and watery, whitish, no pain. Another stool at 7.30. After breakfast pain commenced, griping, doubling him up for a m. Stool recurred every $1\frac{1}{2}$ h., with spasmodic attacks of pain after each, and in intervals (3—4). At noon stools became dark brown and watery, recurring every 2 h. Next d. there were 3 stools, partly liquid. Though weak he soon recovered. (*Monthly Hom. Rev.*, xxxiii, 688.)

8. A young woman, 1 h. after preparing the 1_x trit., began to feel sick at stomach; had pains in bowels and diarrhœa. Pains were in umbilical region, increasing until a movement took place, when relief would be obtained, followed by weak "gone" feeling in bowels, lasting until another paroxysm of pain would come on. The diarrhœa was gushing, profuse and watery, and accompanied with headache and anorexia. Recovery in 15—20 h. (This train of symptoms was twice observed from the same cause.) (*Ibid.*)

air. 10 p.m., 45 dr. 29th.—7 a.m., 50 dr. Pains as yesterday; 5—6 p.m. cutting pains in region of transverse colon. 10 p.m., 50 dr. 30th.—7 a.m., 60 dr. Occasional pulsative pains in colon during 1 h., and in prostate gland, occasionally extending along urethra, for $\frac{1}{2}$ h.; pulsative pressive pain just above xiphoid cartilage; erratic pains continue; pain in region of l. zygoma. Dec. 1st.—Besides usual pains, at 1 p.m. acute pulsative pain in l. temple. Proving suspended. (*Trans. of Amer. Inst. of Hom.*, 1859; from *Ibid.*)

4. a. Dr. N. M. PAYNE, Sept. 6th, took 6 dr. of tinct. at 4 p.m. In 1 h., sensation of scraping and dryness in throat; in 2 h. throbbing cutting pain in stomach. 10, 6 dr., followed by similar symptoms. 7th.—6 a.m., 8 dr. In 2 h. same pain in stomach; nausea and rumbling in abdomen, with diarrhœic stools. 10.30, 10 dr. In $\frac{3}{4}$ h. pains in forehead and sides of head, extending into orbits; nausea, with slight pain in hypogastrium, rectum, and anus; pulse 65. 5 p.m., 15 dr. After 1 h. scraping in throat; increased desire to evacuate bladder; slight pains in sinciput; trembling of limbs; cutting, shooting pains in lower intestines, with pain in pit of stomach. After 2 h., sharp cutting shooting pains in region of heart, extending through to l. scapula; dull pain in extensor muscles of l. arm, from shoulder to wrist; weariness and dull pains in legs, with tensive pain in calves; head feels dull; rumbling and griping in abdomen, with copious discharge of light clear urine (it was previously red and scanty). 10, took 10 dr. Later symptoms continued till he fell asleep, pains shifting from place to place. 8th.—6 a.m., 15 dr. After 2 $\frac{1}{2}$ h. ineffectual urging to stool, with great quantity of foetid flatus; dulness of head and general lassitude; sharp pains in r. shoulder-joint and spine of scapula, extending to elbow and trapezius muscles, with occasional shootings through occiput. In e. a scarlet eruption about 3 in. wide (like zona) appeared around waist, with itching, burning, and pain; sharp pain under r. scapula, extending into chest and pit of stomach, with heavy beating of heart and throbbing of carotids; profuse perspiration and trembling of whole body from moderate exercise; continued nausea, as if from small intestines, extending thence to pit of stomach; extreme lassitude after taking a short walk; dull headache, with vertigo and trembling of limbs; intense heat and burning of feet, lasting 1 $\frac{1}{2}$ h., and then sudden and uncomfortable coldness; urine scanty and dark red. 9th.—6 a.m., 20 dr. Soon after, copious clear pale urine. During forenoon, itching and burning round waist. 10.30, repeated dose. Pain in l. temple and l. side of head, with dizziness and trembling of limbs; pain in stomach, relieved by food; voracious appetite.

b. From 10th to 13th, no medicine and no symptoms. 14th.—7 a.m., 20 dr., 11 a.m., 30 dr. Burning and scraping in throat; pain in epigastrium and lower bowels, with diarrhœic stools, discharged with considerable force; diuresis; trembling of limbs; aching in stomach and abdomen all d. 10 p.m., 20 dr. Restless sleep, with unpleasant dreams; woke unrefreshed. 15th.—7 a.m., 30 dr. Appetite greatly increased; dull headache all m.; constant urging to stool; papeseent stools, and abundant flow of urine; frontal headache, with darting pains through temples, in orbits, knees, and legs. 3 p.m., 30 dr. 16th.—7 a.m., 30 dr. Increased appetite for breakfast; pains in l. spermatic cord and testicle, continuing all d., with soreness of testicle; at same time occasional darting pains in same organs on r. side. Headache p.m., with cold feeling in stomach; pains in knee-joints, extending to ankles. 17th.—7 a.m., 30 dr. Continual pain in testicles and cord; headache; tensive feeling in stomach; sensitiveness to cold; feet alternately cold and hot. 10 a.m., 30 dr. Two h. after, urging to urinate, with smarting in urethra. 19th.—7 a.m., 20 dr. Headache a.m. and after dinner. 4 p.m., 40 dr. Increased flow of urine, with irritation in neck of bladder and smarting in urethra; when micturating, pain in prostate; still pain in testicles and cord; itching and burning under eyes; rumbling in abdomen, with desire for stool; dull pain in rectum; burning in prostate. 10, 40 dr. Smarting and scraping in throat; uneasy sleep and dreams. 20th.—7 a.m., 40 dr. Hunger; pain in lower abdomen $\frac{1}{2}$ h. after eating; itching at urethral orifice and around glans penis, and constant desire to urinate; copious flow of straw-coloured urine. 10, 50 dr. Smarting and scraping in throat; constricted feeling at neck of bladder while urinating, with pain in testicles and cord; skin of whole body dry; alternation of chills and heat; itching and stinging of prepuce; pains in epigastric region after dinner, with dull headache; pains in hypogastrium and rectum, with rumbling in these parts proceeding from below upwards, and insufficient stool;

RATANIA.

Root of *Krameria triandra*, Ruiz and Pavon. Nat. Ord., *Polygalacææ*.

*Proving*s, &c.—1. [The symptoms here given are probably King's, though without name or other information. We shall give them in the usual manner.] Ill-humour and quarrelsome (12th d.); peevishness and fretfulness (7th d.). Headache mainly in forehead and stitching. Inflammation of white of eye, it seemed as if membrane extended to central point of eye, and burnt (26th d.); swelling of r. under lid for 2 h., after which her sight was weaker (27th d.); dimness of vision, absolutely or for distant objects; a white membrane seemed to be before eyes, preventing vision, she was constantly obliged to wipe the eyes, which afforded relief. Tearing and stitching in eyes. Violent epistaxis 3 times a day for 5 successive d. (after 5 d.). Violent spasmodic contraction in throat during which she could not utter a loud word (5th d.). Very violent hiccup, so that stomach is inflated (1st d.). Sore pain at epigastrium and cutting in abdomen. Flatulence and borborygmus. After straining in rectum, stool so hard that she could not get it out, and hæmorrhoids protruded much,—thereafter long-lasting constipation in anus. Bowels rather diarrhœic than the reverse. Much distress about chest; and once throbbing, burning, cutting, and ulcerated pain beneath l. breast near scrob. cordis, relieved by pressure and allayed by motion (1st d.). Stiffness and tension in neck; tearing and bruised pain in spine. Much tearing in extremities; painful contraction, as with a cord, 2 in. above and below r. elbow, she did not know how to stretch out arm, which yet was relieved thereby (6th d.); pain extending from l. axilla into chest, as if a sharp substance were wedged deep in, aggravated by expiration, relieved by inspiration, p.m. (1st d.). Chilliness. (HARTLAUB u. TRINKS, *Reine Arzn.*, iii, 57.) (Of these symptoms Teste says—"they are the result of my observations: I have seen them several times, in one instance in a female patient whom an allœopathic physician had drenched with iæa.") Fitful mood, gloomy and quarrelsome; deep depression of spirits when alone, passing off in society, and sometimes replaced by a fit of gaiety; constant disposition to irascibility. Small red or white vesicles which do not suppurate, especially between shoulders and in the axillary region, remaining a long time. Flashes of heat in face. Swelling of gums, which are soft; vomiting of blood-streaked mucus. Heat at anus, with sudden stitches, which patient compares to cutting with a penknife; dampness at anus. Delay of menses; suppression of menses, with swelling of abdomen and breasts, as if she had been pregnant for several months, with profuse leucorrhœa, cutting and constant pain in loins. Formication and itching eruption in the axillary region. (TESTE, *Mat. Méd.*)

When the extract is given, in doses of 10—20 gr., it produces distress in the stomach a very painful sensation of weight, and sometimes a cutting pain; digestion is more difficult; the bowels become constipated. A few h. after taking drug, patient experiences a general heat. This is not very marked if the R. is taken by a healthy

d. after the commencement), but the cracking of the crusts over the face, &c., occasioned such disfigurement that the lady was confined to the house for a fortnight more; by that time all traces of the skin-erysipelas had disappeared, only an unusual irritability (to flannel, &c.) of the integument remained, and a hyper-sensitiveness to cold air. She felt very weak afterwards.

b. A second attack in Aug. from a slight exposure to the shrub at Menlo Park, an open flat country 30 miles south of San Francisco, abounding in scrub-oak, poison-oak, tarantulas, and gophers (a kind of mole), was promptly checked by the local use of camphor dissolved in arnica tincture. The erysipelas of the face, however, was very intense for 4-5 d. A third and a fourth attack in Sept. were promptly checked (as to the face symptoms) by the same lotion; and, so far, it has proved the only abortifacient of the Rhus-erysipelas I have known or heard of; but it is too strong for many people's skins, and must be used with great caution. The virus must have remained in Miss M—'s system, for, about 5 months afterwards, when in the city, a fifth attack came on, without any fresh exposure, shortly after taking a bath rather too hot. One of the earliest symptoms this time was the peculiar rheumatism of Rhus, affecting the legs chiefly, a stiffness of all the joints on first moving them; aching pains in the joints, constant feeling of lameness in the legs. The vesicles that appeared during the first two days were few and scattered, and strongly resembled the eruption of chicken-pox. There was a slight amount of pyrexia. After an illness of nearly three weeks, during which the rheumatism and derangement of the whole digestive system was very marked, a course of four Turkish baths rapidly restored the health and the smoothness of the integument. For three successive springs, 1878, 1879, and 1880, crops of itching pimples came out on the neck and hands. All manifestation of Rhus poisoning then ceased. (J. MURRAY MOORE, *Annals of Brit. Hom. Soc.*, viii, 470.)

2. John W—, a light-haired, robust Englishman of 23, with pock-marked face, a newly arrived emigrant, was travelling as colporteur in Napa Valley, one of the most fertile in the State, about 50 miles north of San Francisco, during the middle of January, 1876. The weather being warm in the intervals of the showers, he got much heated while carrying his pack up and down the hills, on which the poison-oak was abundant; he lay down among them while sweating, and once or twice relieved the bladder there, quite ignorant of the risk he was running. He proved to be a sensitive, for on 13th Jan., the day after he had last been among these bushes, heat and itching of the scrotum and inner adjacent surface of the thighs commenced, worst on the hairy parts. Next day the characteristic papules, on a base of diffused redness and œdema, appeared on the forehead and neck, rapidly spreading in all directions, and accompanied with heat, itching, and burning, but with very little general pyrexia. The urine was not high coloured, but felt "hot" when being passed. The digestive system was not disturbed much, only loss of appetite being experienced. The itching was relieved by cold, but aggravated by heat, warmth, and rubbing or scratching; his head felt hot, but did not ache. He consulted me for

erysipelas; but I was by this time familiar enough with the mena of poison-oak to identify the nature of this peculiar "erysipelas," the history of the attack making the diagnosis absolutely certain. Having had a case to treat thus far, I gave him veratrum viride in $m\frac{1}{2}$ doses, without hunting about for a more exact simillimum. I ordered also a lotion of magn. sulph. (ʒss to ʒj of tepid water) to assuage the irritation locally. After commencing this treatment the erysipelas continued to spread for a few h., reaching ears and nose, and then seemed entirely checked, gradually subsiding from a face to a neck after the first dose of veratrum viride. Within 3 d. all rash symptoms had completely disappeared, leaving only slight scurf on forehead. But the poison still lingered in the system, for, ceasing the medicine, a relapse, not severe, occurred, and once more the same remedy quickly arrested it. No return has been experienced. The papules in this case did not develop into vesicles, and this not so much to the possibly less intensity of the infection as to the effects of the remedy. (*Ibid.*)

3. Wilson K—, æt. 10 years, of pure blond type, with thin skin, born in England, was poisoned while playing on some of the leaves, but threw them away quickly. However, 18 h. his face had become red, inflamed, and hideously swollen, his eyes being both quite closed, and the itching and burning very distressing. The local erysipelas and œdema lasted one week, the papules developing into vesicles, which became confluent and followed the same course as in No. 1. The general eruption extended over the whole body, and did not disappear for five weeks. A member of the old school attended, and ordered a salt-and-water lotion, which was occasional saline aperient. The salt lotion relieved the itching in the first attack, but failed in two subsequent attacks. In 1 month that the boy had now apparently attained immunity to poison-oak. (*Ibid.*)

Rhus radicans.—II. 9. C. H. B., æt. 41, perfectly susceptible to action of Rhus, which in previous poisonings always developed a vesicular eruption, lasting a few d. and disappearing in the usual quiet way. This time, however, the eruption assumed a different form. Two d. after handling the vine a vesicular rash appeared on skin of both hands, particularly on fingers. On 3rd d. gums began bleeding; ecchymosed spots of different sizes appeared under surface of skin in different parts of body, particularly legs, conjunctiva, vermilion border of lips, and dorsum of tongue. On 7th d. hæmaturia set in, and lasted 7 d. more, the urine, sage of urine, 4—5 a d., containing a large proportion of hæmorrhage from gums, a continuous oozing, lasted 14 d. The patient assumed a very anæmic appearance. Pulse and temp. were normal to 14th d., when temp. rose to 108°, and pulse to 140, rapid: which condition broke up in a gentle sweat. After this period, the bleeding rapidly disappeared, and he quickly regained vigour. (R. C. ALLEN, *Trans. of Penns. Hom. Med. Soc.*, 1881)

10. *a.* On Aug. 17th, 1878, while preparing the 1_x dil. of Rhus, the vial broke, allowing contents to escape upon the back of my l. hand and run down between the fingers. I washed the hand in warm water as soon as possible. On following d. there was itching between fingers—slight at first, but gradually becoming intense, worse from scratching. On 2nd d. there appeared between middle and ring fingers a cluster of small elevations, joined at their bases, pretty uniform in size, and presenting a surface not unlike that of a white raspberry. The clusters subsequently proved to be made up of fine transparent vesicles. They continued to appear till they had covered the dorsal surface of all the fingers of the l. hand, in the vicinity of their junction. As the contents of the vesicles increased, the patches became more elevated, their walls thinner and more transparent, till at length they ruptured, permitting the escape of a thin watery fluid. The discharge was persistent and very profuse. When dry, it formed a yellow crust; it was not very glutinous, nor was the tendency to form scabs at all marked. The fluid was very acrid, for, when it ran between the fingers and about their webs, the integument assumed a white shrivelled appearance as though parboiled, and soon separated from the subjacent tissues, exposing a raw surface. Each patch of vesicles pursued the same course. Several large blebs appeared between ring and little fingers. The eruption gradually assumed a darker hue, becoming finally reddish brown. The vesicles apparently coalesced towards the last, and when they did so the skin assumed a white, shrivelled, and dead appearance, with a raw surface underneath. The itching continued without abatement, relieved only as the bandages became moist from the discharge or were moistened by liquid applications. The entire dorsal surface of the hand swelled to the thickness of nearly half an inch. On the 3rd d. eyelids began to itch and swell, and soon a puffy sac-like prominence was apparent on both upper and under lids, largest on under, and most marked on l. side; these lasted about 3 d., and gradually disappeared. On same d. there also appeared a number of minute vesicles scattered over anterior surface of scrotum and extending along under surface of penis, most numerous about prepuce. These were similar to the vesicles on hands, but they did not appear in clusters, nor did they break, but went away in a few d., after which desquamation occurred in fine bran-like scales. On the 7th d. soreness began to be felt at bend of l. elbow. On examining, I found at this point several enlarged and sensitive lymphatic glands. On the d. following several axillary glands began to swell, and occasional shooting pains were felt at elbow and between elbow and wrist. They gradually diminished in size and became less sensitive, while the sores upon the hand assumed a healthy character and healed normally.

b. About the 10th d. small irregular elevations began to appear on the r. hand, and upon that portion of the l. hand not covered with the bandages. They looked not unlike the blotches produced by a bee-sting, and caused a similar sensation; and when an attempt was made to use the hand, a sore stinging sensation was felt in each of these elevations, which later became one of pricking and tingling. It improved on continued use. Hand was always very stiff on awaking

in m., but grew gradually better as I used it during d. An itch finally succeeded the tingling sensation; this, as well as the preceding feelings, was aggravated by washing in cold water, while very warm water seemed to make the hand feel better. Similar spots appeared on neck, ears, and feet, in small numbers, characterised as those on the hands. The spots remained for about 10 d., were hard, and to the touch felt like small hard bodies under the skin.

During the entire proving there was no rise of temperature; appetite was good, and all the functions seemingly well performed. (*G. ALL. Trans. of N. Y. State Hom. Med. Soc.*, 1879, p. 70.)

11. *a.* In Feb., 1888, I obtained a score of these beautiful shrubs and planted them with my own hands. In June I gathered a few of the leaves, dried, pulverised, and triturated them up to 3x. On Sept. 27th I repeated the above on a larger scale, gathered a handful of twigs, and planted them for growth. Towards middle of Oct. intense itchings and a rash, red, in appearance like scabies, appeared on the commissures of fingers of l. hand, in which I had held the twigs for 4 h. These conditions were soon followed by millet-like elevations, hard and white. Upon their disappearance—after a month's duration—intense irritation, &c., became localised on genitals and thighs, condition of scrotum being like erysipelas, and the sexual excitement actually maddening. A sharp diarrhoea ended the trouble, which had continued some 10 d.

b. During the next 2 years numerous contacts with the growing shrubs, both by accident and by design, have afforded me a most extended experience, and many instances of acute agony on and in hand, wrist, arm, &c.; while recently simple contact of thumb's outer surface with the growing woody stem produced in an h. the circumscribed local consequences peculiar to the poison. Each contagion more rapid in its appearance and more energetic, topically, in its force ("AGRICOLA," *Hom. World*, Jan. 1891.)

SALICYLICA.

(See vol. iv, p. 12.)

II. 17. Miss B—, æt. 26, subject of chronic eczema, went out on a cold d., and in e. complained of muscular rheumatism of arms and legs. Salicylate of soda was taken in 15 gr. doses for 3 d. with much advantage. A week afterwards rheumatism returned, and drug was taken again. Dr. Barrow was sent for after 2 or 3 doses had been taken, and found her in a state of great distress. She was covered with an intense erythematous rash, with tingling sensation over whole body; eyelids swollen, hands, face and legs were swollen; there was sense of weariness and depression, and a highly nervous dread; breathing was shallow and hurried; and there was severe headache, "as though the head would burst." Pulse 120, fluttering and feeble; temp. 107°, with intense thirst. Nothing in diet could account for this condition; and on leaving off the salicylate, and adopting remedies to meet the symptoms

in 48 h. rash had disappeared, and pulse and temp. had resumed their normal condition. A few d. later rheumatic pains again came on; the salicylate was once more taken; and after 2 doses a similar train of symptoms set in. (*Lancet*, 1890, i, 1173.)

18. Dr. DUBRISAY observed in three gouty patients young enough to be good tests of the question, an absolute but temporary virile impotence which seemed to depend upon 3—4 grms. of salicylate of soda administered for 20 d. (*Am. Hom.*, March, 1881.)

19. In a communication made Dec. 23rd, 1881, to the Société Médicale des Hôpitaux de Paris, Dr. Rathery states that every time he has taken salic. of soda he has had a pemphigoid eruption on the hands and on other parts of his body. (*L'Hom. Mil.*, iii, 414.)

On p. 21, l. 2 from bottom, after "Allen's Encyclopædia," add "viii, 474."

SANTONINUM.

(See vol. ii, p. 236.)

II. 12. A girl, æt. 4, was given a "worm-cake" containing S. After some h. she had shivering, rigors, fever, vomiting, and diarrhœa. On 2nd d. same symptoms; on 3rd d. a doctor was called. The child presented a jaundiced tint in skin and sclerotics; T. 39.3° C.; face and ankles œdematous; urine red, containing bile and a great quantity of albumen, casts, and red and white corpuscles. When tested for S. this also was found there. Abdomen was tender, liver especially so. The child was exhausted and depressed, with headache, but no other nervous symptom. The following days the jaundice decreased, until the fever began to diminish; the stools were but slightly tinged with bile. The albuminuria persisted with the jaundice for 12 d., and then the two disappeared together. Recovery was complete. (*Deutsch. Med. Wochenschr.*, Dec. 26th, 1889.)

13. A young woman with pulmonary tuberculosis, believing she had intestinal worms, took one d. 2 lozenges of S., each containing 2½ centigr. After 3 h. she became aphasic and could only pronounce the single word "mais" (but). This speechlessness did not last more than 2 h. Patient stated afterwards that a few seconds after taking the lozenges she began to see objects yellow, and soon it became impossible for her to speak or to answer questions, though she understood these well. (*Gaz. Méd. de Paris*, Sept., 1884.)

SECALE.

(See vol. iv, p. 46.)

21. Dr. H. C. ALLEN proved drug, mainly in dilutions from 30th to 200th, on 12 students, male and female. Three of these took 2nd dil. (None knew what they were taking).

a. Man took 3j of 2nd, in repeated doses. He reports: Sensation

craves ice. Sensation in head as if she were afar off; sensation on closing eyes as if falling, as if bed and everything were going down, down. Self-willed, restless, insists on walking about room, which brought on an attack of the severe pain before my arrival. Eyes dull, heavy; face flushed; acts in a foolish and silly manner; talks and laughs as if intoxicated. The next d., June 5th, I was enabled to obtain a history of the case. It seems that, fearing she was pregnant, she took 6—8 2 gr. ergot pills the n. before I was called. The next m. she was nauseated and vomited. She had considerable nausea all day and an almost constant vertigo. She could not see well; things appeared hazy. She had sensation of falling on closing eyes, and feeling in head as if she were afar off, at times during the d. About 4.30 p.m. she started to go out, thinking it might make her feel better, when a severe pain seized her in outer and middle part of l. thigh, as if she were clutched by a hand. It moved quickly up to just below the crest of the ilium and then across abdomen to uterine region, when she began to have severe cramps and bearing down pains, and she passed a small lump of gelatinous mucus, tinged with blood. It was carefully examined, but seemed nothing more than a little mucus that the uterine contraction had expelled. Then the pains became more severe, and resulted in the spasmodic, shooting, stabbing pains, for which the belladonna was given. She had all these symptoms before the peppermint was taken, which had no effect on any of them. It seems that she laughed and talked nearly all n. This m. she had an almost constant vertigo; hands felt big and swollen; feet felt numb, and on walking the soles feel swollen and as if pins were sticking into them. Still has the sensation of falling on closing eyes, as if bed were going down with her. Legs feel heavy and not just right. Region of stomach sore, abdomen slightly swollen, feels swollen and sore; eyes slightly sensitive to light. Disagreeable, nasty, brassy taste in mouth. 6th.—She says there is a black and blue spot on outside of l. hip, a little below crest of ilium, where the clutching pain was most severe, and also on l. side of the abdomen, low down, where the pain there was more severe. All this time she was rocking in a rocking-chair, and I asked the reason. She said, "It makes the dizziness better." The vertigo had been constant, walking, sitting, stooping, going up stairs, &c., and only relieved by rocking. Very sore in uterine region. Yesterday, about 5 p.m., the same time that the severe cramps seized her the d. before, she began to have cramps in uterine region, bearing down pains, as if menses were coming on. The pains were at first constant, then intermittent, and were relieved by doubling up, pressure and heat. Eyes still sensitive to light, with desire to close them, but still has sensation of falling on doing so. Sees frightful visions on closing eyes; she saw a rat in the room, she thought, the n. before. Chilly all over at 11 a.m.; began in feet, went to head. Soles of feet still feel as if asleep when walking. Feels discontented, uneasy, wants to go out. Thirsty for lemonade; feels dry from mouth to stomach. 7th.—She was out when I called and I did not see her again until the 19th, when she informed me that she had been having the vertigo most of the time, chiefly in the occiput, but it was much better when rocking.

of a dull pain, somewhat severe, deep in hypogastrium. She felt she wanted air, and sought to go out; but on reaching the door felt ill, lost consciousness for a moment, and had to be carried back to her couch. Considerable dryness of mouth and throat supervened, mucous membrane felt as if it were wood; skin also seemed dry and contracted. There was extreme præcordial anguish and considerable dyspnœa; "air, air," she cried, "I am stifling." There was moreover intolerable pain deep in pectoral and epigastric regions, seeming to follow course of œsophagus and perhaps of bronchi; she compared it to repeated frictions with a flesh-brush; there was continuous sense of twisting, increased at short and nearly periodic intervals. Then came dizziness, troubled and obscured vision, hummings in ears, feeling of weight in head and of constriction of temples "as if in a vice." There soon followed formication in limbs which was extremely annoying; sense of shivering and general coldness; and insensibility of surface to touch, pain, and temperature, commencing in fingers and toes, and gradually invading whole body, including lips and tongue. At 10 p.m. (about 3 h. after symptoms had set in) occurred, together with increase of constrictive pains, some convulsive shocks, tonic and clonic. These became intense enough to resemble epileptiform spasms, and were followed by contraction of the flexors—fingers being strongly clenched into palms. Pallor was extreme; the sense of coldness and weakness was more marked; the patient seemed suffocating, breathing being superficial and hurried (50), with great anxiety; pulse small and contracted, regular, slow (50); axillary temp. 36.4°.

b. Ether was now injected into forearm, with almost immediate relief. Breathing became easy, pains diminished, pulse got up, and warmth returned. N. passed without convulsive attacks, but several times pains increased and extended to hypogastrium, dyspnœa and præcordial anxiety accompanying. There were eructations and frequent desire for stool and urine. Next d. was similarly spent, a few shocks occurring when the pains increased. There was still anæsthesia, but strong pressure could be felt. Patient felt a sense of lassitude night to fainting. Next n. was less calm; there were some suffocative and convulsive attacks. On the 5th there were 5 of these, one of which needed hypodermic ether. Pains, however, were less frequent and severe. Appetite was maintained, but food caused pain as it passed down œsophagus. On 9th all symptoms were less marked; anæsthesia was going off, and formication returning. Thenceforward convalescence went on unchecked.

The contractions of the flexors persisted throughout the 3 d. during which the convulsive attacks occurred. (DEBIERRE, *Bull. de Thérap.*, Jan. 30th, 1884.)

SEPIA.

1. 7. *c.* Dr. WESSELHÆFT informs us that the subject of this proving died a year or two later of cancer of the lungs, and that at the autopsy the tumour (a fibroid 6 in. in diameter) was found uncured. Her pelvic symptoms while proving *S.* must therefore be received with caution.

prolapse of uterus and slight leucorrhœal discharge, beginning just before menstrual period and continuing a short time after it. On e. of Nov. 12th took 5 dr. of tinct. on retiring, and continued taking same m. and e. for 2 d. On m. of 14th experienced intense itching of nares; discontinued medicine for 2 d., and itching disappeared. On resuming drug on m. of 16th, and continuing 2 d. longer, had dark-brown thickly-coated tongue, and nausea rising into throat, with weary dragging feeling in lower limbs, and suffocating feeling in throat. Ceased medicine for 2 d. On taking it again, symptoms began about 8 p.m. with burning red cheeks and lips, and tingling sensation in back of throat, very similar to that experienced after taking lobelia. On appearance of menstrual flow there is not the usual prolapsed feeling; but the last symptoms of the third series of doses were severe pains like those of labour, setting in between 2—3 a.m., and lasting about $\frac{1}{2}$ h., coming on gradually, and increasing and diminishing in strength until three paroxysms had come and gone. They were preceded by a chill, which awoke her from sleep; she was then lying on r. side, and had to remain thus, as turning on back made them worse. Catamenia a bright scarlet red.

b. "On resuming remedy a fourth time same aggravations commenced about 8 p.m. with intense burning cheeks, red and hot; and sharp cutting pains streaking across abdomen low down, and settling in lower limbs and back. Menses have a fœtid smell and bright red colour. Pains during menstruation make face and feet cold, hands remaining warm. Continuous feeling of wanting to micturate, urine of bright straw colour with strong smell. When redness disappears from face it leaves it very pale. Menses make their appearance with a very depressing headache, pains almost unbearable. Neuralgia flying from one part of head to the other, mostly affecting r. side, and settling in cervical vertebræ, with feeling of imperfect support. While face is red and hot, intense and insatiable thirst. Dull heavy ache in region of apex of heart, with feeling as though a blunt-pointed knife was being slowly driven through it. A sallow, yellowish complexion followed; pulse feeble and slow. The duration of action is 35—40 d." [We have given these last symptoms verbatim, *quantum valeant*, because there is no account furnished of the epoch at which the medicine was taken for the fourth time; and it does not appear what relation the menses here twice mentioned bore to one another or to those spoken of above, nor are we told how soon the other symptoms appeared after the final doses were taken.—EDS.] (*Ibid.*)

6. In good health, and regular in all habits. I took 5 dr. n. and from e. of Dec. 8th till I had taken 4 doses, when I discontinued it, thinking it without effect. The d. following I found pulse somewhat accelerated, and aching pressure on top of head. These symptoms subsided after a d.; but for a week subsequently I was annoyed with aching feeling across small of back, over crest of ilium, and down to pelvis, particularly r. side, accompanied by general feeling of languor and desire to lie down; also slight constipation. 26th.—Began taking again, 10 dr. instead of 5. There was no immediate effect, but after a d. or two the previous symptoms recurred, somewhat intensified,

The pupils become widely dilated, and at the same time a very marked internal strabismus asserts itself, the eyes becoming fixed in this position, so that they cannot follow any object, such as a pencil, when it is passed from side to side. Constant retching, with no result, now comes on, the animal standing, and apparently suffering from no sensory or motor palsy. There is change in gait. Soon after this marked exophthalmos develops itself. The retching, having lasted about 5 m., now passes off, and at this time signs of muscular weakness and lack of co-ordination appear; the walk becomes staggering in both fore and hind legs. The respirations now become very rapid, resembling those of a dog after a long, hot run, the tongue hangs from the mouth, and is dry and red, the nose is hot and no longer moist. Muscular power is progressively lost, so that the dog frequently falls when endeavouring to walk, but sensation does not seem to be affected. About this period the animal lies down and passes into deep sleep, which in turn passes into coma, and death follows without any movement being made, evidently from a general failure of vital force. The respirations as death approaches become slow, and are finally extinguished simultaneously with cardiac arrest.

b. In the frog the same symptoms occur as in the higher animal, including the marked exophthalmos, and to a less degree the strabismus. The fixation of the eyeball is extreme, and it feels to the finger like a hard knob, which the lid cannot cover. Muscular weakness, with dropping of the jaw, comes on, and motor power is constantly decreased, until the batrachian lies relaxed and powerless. That the action of the drug in thus destroying motor power is spinal, was proved by the following experiments: If the hind legs are protected from the poison by ligation of the abdominal aorta, the palsy is as great as under ordinary circumstances, and reflexes are totally abolished. Further, if the spinal cord be directly galvanized, no movements occur in the hind legs; and lastly, if strychnine be injected into the body, even in large amount, its action is not only slight, but occurs after the lapse of many minutes. That the drug has no action on the motor nerves is proved by the fact that when the poison reaches the efferent nerves, either through the circulation or when directly applied, galvanization of the nerve-trunks causes normal contractions in the tributary muscles; and the sensory nerves likewise escape, for if the drug be applied directly to the nerve, and the foot irritated, signs of pain are elicited, and reflex movements occur. Further than this, if the vein in the leg be tied, and the drug injected into the limb, thus protecting the spinal cord, reflexes occur on irritation of the drugged foot. That the palsy is not cerebral is proved by the fact that movements of muscles supplied by the cranial nerves continue long after the movements in the legs have ceased, and by the other experiments already detailed. The action of the drug on the circulation is as marked as its effects on the nervous system, and on the cardiac muscle it acts as a direct depressant poison, for if it be injected into the jugular vein in such a way as to come suddenly in direct contact with the heart, the movements of that viscus almost instantly cease. Further than this, if the excised heart of the frog is dropped into a strong solution of the drug, its movements are

shooting pain in l. thoracic wall, superiorly. 10.30 p.m. shooting in larynx, dry cough.—11th, 7 a.m., 5 dr. Pressure and drawing in bones of dorsum of both feet. Pricking in tongue-tip. Pressure in occiput, weight and fulness in scrob. cordis. 8 a.m., 5 dr. Increased flow of clear saliva after all doses. Urging to urinate, much borborygmus. Pressure in 1st joint of r. big toe. Formication in skin of r. tibia. Cutting deep in fore part of tongue. Several times chill through back; mucus in throat, obtuse pressive feeling deep behind sternum as if in œsophagus. 9 a.m. sudden shooting on l. side below navel towards bladder. 9 a.m., 5 dr. Pressure in several parts of sinciput. Great chilliness in back and limbs. Urine clear, not profuse. 3.30 p.m. boring in r. tibia, pressure in l. elbow-joint and r. forearm; shooting in glans penis. 6.45 p.m. on back of joint betwixt 1st and 2nd phalanx of l. third finger suddenly violent shooting burning pain with swelling, redness and dark blue veins, aggravated by pressure for a few minutes; the redness and swelling continue till bedtime and next m.—12th, 8 a.m., in r. temple pressure inwards as with a blunt instrument. Shooting in end of urethra. Pressure in first joint of l. big toe, in r. ankle-joint especially in outer ankle. 5 p.m. shooting and contraction in larynx.—13th, 7 a.m., 8 dr. Shooting in tips of toes and in 2nd joint of r. little finger. Weight, fulness and oppression in scrob. cordis, much saliva. Shooting in tibia, confusion in sinciput. Shooting in spinous process of middle dorsal vertebra. 8 a.m., 8 dr. Frequent urging to urinate. Horripilation in scalp. Sick feeling, much mucus in mouth, repeated pressure in head and bones of l. instep. Weakness in r. hand with shooting in some of its joints, then weakness in r. shoulder-joint. Drawing in dorsum of r. foot and in r. knee. Weakness in whole of r. arm, it feels heavy to lift, as if swollen or full. Shooting in masticating muscles. Intermittent shooting pains in l. thoracic wall superiorly, then in r. Drawing and heaviness in calves and houghs. Severe pain in r. shoulder; chilliness through back. 9 a.m., 8 dr. Chilliness in back and profuse warm sweat in palms; chilliness increases, hands grow cold, and so does the sweat on palms. Qualmishness in scrob. cordis rising up into mouth, in which there is much mucus. Shooting in inner side of l. upper arm, in l. wrist, and between scapulæ. Weight and soreness in both arms. Tearing in r. fingers; drawing in r. thigh; pressure in l. temple. Spasm in œsophagus from below upwards. 10 a.m., 8 dr. Vertigo; drawing in r. upper maxilla; persistent dryness of throat; pressure over lower part of thoracic wall. 12, noon, tearing in r. canines and incisors. 1 p.m., much mucus in mouth and taste of potash. Shooting in tongue-tip; very weak; drawing in heels. Bad smell from mouth. Pressure in l. mastoid process and on insteps. 10 p.m., in bed, violent tearing deep in l. forearm to wrist.—14th. M., long-continued pain in whole l. leg and ankle-joint, especially when moved, most pain in outer ankle. 8.30 a.m., pain in r. tarsus and metatarsus, most while sitting. Tearing in l. tibia; drawing in fingers. At n. dreams of burning. All the days drawing and pressure in several joints.—18th. M., same affection of l. 3rd finger as on 11th. Some m. short dry cough. Since taking the medicine has daily and frequently jerking in border of r. upper eyelid. On 20th for some m. visible twitching in border of l. side of upper lip.—25th, 7 a.m., 30 dr. Soon, confusion of head, pressure in several parts of sinciput; much thin saliva, and persistent salt taste on tip of tongue. 7.30 a.m., chilliness through back down to legs, with cold hands. Horripilation under skin from sacrum to legs; pressure on dorsum of feet and on wrists; head dazed; some pain in scrob. cordis, much saliva, general weakness till 9 a.m. 9.30 a.m., pressure in temples, frontal bones, sternum, and knees; pricking in tongue-tip; pressure in stomach, spasm rising up œsophagus, drawing pain off and on towards upper part of thoracic wall; eructation of air. The pain in stomach is like pressure with a blunt instrument, aggravated by strongly inspiring, pressure, and holding body erect, ameliorated by binding in belly. 10 a.m., pain increases, is cutting, goes to umbilical region, increased by gentle inspiration. 1.30 p.m., pain in abdomen continues, much increased by eating, is cutting; much flatulence accumulates in abdomen, the pain relieved by discharge of flatus. Tearing and pressure in l. fingers. 4.30 p.m., severe jerking cutting deep in scrob. cordis, with flush of heat and general warm perspiration. 5.30 p.m., shooting in tongue; drawing in different parts of dorsal muscles. 9 p.m., pressive stiff pain in anterior part of l. shoulder-joint and at scapular end of clavicle, increased by movement. 11 p.m., in bed, some shooting anteriorly in l. knee and great pain in l. elbow and upper arm.—26th. M., acute shooting in tongue. 1 p.m., single stitches through

been verified in this, only not to so marked a degree because I did not continue the proving." (*Ibid.*)

10. ZANTHUS LYPE, æt. 40, April 18th, 2.20 p.m., took 40 dr.; at 4.30 repeated dose. He felt slight warmth of fauces; tongue felt rough and sore; had salty taste in mouth. Took no more after this, had slight borborygmus with escape of flatus during d. Slept well during n., but felt languid, having great desire to sleep, next d., with dull heavy feeling all over, especially in both legs; felt sore from top of head to soles of feet; didn't want to move; wanted to go where he would not be annoyed; professional duties irksome; head felt heavy; perfect relaxation of all the muscles of neck; brain felt too large for skull; required considerable exertion to keep eyes open. On 21st, at 11 a.m., took 40 dr.; no symptoms. At 3 p.m. took 40 dr.; in 15 m. had sharp darting pain in r. ankle-joint, outer part; darting pain in l. temporal region, as if a piece of wire or some sharp pointed instrument had been thrust into temples; sharp darting pain in l. hypochondrium, beginning in ascending colon, passing through transverse into descending, followed by escape of flatus. At 6 p.m. was taken with severe rumbling in bowels, as if diarrhoea was about to set in, relieved by escape of flatus. This lasted about 2 h., and was relieved by smoking. On 22nd, after fine night's rest, above symptoms came on again, with two copious, acrid, frothy, bilious stools, with some tenderness in bowels and burning sensation in anus, which subsided after $\frac{1}{2}$ h., leaving uneasy feeling in rectum. On 23rd, at 10 a.m., took 40 dr., which occasioned sharp darting pains in bowels; great warmth in face, as in catarrhal fever; sharp darting pain in sinciput, extending to occiput. At 2.30 took 50 dr., and at 4.40 the same. At 6 felt considerable heat in fauces, which gradually increased till throat became very sore. On 24th, at 7.50 a.m., took 60 dr., which was followed by a rough dry feeling in mouth. At 10.30, took 60 dr., and at 2 p.m. had a loose, papescent, bilious evacuation, accompanied by loss of appetite; felt weak and emaciated, as if he had lost all strength and energy; had considerable rumbling in bowels, and faint empty sensation in stomach. On 25th, m., took 70 dr.; at 10.30 had sharp darting pain over l. eye, with slight lachrymation from both eyes, more profuse when reading; r. eye affected more than l. Sharp darting pain in r. occipital protuberance. At 4 p.m. took 70 dr. Had dull pain in clavicular space. At 10 great distress in epigastrium, as if there were a ball or lump in throat, so that he could not get to sleep till after 1 a.m. Awoke at 6 with sharp burning sensation in r. nostril, and sharp darting pain in both kidneys, first in l. and then in r., with dull heavy pain in l. testicle. On 26th, 8 a.m., took 90 dr.; dull, heavy aching pain in l. testicle. At 4 p.m. took 90 dr.; quantity of urine materially increased; clear transparent urine, scalding a little in passing. On 28th, 10 a.m., took 100 dr.; symptoms about same as those last noted, save that he noticed an increase in the quantity of urine; constant rumbling in bowels, relieved by escape of flatus. On 29th had 2 loose stools, following each other at short intervals, with great tenesmus and burning at anus, which lasted $\frac{1}{2}$ h.; urine scalding in passing, with uneasy sensation at neck of bladder, feeling as if it were inflamed; urine quite clear. At 3 p.m. took 110 dr., and at 4.20 had pain in r. shoulder-blade, running up neck; dull aching pain in calves of legs; raw feeling in chest, whole length of sternum. "During whole time my sleep was sound and natural, with no unpleasant feelings after awaking in m. On m. of 29th, as usual, I had an evacuation immediately after breakfast, the call being urgent. On voiding stool had severe burning anus, considerable tenesmus; slight dull pain in tendo-Achillis, l. foot; uneasy sensations in popliteal space, both legs; dull feeling in calves. For several d. after taking the last dose had severe attack of piles, the first I had ever suffered. The attack lasted several weeks before I was entirely relieved by the use of proper remedies." (*Ibid.*)

STRAMONIUM.

(See vol. iv, p. 136.)

II. 35. Dr. ROTH was called, at 1 p.m., to a little girl of 4. She was quite insensible, with widely dilated and immobile pupils, face and body being swollen as if dropsical and covered with scarlatiniform rash.

there was severe throbbing headache. In a child poisoned at same time, there was the same train of symptoms, but the child wanted to bite and strike at those around her. (*Am. Journ. of Hom. Mat. Med.*, viii, 387.)

38. *a.* Henry M—, a strong, healthy man, æt. 50, was recommended by a friend to take a decoction of burdock leaves to relieve some fancied illness. The friend, not being acquainted with the appearances of burdock, gathered in its stead the leaves of stramonium; of these the patient made a strong decoction and took about 24 oz. at 10 p.m., Thursday. His bed-fellow was awakened about 11 by the restlessness of the patient, found him unable to speak, and suspecting that he was seriously sick, I was sent for. I first saw him at midnight, and found him tossing about in bed, and it seemed impossible for him to keep quiet, but there were no convulsions. His articulation was imperfect, and it was impossible for him to utter any words. The face, arms and chest were covered with a red rash, the colour of that of scarlatina. The tongue was dry and swollen. Pulse 170, and strong; resp. 37, and principally abdominal; temp. 104°. The eyes were open and staring; the pupils were not fully dilated, and the retinae sensitive to light. The skin was hot and dry, and anæsthetic. The hands were swollen. The breathing was stertorous. Previous to my visit mustard and warm water had been given, but without producing emesis. I gave ext. ipecac. fluid., ʒjss, and zinci sulph., gr. xxx, but these drugs did not produce vomiting. An additional 40m of the fluid extract were given, but without result. As no stomach-pump could be obtained, attempts were made to pass Toswill's stomach-tube, but it could not be forced down the œsophagus. From the quantity of the poison taken, and the time that had elapsed since his taking it, I judged that death was inevitable. Morphia was given in large doses hypodermically, with the result of reducing the pulse to 120 and the respiration to 28. Brandy was administered by the mouth. I saw the patient again 2 h. after, and the same treatment was carried out. At 10 a.m., Friday, he was seen in consultation with Dr. William Blundell, who endorsed my opinion and thought that death would shortly ensue. Morphia was again given, and the doses of brandy continued. Pulse reduced to 130. It was noticed that after each hypodermic injection the pulse was reduced in the number of beats and made stronger. At 12.30 p.m., Friday, the lips were blue; face ashy pale; the breathing stertorous, and death was evidently near. Paralysis of the limbs was evident. The pulse was 130, and feeble; respiration 32. Œdema of the lungs had commenced. The body temperature, to the hand, still was high. He died at 3 p.m., 17 h. after taking the poison.

b. Autopsy.—All the organs of the thorax and abdomen were in a healthy condition, except the lungs, which were the seat of œdema. R. heart full of dark fluid blood. Head not opened. (NEWTON, *N. Y. Med. Record.*)

6. E. E. BASHORE, March 7th, took same at 4 p.m. During ensuing n. was restless, dreaming about a variety of things. 8th.—Headache on rising in m.; it was dull, head feeling thick; worse towards dinner-time. At noon there was full sensation in head, also throbbing, as if blood was pumped up, better when head was elevated on pillows, worse on sitting up or standing, or from least motion, with sticking pains. Dizziness, lasting only a few moments, better in open air and when lying on side; weakened memory. 6 p.m., head hot; headache just above eyes, with aching in eyes. 9, felt a little better. During n. rested pretty well. 9th.—About noon repeated chills, afterwards heat; temp. 101.5° ; pulse 100: slight perspiration, lessening at 3 p.m. 6 p.m., temp. 101.7° , with increased sweat; pulse 110. During d. had also following symptoms: Pupils dilated; aching in throat, worse on any kind of swallowing, and on r. side, with dryness and scraping; a small red spot just behind base of tongue; r. tonsil slightly inflamed, worse on external pressure; tired feeling in lower limbs, as after long walk, aching bruised pain in them, going up limbs and spinal column to lumbar vertebræ, better when moving and on uncovering limbs, worse during rest; limbs felt stiff, so that he had to drag them along. 10th.—8 a.m., less pain and swelling in throat, and this on r. side only. 11th.—Mouth sore on r. side; diarrhœa. (*Ibid.*)

7. G. RHOADS took same at 5 p.m. He had dryness of throat soon after taking drug, followed by soreness in e. Early in m. pain in abdomen as though diarrhœa was coming on; stool was soft. After 24 h. watery discharge from nose, and in 48 h. considerable phlegm in throat, expectorated easily. (*Ibid.*)

8. H. LINDLEY took same March 7th at 5 p.m. About 8, noticed stitching pain in belly, such as is produced by running after drinking. About 11, in open air, noticed ropy phlegm, tasting salty, and constant desire to clear throat, with cough relieved almost instantly on getting into warm room. The salt-tasting phlegm appeared again next d., gradually decreasing. On 9th and 10th, slight tenderness at end of nose, as from a boil, going off on 11th; on which d. and on 12th he had crampy pain in abdomen. (*Ibid.*)

9. H. L. NORTHROP took same one Monday. On following Thursday appeared papular eruption on face. Next d. came a boil on l. side of neck just below angle of jaw, which opened about 10 d. later. Within a short time of its doing so, two others appeared near it, then others, during two weeks 14 in all. (*Ibid.*)

10. JOS. S. GARRISON took same on Monday at 5 p.m. On Tuesday a violent attack of sneezing set in, lasting, with short intervals, for 4 d., accompanied by much running from nose, and followed by constriction of chest. (*Ibid.*)

11. O. H. PAXSON took same at 11.15 a.m. P.m. noticed slight throbbing pain in l. temporal region, which continued till 10 at n. (*Ibid.*)

12. J. B. GIVEN took same Jan. 27th at 11.20 a.m. At 3.40 p.m., gripping pain in bowels, just beneath umbilicus, extending downwards, with desire for stool. Cutting sensation in anus while at stool, with sore feeling in bowels afterwards. Dull pain in bowels all afternoon,

TABACUM.

(See vol. iv, p. 252.)

II. 36. HERMAN B., aged 38, by occupation a bar-tender. Never had any trouble with his eyes until about six months before he came to me; then for the first time noticed that his sight began to be a little dim, as if a light shade was before him. He could not see at a distance as well as formerly. The eyes were a little sensitive to light, especially gas-light. Did not sleep quite well—was rather nervous. Smoked ten or twelve cigars each day; drank a little also, but not very much. Examination showed that his vision was $\frac{20}{80}$, which was not improved by any glass. The ophthalmoscope showed the optic disc a yellowish, dirty pink, with blurred outlines. Retinal veins full, arteries diminished in size, with a dark red fundus. The case was diagnosed tobacco amaurosis. The use of tobacco in any form was forbidden, and nux v., 3rd trit., was given 3 times daily. He made rapid progress for the better; and when last examined, after about six weeks, was fast approaching to a normal condition. (J. A. CAMPBELL, *Med. Call*, July, 1881.)

37. JNO. S., æt. 42, cigar maker. Eyes began to fail him a few months before I saw him; dimness before sight, not much—if any—pain. Felt that vision was gradually growing worse. Had used tobacco for many years, “smoked a great deal.” Examination showed vision $\frac{15}{80}$, not benefited by any glass. The ophthalmoscope revealed changes in the fundus similar to those described in 36, but the discs were not so discoloured, and the eye of a deeper red colour. Tobacco was prohibited, and nux v., 3rd trit., given as before. The result was a steady improvement for the better, until in about two months the vision was again normal. Now comes the confirmatory part of it. The patient had always expressed himself against the theory that tobacco was the cause of his trouble, because he had used it all his life, with no previous bad effects. Having full faith in his own views, strengthened probably by his own desires, he again commenced the use of tobacco, but found that after about six weeks his sight again began to be affected. Convinced at last, he applied for treatment a second time, and this was followed by the same success that attended the first. (*Ibid.*)

38. Jan. 20th, 1878, J. W., æt. 18, was sent to me by Dr. L. L. Danforth, on account of loss of vision in left eye. He is in college, and gives the following history: Three d. ago, on reading Greek in m. noticed a blur before vision, and on closing r. eye, found he could not see with l. Next m. the sight was again lost, but improvement p.m. was not as marked. Since then, it has remained “*in statu quo.*” He is of a nervous temperament, and has been smoking to excess for a long time, from early in m. till late at n.; does not use alcoholic stimulants. *Status præsens*: Rv. 20-20 difficulty; Lv. fingers at six feet; no improvement with glasses; ophthalmoscope shows refractive media clear, and no changes in fundus; the eye, however, seems quite sensitive to reflected light, which causes a stinging pain in ball; there is

bye she lost her appetite ; constipation set in, alternating from time to time with severe colic, tenesmus, and diarrhœa ; constant pain in gastric region, and during the m. hours frontal headache. After a while she had from time to time spasms, with nausea, vertigo, disgust, obstinate vomiting, hebetude, anguish, palpitation, syncope, hiccup, and constriction in throat, so that she had, off and on, to keep her bed for several d. As intervals between such paroxysms lessened, she grew constantly weaker and more emaciated, her features turning to a pale yellow ; menstruation, formerly regular, became irregular, the menstrual blood pale ; and there was perfect disgust at all sexual connexion. Still keeping on in her business, dulness of head, giddiness, frontal headache and nausea became permanent. Nicotine was found in saliva and urine discharged during a paroxysm, whereas none could be found in that discharged during the free intervals. As the patient would not listen to the advice of her physician, her state became still more aggravated ; vision became dim ; there was general irritability and hyperæsthesia of skin of back ; inappetence, cardialgia, nausea, disgust, vertigo and dulness of head became constant, with addition of cough, sense of exhaustion, and night-sweats. (*Amer. Obs.*, Jan. 1880.)

42. *a.* A young man of 20, not being an habitual user of the weed, one Saturday smoked 12 cigars, and on the Sunday 3 or 4 more. That afternoon he began to act strangely. I was called at 9 p.m., and found him with all the appearances of delirium tremens (I was assured, however, that he had not been drinking). He was very wild, tossing about on the bed with hallucinations, seeing snakes, lions, bears &c. ; thought he saw his father's head cut off and the blood running from the body. During these wild paroxysms he would try to get out of bed, requiring several men to hold him ; he would loll his tongue, and snap his teeth like a dog, so that some of his relatives thought he had hydrophobia. There was no spasm, however, when water was brought to him, and he drank it eagerly. Then he saw a beautiful lake, and wished to drown himself in it, trying to rise from bed for the purpose ; and, being prevented, tried to choke himself, and actually became black in the face before his hands could be loosened from his throat ; then begged some one to take him out of doors and shoot him.

b. After 3—4 doses of belladonna 3x he quieted down, and from midnight till daybreak on Monday seemed to sleep. He was really, however, in a state of catalepsy ; limbs could be placed in any position, and would remain there however uncomfortable it might be until they were moved. Eyes were fixed and staring, and balls could be touched without making him wink. During the Monday the visions, &c., recurred whenever the influence of the medicine passed off, but he quieted down as soon as it was resumed, at last—8 p.m.—falling really asleep, and not waking till Tuesday m., when he was a little flighty, but knew every one, which he had not done since Sunday at 5 p.m. He had no recollection, indeed, of anything he had done on the Sunday itself, though he had seemed quite rational up to 4 p.m.

c. He passed no urine up to 4 p.m. on Monday, when I drew off a quart, high-coloured and of strong odour. On Tuesday at noon he

SUPPLEMENT.



SUPPLEMENT.

[Under this heading we insert a few observations which have come to light since the Appendix was constructed.]

AGNUS CASTUS.

(See vol. i, p. 201.)

We are not satisfied with Stapf's symptoms of the sexual organs as taken from the original pathogenesis in the *Archiv*, and give them here as they stand in the *Beiträge*:—

Weakening of the usually very strong sexual power, penis small and flaccid (after some h.);* at n. testicles feel cold, without internal cold feeling;* the usual very strong m. erection with urging to coitus does not occur, the parts are flaccid and unexcitable (16 h.);* lack of sexual inclination for 2 d., on 3rd d. erections and desire returned;* great increase of sexual inclination, persistent erections and voluptuous feeling in all genital organs (3rd d.);† uncommonly strong erections, without occasion, and without amorous thoughts, accompanied by a kind of voluptuous rage (without tendency to emission), causing him to clench his teeth—for $\frac{1}{2}$ h. before rising in m. (20 h.).‡

On p. 204, l. 2, for "sinks" read "swelled."

Note on p. 202 is modified by the fact that in the *Beiträge* this symptom has not Stapf's or any other name affixed to it.

ANTIMONIUM TARTARICUM.

(See vol. i, p. 278; vol. iv, p. 486.)

24. ISMAIL SIEK, of Loshkurpur, Pabna, æt. 40, a man of strong build and short size, and bald head. At 6 a.m., 12th July, 1890, he took about a gr. of tartar emetic with the purpose of purging, and passed one stool of ordinary character; but the patient was not satisfied with such stool, and took another gr. at 8 a.m., and within $\frac{1}{2}$ h. passed one profuse colourless watery stool. Third stool was watery, but not

* In a healthy man, primary action.

† Curative action.

‡ Curative action †

again to-day from 6 a.m. to 8 p.m.; commences with chilliness. Sleepiness almost all d. and n.; cannot open his eyes freely though he attempts to do so on being called out and shaken. Pain in abdomen continues. 16th.—9 a.m., bad appetite; does not like to take any thing. Says he has no hope to live in the world. Pain in region of heart less. Pain in umbilicus transferred to region of spleen. Pain from neck to head. Fever was very high last e. At commencement it was accompanied by shivering and chilliness, and excessive twitchings of limbs and body. Extremities cold, specially lower limbs up to knees. Hands cold up to wrist. Sweat on forehead. Fever of last e. still continued. Eyes looked slightly jaundiced. Tongue, which was covered with thick white fur, became here and there denuded by patches. The patches looked very red. This white thick fur or mucus of the tongue seem to be such as might be easily scraped off; but on scraping, the whiteness did not disappear. In e. I saw him. Tongue from middle to the tip red; side and root thickly covered with mucus. To-day for the first time he could sit up in the bed by leaning on a bulky pillow. Yellow thick mucus began to issue out from nose. Liking for acid fruits, except lemon, which tasted to him bitter. He like to take preserves of mango, plum, &c. Passed clear urine. Vomited much less to-day, fever much less. Eyes not much closed to-day. Head very heavy; did not like to keep it on pillow. Pain in body here and there. Heaviness of head was the greatest complaint. Thirst was very slight in the fever time, and was satisfied with a small quantity of water. 17th.—Great burning sensation all over body which kept him more restless. Eyes sunken and could not be opened properly. Pain in region of heart and abdomen was much less. Tongue improved. To-day passed a stool like sheep-dung. 18th.—Pain in heart less. Pain in abdomen like colic. Last n. passed urine about 30 times in profuse quantity; this m. passed profuse urine 3 times only. Never had such diuresis in his life before. Last n. slight thirst; now and then a sort of suffocating sensation. 19th.—Urine less in quantity. Patient much improved; no fever; tongue natural; appetite good. (C. S. KALI, *Indian Hom. Review*, May, 1891.)

ANTIPYRINUM.

(See vol. iv, p. 487.)

II. 8. In a case of articular rheumatism in which salicylate of soda was not well borne, Brandenburg prescribed 1 grm. of A. In 5 m. a general toothache set in, together with headache; pain behind both ears of a tearing character. Symptoms gradually decreased, but toothache lasted 4 h. Patient then took $\frac{1}{2}$ grm., when all the above symptoms returned. (*Allg. h. Zeit.*, 1889, No. 12.)

1888.—Has tabetic gait and entire absence of tendon reflexes (the break in the reflex is on the sensory side). Use of arms also imperfect. Legs slightly œdematous. 21st.—Physical condition improved. Feb. 16th.—œdema has disappeared. March 11th.—Able to walk a little more steadily. 13th.—Attack of acute indigestion, diarrhœa, nausea, and colic. 26th.—Has apparently passed through one of the gastric crises of locomotor ataxia, with an unusual amount of tremor, which is still present when she sits up. April 17th.—Discharged. Patient had lost her hair to a considerable extent, and was cachectic. (PETERSON, *N. Y. Med. Record*, Aug. 4th, 1888.)

BELLADONNA.

(See vol. i, p. 526; vol. ii, p. 728; vol. iv, p. 516.)

II. 21. Mary B., æt. 5, of nervo-sanguineous temp., took a number of pellets saturated with 6th dil. of B. about noon on Friday. She went to sleep soon after, slept beyond the usual time, and was unusually dull, so that she could hardly be roused to take her afternoon's drive, for which she was usually eager. During it, she was attacked with a hacking cough, which increased very rapidly, so that in $\frac{1}{2}$ h. from its commencement the hacks would occur at every 3rd or 4th inspiration. On her return home the irritation continued to increase until the respirations were increased to 70 in the m.; action of heart was furious, the palpitation being clearly visible across the room; skin was at times very hot, then again unnaturally cool. In this condition she was found about 9 p.m. The cause of her symptoms being unknown, aconite and belladonna had been given, and after taking latter she was seriously worse; constant snuffing came on, though nose was dry, with extreme nervous irritability. Lachesis 6 quieted her, and she went to sleep. Next m. she was up and playing about the house, lively, and apparently quite well, except the snuffing, which was constant, and an unusual flow of spirits, which drove her from one thing to another with great rapidity, with an incessant desire to talk of all manner of things mixed together. At 5 p.m. the symptoms of the previous afternoon came on again. Once more belladonna was given, this time in the 200th, but this time also it aggravated, and lachesis was substituted with advantage. The same double set of phenomena recurred next d., and so on, decreasing daily in force, until the 18th d. A small ulcer on her back had followed on scarlet fever, but had been healed 3 mos. when she took the pellets. On the 3rd d. the cicatrix inflamed and had the appearance of breaking out, but after hepar sulphuris and other remedies this inflammation gradually subsided. (N. H. WARNER, *Amer. Hom. Review*, ii, 271.)

and 3ss on 3rd d. The circulatory symptoms were:—On 2nd d., momentary sharp pain thrusting through heart, followed by sighing respiration. On 7th d., pain at heart after retiring. On 9th d., 9.50 p.m., paralysed feeling at heart. (*Ibid.*, p. 85.)

CAFFEINUM.

(See vol. ii, p. 313; vol. iv, p. 525.)

I. 5. Dr. LEBLOND experimented on himself, injecting drug under skin of abdomen. He abstained from coffee during his provings, and for a week before their commencement. Marey's sphygmograph was used.

a. Pulse 76—80 (after repose), at 5.45 p.m. 10 centigr. were taken. 6.15, pulse 64; ascending line of curve straight, descending line undulating. 6.45, pulse 56; a marked plateau at summit of curve. 7, pulse 54; same curve, ascending line being quite abrupt.

b. After 4 h. exercise, pulse 80—84. At 6 p.m., took 20 centigr. 6.30, pulse 78; ascending line very abrupt and high. 7, pulse 72; same tracing. 7.30, pulse 64; plateau now apparent. 8, pulse 62, descending line undulating.

c. After 4 h. quiet, pulse 80, at 3.30 p.m. took 30 centigr. 4, pulse 70; 4.30, 62. 5, pulse 54; ascent abrupt, descent presents a series of undulations. 5.30, pulse 54. 6, pulse 52, filiform; tracing resembles that of mitral insufficiency. 6.30, pulse of better quality after 15 m. exercise, but still only 56. 6.40, pulse again filiform; it continued at 52 till 7.5, when it fell to 50 at 7.10, and 48 at 7.20. From 8 it began to regain force and frequency, and had become normal (after dinner) by 9.30.

d. After 40 centigr., similar results followed. Pulse, 74—78 at commencement, had fallen in 2½ h. to 52. After 3 h. it was 56, but very feeble and filiform; at same time there were frequent fibrillary twitches in muscles of arms and legs, which in 15 m. more had involved also masseters and tongue; face was pale. Re-action set in after 3½ h.

e. Pulse 80, at 1 p.m. took 50 centigr. 1.30, pulse very weak, 64. 1.35, sense of emptiness in head and of weight over eyes, objects seem covered with a thin mist; pulse 60, slightly irregular, filiform at times and then again stronger. 2.5, after 5 m. walking about room, pulse rose a little, but on resting again fell to 56. It beat at same rate at 2.20, and was very feeble and compressible. It did not begin to regain fulness and force till 7.15, and even then was quite slow; during this time there had been coldness and some creeping in lower extremities; slight vertigo and some tremor on walking; and a little precordial anxiety. At 7.30 a walk in room raised pulse to 70, but after a minute's rest it fell to 58 again. After a late dinner pulse went up to 90, but therewith was extreme lassitude, some giddiness, and vomiting.

f. The experiments were now made with a view of ascertaining the changes in arterial pressure induced by C. After 24 centigr. it

was found increased; there was also coldness of extremities. 2.4 milligr. same increase was noted; and though pulse fell from 80 to 50, it lost power for a short time only.

g. The temperature was next observed. A thermometer held in l. hand for $\frac{1}{4}$ h. marked $35-35.5^{\circ}$ (Cent.), while mouth was 37° . This was at 3.15, and 24 centigr. of C. was injected. At 3.35 thermometers were replaced, and after $\frac{1}{4}$ h. hand was 23.5° , the other remaining at 37° . At 5.50 the form 21.8° only, at which point it continued till 6.10, from which gradually ascended till it reached 32° . Pulse had fallen from 70 to 50.

h. On two other occasions similar results followed 36 c peripheric temp. falling in former from 36.6° to 27.8° , in latter from 36.8° to 26° . In both experiments there were fibrillary twitches in the masseters which in former were so intense in the masseters that there was a possibility of breaking the thermometer in the mouth. In the second experiment sphygmographic tracings were taken every 5 m. Slowing of heart followed promptly, with at first augmentation but later diminution of the force of its beats; later still, their energy became regular.

i. After 2 injections of 24 centigr. each at 3.2 p.m., usual effects followed on pulse and temp. Therewith were in first 2 h. frequent yawnings, somnolence, and incessant desire to stretch the limbs. Slight dimness of sight on trying to fix an object; tracing showed a short ascent, slightly undulating descent (pulse at this time slightly irregular). 5.30, yawnings more frequent; general lassitude; inability for steady reading. 5.40, nausea increasing. 6.00, 1 minute's walking, trembling in limbs, impatience, slight lachrymation and salivation. 6.15, efforts to vomit, nothing coming up but rather bitter matters; weakness of limbs. 6.30, some twitches in calves. 9, vomiting of a portion of dinner taken at 7.30. 10, e., impossibility, alike in hand and mind, to play piano. 11, pulse slightly headache. N. was quiet.

j. In another experiment, the peripheric temp. was noted in each hand, and it was found to fall much lower on the right side than on l. It was also noted that every time a cigarette was smoked while the effects lasted, a fresh fall of temp. occurred, there was some acceleration of heart's action. (*Étude sur la Calendula*, Paris, 1883.)

CALENDULA.

Calendula officinalis, L. Marigold. Nat. Ord., *Compositæ*.

I. *Proving*s.—1. FRANZ. (No information as to doses or repetition.) Great irritability, he is easily frightened, hearing is very sensitive, fretful, sleepy, dreamy. Confusion of head, as after a night of sleep, in m. heaviness of head as after a long illness; dull sensation especially in upper occiput; aching in forehead, with sense of heat there, after eating; dull pressive sensation in occiput. Dryness of mouth, biting in margin of lids, as from smoke; white of eye inflamed; dull pressive headache, now in forehead, now in temples, when lying

SUPPLEMENT.

set-door and wonder why we were there. These symptoms came in bouts, which lasted a few m., and were separated by periods of complete freedom from them,—the intervals increasing in length. There was no unusual or unpleasant feeling in the head, or any exaltation of spirits, and, save for the blanks of forgetfulness, a perfectly clear mind, which rendered the symptoms none the less alarming. My conversation and behaviour seemed quite natural to others. At one time I had lying down, but thought succeeded thought only to be immediately blotted out, producing a most unpleasant effect and no inclination to sleep. (S. L. D., *Lancet*, Aug. 22nd, 1891.)

CARBONEUM SULPHURATUM.

(See vol. ii, pp. 29, 731; vol. iv, p. 535.)

II. 13. A young man, æt. 18, after constantly using bisulphide of carbon in the manufacture of footballs, has felt for 5 mos. past various nervous disturbances. Sleep is disturbed by dreams, nightmare; and there are pains in the lower limbs, accompanied by cramps and tingling. At some time past, there has been a marked weakening of the memory and a considerable diminution of the sensibility of the upper limbs, as in the case of the elbow. This patient formerly had excellent vision, but since 2 mos. ago there has been difficulty in distinguishing objects placed at a great distance. To-day he only counts fingers at 3.50 metres, and receives no benefit from correcting glasses. The ophthalmoscope demonstrates a very marked atrophy of the papilla of the l. optic nerve. The erect image shows that the vessels have a very much diminished calibre, and that they contain but little blood. There is slight concentric retraction of the left visual field, but no dyschromatopsia. (DUMONT, *Bulletin de la Clinique Nationale Ophthalmologique des Quinze-vingts*, 1887.)

14. Young man, æt. 19, employed 7 years in the manufacture of rubber, and daily exposed to the vapours of bisulphide of carbon; has never felt any disturbance in his general health until 2 mos. ago, when vision diminished progressively, without pain or inflammatory symptoms. Present condition:—R. visual acuity, counts fingers at two metres; l. visual acuity, counts fingers at one metre. No help from lenses. Visual field remains normal. There is complete achromatopsia. No æsthesia of cornea. Media are clear. Optic disc is small, as if atrophic, and appears ischæmic. Along retinal vessels is found a narrow zone of circumscribed retinitis, producing a double contour and rendering them more projecting. There has been no previous disease, no ocular affection, no history of alcoholism or of nicotinism. No symptoms of ataxia can be found, and there are no family antecedents. (DUMONT, *Ibid.*, 1886.)

15. Young man, æt. 16, has worked at the manufacture of rubber for three years, being exposed to the fumes of bisulphide of carbon for 2 h. daily. In the beginning, and for 2 mos., he had pains in head, vertigo, nausea, and some vomiting: these disturbances disappeared, and since

the n. passed tranquilly. On 13th, at 7 a.m., a fresh dose. After an h. frequent yawning came on. Momentary vertigo. Gripping or colic about umbilicus as if I had taken purging medicine. My appetite, however, was not sensibly affected. At 4 p.m. another dose. Instantly afterwards deep obtuse pains in l. femur, already felt after dose taken the d. before. After an h. a dull pain at the l. temporo-maxillary articulation and in thigh of same side. A sense of being oppressed in anterior mediastinum, at r. side of sternum, transitory; formication and pricking, especially in scalp. Profound shooting pains all along r. leg, most in repose. At 5.30 repeated yawnings, shiverings, and coldness generally; dull headache. Pains as if wind were confined in the left inflexion of the colon; pulse 55, ordinarily 61. General stretching. Penetrating pains in upper temporo-frontal region. Pains at r. astragalotarsal articulation, as if the two surfaces were being drawn in opposite directions, ceasing on walking.

b. I resumed proving on the 24th with a dose of grm. 0.5 of the crude substance. Almost immediately (10 a.m.) quivering of facial muscles, especially the orbicularis palpebrarum. After an h. stretchings, repeated yawnings, nausea as if on the point of vomiting, complete lassitude of muscles, chiefly of inferior extremities, as if from being poisoned by tobacco. In walking vacillation and tottering. Prostration as after an acute and severe illness. Urine watery; pulse 53. Aversion to mental occupation, in spite of lucidity of mind. At midday almost all the symptoms disappeared; and I dined, feeling the need of it, nevertheless with little taste for my food. 25th.—At 3.30 p.m. a fresh dose of 0.05 grm. No important symptom all e., with exception of a troublesome weariness at r. shoulder, as if the humerus would be wrenched out of the glenoid cavity. 27th.—At 11 a.m., 0.05 grm. Instantly, dizziness as if I were struck down, which got worse in looking upwards. Deep pains in the wrist, as if the periosteum were affected. Motion did not make them worse, rather rendered them less sensible. On seating myself, my head appeared as if it were covered with a bar of iron. After $\frac{3}{4}$ h. extreme tiredness with desire to lie down. Urine watery. Stiffness of legs as soon as seated. A return of the dislocative pain of the r. arm. 29th.—11 a.m., grm. 0.05. Almost immediately indescribable general feeling of malaise, with increase of flying heat, and relaxation of strength, chiefly in lower limbs. Sense of languor as if I had fasted long. Colic pains about umbilicus. At 7 p.m. (after supper) malaise at epigastrium as if from indigestion, without nausea. The alvine functions tended predominantly to costiveness. The d. after stiffness of all the limbs, troublesome and persistent, also during motion. Obtuse memory with deafness on r. side. From 30th—31st n. disturbed by pressive gastralgia, which recurred for several mornings, as if stomach were pushed against the spinal column. The food rose again momentarily.

c. On 12th April at 3.30 p.m. I took 10 centigr. of the crude substance at one dose. Almost immediately constrictive pains at the cardiac region, and after $\frac{1}{2}$ h. copious epistaxis. During whole e. flying burnings here and there over surface of body, as if an electric current had been applied. N. full of visions, heavy somnolence in

large fire, and my body enveloped in heavy woollen blankets, while my feet and hands were briskly rubbed. A sense of impending dissolution came over me—not a feeling of fear, but a conviction that my condition was such that death was inevitable. My mind was perfectly clear, and I gave my attendants all directions as to my care. I took frequent doses of ammonia and digitalis; the former seemed to be of great advantage. At 7.30 my condition was worse, and myself and attendants were momentarily expecting my death. My extremities seemed to lose all power of either motion or sensation. I struggled against this with all my will-power, and would call for frequent doses of ammonia, which would give me (so it seemed) sufficient strength to move. Painful emesis occurred twice, each time being attended with ejection of about 2 oz. of frothy matter, which soon evaporated, leaving only a small white residuum. Resp. was now only 9 per m., and exceedingly shallow; carotid pulse faintly beating at 200, radial pulse entirely imperceptible, and no cardiac impulse felt on palpation. Mind still clear; suffered no pain.

b. "After about $\frac{1}{2}$ h. of this condition, I inhaled 3 dr. of nitrite of amyl. A marked improvement in the cardiac action was now noted. Resp. increased to 14; pupils contracted to normal; and skin became moist and warm. At 10 radial pulse returned, and, though 140, was full. Resp. was of normal frequency and almost normal vigour. At 11 pulse was 120. Suffered at this time from dull aching in lumbar region, and sense of great weakness and prostration. Half an h. later very copious diuresis took place. At 1 a.m., save for exhaustion, I was quite well. I was now put to bed, where I slept soundly till 8. Next d. I suffered much annoyance from dryness in pharynx, and also from muscular weakness." (*Therap. Gazette*, 1888, p. 16.)

II. 14. Dr. W., æt. about 30, of excellent physique, began use of muriate upon nasal and pharyngeal mucous membrane for hay-fever, gradually increasing dose to 5 gr., which he had in e., when the hay-fever was usually most distressing. This dose gave almost immediate relief from it, and produced sense of mental stimulation as from champagne. He was almost at once seized with desire for brain-work, and would pass greater part of n. reading and writing on professional topics, experiencing a keenness of perception and a mental vigour greater than normal. Towards m. he would fall asleep, and next d. would have no appetite and but little desire for work. He soon had a very irregular and rapid action of the heart, and passed by rapid stages to a condition of deplorable neurasthenia. He had little desire for food, thickly-coated tongue, feeble digestion, considerable emaciation, scanty urine—much of the time loaded with uric acid and urates. There was also dyspnœa. The stools for some time were chalky; skin was dry and pallid; pupils dilated; reflexes, especially the patellar, much increased; muscular powers greatly diminished. He continued the use of the drug 10 d., and then left it off. The profound depression of the nervous system followed upon its stoppage. The depression gradually passed away; but it was four months before he could resume the practice of his profession. (BROWER, *Medical Age*, 1886, p. 27.)

15. Dr. B., æt. 35, of neuropathic temperament, at one time in

anæsthesia, dilatation of the palpebral slit, congestion of the conjunctiva, lachrymation, cyanosis, loss of consciousness, incontinence of urine and *fæces*, stertorous breathing, tremor of the whole body, and progressive failure and retardation of cardiac action.

b. Chronic poisoning was brought about in four dogs (weighing from 5600 to 8200 grm.) by injecting cocaine in doses gradually ascending from three or four (about $\cdot 2$ per 1 kilo.) to ten or sixteen centigrammes a day, the whole amount taken during the experiment varying from 1 \cdot 08 to 7 \cdot 8 grm., and death ensuing in from 43 to 107 d. The initial small doses gave rise to acceleration of breathing and pulse, fleeting (15 m.) general restlessness, also consecutive weakness of the animal's hind limbs, mydriasis, and rise of the rectal temperature ($\cdot 3^{\circ}$ to $\cdot 5^{\circ}$ C.), the symptoms disappearing in about 3 h. Increased doses produced the same but more pronounced and prolonged symptoms. The 7-centigramme doses induced sometimes manège movements of 2 or 3 m. duration, with extreme restlessness, followed in 4 h. or so by as extreme weakness and lassitude. The 8-centigramme doses gave rise to stupor, with high dyspnœa, acceleration of the pulse, and mydriasis, of 2—3 h. duration. The 1-decigramme doses caused a complete narcosis, rise of the rectal temperature (1° C.), decrease of general sensibility, and other symptoms of acute poisoning. In two of the animals there occurred several attacks of clonic spasms. Both of them died suddenly after a convulsive paroxysm, with consecutive profound prostration. The other two sank gradually from progressive extreme cachexia (which, however, was more or less pronounced also in the former two dogs).

c. Morbid lesions, either in acute or in chronic poisoning by cocaine, did not represent anything characteristic or pathognomonic. A. Macroscopical examination.—In acute poisoning there were invariably found all those alterations which occur in cases of fatal asphyxia,—such as dark fluid blood, engorgement of the thoracic veins, dilatation of the r. auricle and ventricle of the heart, venous congestion and œdema of the lungs, extravasations under the pleuræ, pericardium, endocardium, and gastric mucous membrane, cyanotic liver, contracted spleen, moderate hyperæmia of the brain and spinal cord, and a more intense one of their meninges. The same changes were present also in those two cases of chronic poisoning which had terminated suddenly, while in the two eminently cachectic cases there were detected extreme anæmia and dryness of all organs except the brain, medulla oblongata, spinal cord, and cerebro-spinal meninges, which were intensely congested. B. Microscopical examination.—Blood did not present any structural changes. Lungs: In acute cases there was dilatation of the alveolar vessels, with extravasations and occasional collapse of the alveoli; opaque swelling of the alveolar epithelium; hyperæmia and extravasations in bronchioles. Liver: In acute poisoning there was found opaque swelling and granularity of hepatic cells; hydropic and granular degeneration of the epithelium of gall-ducts; serous infiltration of the interlobular connective tissue; engorgement of the interlobular and central veins, with occasional small-sized extravasations in their neighbourhood; and a distinct increase of glycogen in hepatic

between the morbid lesions in the nerve-centres as found by him in the cases of cocaine-poisoning, and those detected by Dr. Cziz in cases of acute and chronic poisoning by morphia and atropia (*Meditz. Pribavl. k' Morsk. Shorn.*, May and June, 1883), the difference being only a quantitative one; the former are somewhat milder comparatively with the latter. Perhaps there exists a still greater similarity between the alterations caused by cocaine and those found in the nerve-centres and their blood-vessels in starvation (as described by Drs. V. Mankovsky, *Lond. Med. Record*, Feb., 1884, p. 73, and V. Rosenbach in his *St. Petersburg Inaugural Dissertation*, 1883). Judging from that analogy, Dr. Zantchevsky arrives at the general conclusion that "the cause of these degenerative changes which occur in chronic poisoning by cocaine should be sought in disturbed nutrition of cellular elements, which, in its turn, depends upon lesions of vascular walls, caused by a direct action of the alkaloid." (*Therap. Gazette*, 1889, p. 112.)

FERRUM MURIATICUM.

(See vol. ii, p. 573; vol. iv, p. 586.)

II. 12. Dr. DE LA ROCHE and three companions (distinguished as A, B, C and D) made provings of iron. All four were healthy and robust, the youngest 21, the oldest 26 years old. All of them carefully observed their pulse m. and e. for 4 d. before and 14 d. after the trial. They lived in their usual manner, avoiding all excesses in the matter of stimulants. The preparation they employed was a $\frac{1}{4}$ per cent. watery solution of ferr. sesquichlor. The 1st week they took m. and e. at 8 o'clock 15 dr., the 2nd week 30 dr. m. and e., the 3rd and 4th weeks 30 dr. three times a d. The total quantity of the iron salt consumed by each person in 4 weeks was about $\frac{1}{2}$ grm.

a. A. about the end of the 1st week felt soon after dinner a slight sensation of pressure in stomach that lasted about 1 h. 2 d. previously he had much flatulence, and though usually quite regular, had no stool. The following days the bowels became again regular, but the tiresome feeling of pressure in stomach persisted, lasting till e. Appetite and sleep normal.—At the commencement of the 2nd week, the stomach was painfully sensitive to external pressure. The stomach pains became relieved during the n., but in the m. of the 3rd d. there was nausea and great inclination to vomit, with loss of appetite. About 3 p.m. general restlessness, constricted feeling in chest and precordial anxiety. Head hot and red, carotids beat strongly, the pulse which in the m. was 68 rapidly rose to 98. After 1 h. all this passed away, in the e. the pulse was 74. The 2 next d. he felt tolerably well, the stool was regular, pappy, the pressure in stomach continued. On the last d. of the week the above described attack occurred at the same time but in a still more intense degree. He had marked dyspnœa and had to take deep breaths in order to allay it. The flatulence had persisted all the week, the flatus had a strong smell of sulphuretted hydrogen gas. Sleep and appetite good.—The 3rd week the stomach and respiratory

heart's action and dyspnoea. In all the cases there was a sensation of increased general health; at times there were attacks of great nausea and general heat. In all 3 also after leaving off the iron there came on general prostration and depression, tiresome fulness and pressure in stomach, eructation of bitter stuff after eating, derangement of the hitherto regular stool, loss of appetite, and corporeal debility. B and C had attacks of vertigo in the m. after rising; D, who had previously suffered from chronic constipation, after the 1st week of taking the drug enjoyed easy and regular stools.

The following table shows the m. and e. pulse during the whole time of observation. The occasional afternoon rise of the pulse to 100 and upwards does not appear in this table, which is limited to the m. and e. pulse.

	A		B		C		D		
	M.	E.	M.	E.	M.	E.	M.	E.	
Before the trial	64	68	68	76	62	68	62	69	
During the trial	1st week	67	72	70	77	64	70	64	71
	2nd "	70	75	71	78	66	71	68	74
	3rd "	73	77	73	77	68	74	69	75
	4th "	77	80	80	86	70	76	76	83
After the trial	1st "	74	78	86	86	69	76	75	82
	2nd "	74	79	84	87	68	75	74	79

(*Experimentelle Beiträge zur Eisenwirkung*, Diss. 1887, quoted by Prof. HUGO SCHULZ in *Virchow's Archiv*, 1887, vol. cix.)

LYCOPodium.

(See vol. iii, p. 155.)

I. 27. A few d. ago I took 5 gr. of the 1_x trit. Two h. afterwards a fit of gastralgia came on, which continued for several m. and then passed off. Two h. later I went to bed apparently well. During the n. I had anything but pleasant dreams. First, I had a long and arduous task in trying to eject a crowd of London *gamins*, who persisted in occupying my premises, but who unfailingly returned after each ejection. After this I found myself sleeping in the whispering gallery of St. Paul's Cathedral, and was considerably alarmed to observe that the dome was inclining to one side, and that I was in imminent danger of being suddenly landed in Ludgate Hill. In endeavouring to escape I awoke, glad enough to find my alarm unfounded; but I noticed that there was a more rapid action of the heart than I had ever before experienced. I had also a headache. For a few d. after this I experienced uncomfortable gastric sensations, such as one might expect from over-indulgence. I did not notice any action on kidneys or bladder. (HERRING, *Hom. World*, Sept., 1891.)

of the poison. Previously to this she had taken hot mustard and water, which had produced a copious emesis. After the direct effects of the emetic had passed off, the patient stated that she felt quite recovered, and wished to go home; but in view of complications, both medical and legal, arising, she was persuaded to stay in hospital. She remained perfectly free from symptoms, both subjective and objective, for four days after admission. The urine examined did not reveal anything abnormal. The further course of the case was as follows:—

b. On May 15th, about 9 a.m., she suddenly complained of cramping pains in arms and legs, and commenced to spit a small quantity of bright blood. On examination gums were found in a spongy condition, and oozing profusely. Tongue clean; temperature below the average; pulse 80, somewhat compressible. There was some œdema of hands and feet, especially over dorsal surfaces. Extensor surfaces of both upper arms were marked with a deep bluish mottling, with considerable surrounding erythema, somewhat raised, and very tender. There was also a similar eruption on anterior surfaces of both legs, and on outer and upper segment of r. breast. Bowels open three times; clay-coloured stools. Urine: Sp. gr. 1024; it contained one-fourth albumen, bile, and a trace of blood; microscopically a few blood-cells could be seen, also bladder and vaginal epithelium, with a considerable quantity of mucus. No tenderness over hepatic region. Liver edge not felt. Vomiting after taking milk, the vomit being intermixed with dark blood. 16th.—Slept badly; during n. had an attack of hæmatemesis, bringing up about half a pint of black, grumous fluid. Tenderness over whole of abdomen. Liver dulness increased to two fingers' breadth below costal margin; edge not felt. Muscular pains persist; slight icteric tinge about conjunctivæ; general dusky appearance; almost pulseless at wrists. Punctiform eruption remains unaltered. Urine contains bile and one sixth albumen; the blood test does not react. Bowels open twice; character of stools unaltered. Is passing a small quantity of blood per vaginam resembling the normal menstrual flux. Urea, as estimated quantitatively, gives a per centage of 1·8. Urine also examined for leucin and tyrosin, with negative result. The patient continued collapsed, and died at 6.30 p.m., retaining consciousness to the last.

c. Post-mortem.—Mucous membrane of œsophagus normal, as also that of trachea. Heart: Endocardium and valves normal; muscular wall of a pale yellow tinge, very friable; weight 18 ounces; numerous hæmorrhages into both layers of pericardium. Hæmorrhages into both parietal and visceral pleuræ, a very large one extending over almost the whole of the layer investing the diaphragm. Peritoneum covered with numerous petechiæ. Stomach apparently normal as to its mucous lining, but very thin and readily torn. Liver somewhat enlarged, of a uniform yellow colour, firm, floating readily in water, on setting light to a portion, burning like the wick of a candle. Gall-bladder: Catarrhal condition of its walls and duct, containing a small quantity of bile. Spleen slightly engorged. Kidneys palish-yellow in colour, enlarged, and congested. Uterus enlarged and congested, as also its adnexa,

3. Dr. SPRANGER took on two successive d. 40 dr. of tinct. of bark. On 1st d., soon after dose, dry scratching sensation in throat ; after 4 h., great and painful distension of bowels, with rumbling ; relief after discharge of flatus. On 2nd d., after 9 h., distension with rumbling of bowels, which seemed to fill whole abdomen, soreness when moving or on pressure ; bowels costive, with frequent ineffectual desire for stool. (*Ibid.*, i, p. 271.)

4. Same gave brother 15 dr. Soon, slight headache. After 2 h., sleepiness and dulness in head and limbs, with stinging pain in temples, changing from r. to l. side. After 4 h., dreadful dulness in head. In course of 1st d., most severe dull headache and pain in r. temple ; eyes felt sore and watery ; running at nose ; rough soreness of throat. On 2nd d. dull headache, and very profuse continual discharge from nostrils, with frequent sneezing, as from a bad cold ; soreness of eyes and roughness of throat ; sourness of stomach ; restless sleep all n., on account of frequent sneezing. (*Ibid.*)

II. *Poisonings.*—Several cases of poisoning by “locust beans,” imported from Egypt, are mentioned in the *Med. Times and Gazette* for 1857 (i, 197, 241, 266, 269, 570). The symptoms were those of local irritation, with, in one case, a severe outbreak of urticaria, in another (a child of 20 mos.) great prostration and muscular paralysis. But, on the other hand, many seem to have eaten them with impunity ; and, administered to animals, they have failed in developing any morbid condition. It is also stated that the pods known by this name belong either to the *Ceratonia siliqua*, the “Algarola bean” (carob tree, St. John’s bread-tree), or to the *Hymenæa combaril* of the West Indies ; neither of which, save for belonging to the same natural order, and having the same common name, can be accounted interchangeable with our Robinia. In view of this uncertainty, therefore, we think it better to limit ourselves to reference here.—EDS.

STRYCHNINUM.

(See vol. iii, p. 439 ; vol. iv, p. 714.)

I. 4. The effect of nitrate of strychnia on the functional activity of the stomach has recently been made the subject of careful research by Dr. Gamper of St. Petersburg, who employed for his experiments four healthy young hospital assistants. He found that S. increased the amount of gastric juice secreted, the general acidity, and the quantity of free acid in the secretion. It also hastened the absorption from the stomach, and strengthened the mechanical movements. Its effects, too, continued for some time after its administration had been stopped. (*Lancet*, 1891, i, 897.)

used 1st dil. and tinct. Their conjoined symptoms are given in schema form only.*

a. Depression of spirits, followed by great exhilaration and desire for conversation; dreamy imaginative mood; exhilaration like intoxication (1st dil.); irritability, with lowness of spirits and indifference to everything; laughing and weeping moods in alternation; sense of exhilaration lasting 12 h., and then succeeded by great depression for several d.

b. Sense of tightness round head; giddiness and swimming; acute aching in whole l. side of head, increased by light and noise; pressure upon top of brain; dull pain in occipital region, extending down muscles of neck. Rush of blood to head and face, with feeling of fulness and heat; face pale and puffy; dull pains in jaws; boring pains in cheek-bones. Eyes sensitive to light; sharp pain in r. orbit, increasing by moving eyeball, by stooping and stepping; shooting pains through both orbits; eyes watery; smarting of lids; lids gummed in m. by yellowish mucopurulent secretion; stye on r. lid. Irritation of Schneiderian membrane, with discharge of mucus and sneezing; obstruction and soreness of r. nostril, which is painful to touch; burning and smarting sensation in nostrils and eyes.

c. Inflammation of mucous membrane of pharynx; slight redness of tonsils and palate, with soreness of throat; increased secretion of mucus in throat. Loss of appetite; bitter taste; craving for acids and stimulants; thirst; tongue covered with whitish fur; redness of tongue, with unusual sensitiveness to cold or warm drinks. Nausea; acid and bilious vomiting; stomach sensitive to touch,—pressure causing nausea and faintness.

d. Some sexual excitement in male provers; in the woman leucorrhœa, at first bland, then, after one day only of (profuse) catamenia, acrid.

e. Roughness of upper larynx when inspiring or coughing; trachea sensitive to touch; tight cough, caused by deep inspiration, and excited by dryness of larynx; raw smarting sensation in larynx from coughing; short dry cough, excited by tickling in throat pit. Dry cough, with pleuritic stitches in r. side, much increased by coughing or deep breathing, with feverishness and sense of suffocation; bruised feeling in muscles of chest, pressure excites pain in intercostal muscles; sharp pains extending from front and sides of chest to both scapulæ; respiration accelerated and oppressed; dyspnœa, with inability to retain recumbent posture.

f. Dull aching pains under r. scapula; smarting, burning pain in small of back; dull pains in loins, increased by movement; dragging sensation in both hips; unusually tired feeling in legs after slightest muscular exertion; great desire to move about, with apparent increase of strength, but slight exercise causes fatigue. Lame-ness of muscles of both arms, from shoulders to elbows; prickling sensation, with slightly diminished sensibility, in r. arm.

g. Drowsiness, with sense of lassitude and fatigue; after exhilaration of all faculties strong desire to sleep; sleep disturbed by unpleasant dreams; spasmodic twitching during sleep; talking during sleep.

h. Pale and puffy appearance of whole body, with sensitiveness of surface; itching pimples on forehead, wrists, and legs.

i. Chilliness and heat alternating, with faintness, nausea, pain in r. temple, redness of eyeballs, dry and red tongue, and thirst for cold water; hot flushes in face and head, followed by perspiration; chilliness, accompanied with spasmodic twitchings of muscles of face and upper extremities, followed by fever, flushed cheeks, hot head, visible pulsations of carotid and temporal arteries, coldness of hands and feet, drowsiness, and irritability. (*N. Am. Journ. of Hom.*, iv, 54.)

2. A young lady, of 23, inhaled 4 times a day for 6 d., 10 m. at a time, a sol. of 4 dr. of 3rd dil. in 4 tablespoonfuls of water. She was somewhat delicate; had suffered in years past from dyspepsia and asthma and for the last two years from occasional paroxysms of nervous and sick headache, pains between shoulder-blades, and leucorrhœa. A previous proving of 4 d. had only elicited such symptoms as the above, and she hesitated to set them down to the medicine; but they were all

* Some of these symptoms are suspiciously like those developed in Case I, 2, and can hardly be taken as confirmations of hers—themselves not free from dubiety.—Eds.

after filtering some of the tinct., eyelids became somewhat inflamed, with smarting, itching, and prickling pains,—r. more than l. On bathing face with a lotion of a few dr. of tinct. to Oj of water, a creeping, smarting, and itching sensation was felt in cheeks and lips. (*Ibid.*)

2. A gentleman chewed a piece of root for experiment, and was immediately seized with nausea, vomiting, spasms, general convulsions, and fainting fits, which terminated in death after 3 h. (*Ibid.*)

3. A young lady ate a large root by mistake. Soon after she was seized with violent vomiting, spasms, swoonings and convulsions. The speedy discharge of the poison by vomiting enabled her to resist the toxic influence and regain her usual health in a few d. (*Ibid.*)

4. The odour of the root has been known to produce such an effect on the system as to confine the subjects of its influence to bed for days. In these instances nausea, faintness and lassitude were the symptoms observed. (*Ibid.*)

III. *Observations in animals.*—1. An ox, after having eaten the top of the plant early in the spring, vomited and staggered about as if intoxicated. It continued reeling and staggering for 3 d., and then recovered. (*Ibid.*)

CORRIGENDA.

[Besides additional ones, we have included some errata noted here and there in the Appendix, but which are hardly conspicuous enough there to attract attention.]

- Vol. I, p. viii of Introduction, l. 2 from bottom, for "Sect." read "Lect."
- " p. 14, for "Labée" read "Labbée."
- " p. 17, l. 14, omit comma after "occurred"; l. 31, for "aching" read "itching."
- " p. 48, l. 24, for "tightness" read "lightness."
- " p. 53, l. 35, for "2 d." read "2nd d."
- " p. 54, l. 9, for "some" read "same;" l. 16, omit "after taking it."
- " p. 60, l. 21 from bottom, for "of" read "after."
- " p. 620, l. 4, supply as reference "*Oest. Zeitschr. f. Hom.*, vol. iii."
- " p. 745, l. 8 from bottom, for "3" read "b."
- " p. 746, l. 18 from bottom, for "its" read "their."
- Vol. II, p. 270, insert as formula for Cocainum " $C_{17}H_{21}NO_4$ ".
- " p. 594, l. 18 from bottom, for "8" read "9."
- " p. 656, l. 15 from bottom, for "*Z. f. Ver. hom. Aerzte Oest.*, i," read "*Wien. Zeitschr. d. k. k. Ges.*, Jahrg. ii, Bd. ii."
- " p. 698, l. 3 from bottom, for "b." read "3".
- " p. 722, l. 8 from bottom, "periodical" is to be understood as "recurring at somewhat regular intervals."
- " p. 724, l. 31, after "gangrene" insert "*(Brandigwerden)*."
- " p. 725, l. 20, after "Ammonia" insert "I, 16."
- " p. 737, l. 30, for "head" read "heat."

INDEX TO VOL. IV.

	PAGE		PAGE		PAGE
Acidum carbolicum . . .	465	Calendula . . .	730	Grindelia . . .	600
— fluoricum . . .	487	Camphora . . .	527	Guaco . . .	601
— hydriodicum . . .	469	Cannabis indica . . .	528, 732	Helleborus . . .	601
— oxalicum . . .	471	Cantharidinum . . .	533	Hyoseyaminum . . .	602
— salicylicum . . .	15, 472	Carbo vegetabilis . . .	534	Hyoseyamus . . .	603
Aconitinum . . .	473	Carboneum sulphura-		Iberis . . .	604
Aconitum . . .	474	tum . . .	535, 733	Iodoformum . . .	608
Adonis . . .	476	Chininum arsenicosum		Iodum . . .	608
Æthusa . . .	477		544, 734	Ipecacuanha . . .	609
Agnus castus . . .	723	Chionanthus . . .	547	Iris minor . . .	610
Aletris . . .	477	Chloralum . . .	549	Jaborandi . . .	611
Ammonium broma-		Chlorum . . .	551	Jatropha . . .	611
tum . . .	478	Citrus vulgaris . . .	553	Kali bichromicum . . .	616
— phosphoricum . . .	479	Coca . . .	555	— bromatum . . .	619
Amyl nitrosum . . .	480	Cocainum . . .	556, 736	— chloricum . . .	620
Anacardium . . .	480	Coffea . . .	558	— cyanatum . . .	624
Anilinum . . .	481	Colchicinum . . .	559	— iodatum . . .	625
Antifebrinum . . .	483	Colchicum . . .	559	Kalmia . . .	630
Antimonium tartari-		Conium . . .	560	Lachesis . . .	635
cum . . .	486, 723	Convallaria . . .	560	Lappa . . .	636
Antipyrinum . . .	487, 725	Croton . . .	562	Lilium . . .	639
Apis . . .	491	Cuprum . . .	563	Lithium . . .	643
Apocynum cannabi-		— arsenicosum . . .	565	Lobelinum . . .	643
num . . .	493	Daturinum . . .	169	Lycopodium . . .	743
Apomorphinum . . .	726	Delphinium . . .	131	Mercurius . . .	644
Argentum nitricum . . .	493	Digitalis . . .	566	— bromatus . . .	647
Arnica . . .	494	Duboisinum . . .	569	— corrosivus . . .	646
Arsenicum . . .	495, 726	Emetinum . . .	578	— cyanatus . . .	744
— sulphuratum ru-		Erechthites . . .	578	Mezereum . . .	648
brum . . .	504	Ergotinum . . .	580	Mitchella . . .	649
Atropinum . . .	507	Erigeron . . .	581	Morphinum . . .	651
Aurum . . .	509	Eryngium . . .	582	Murex . . .	652
Baptisia . . .	510	Eupatorium perfolia-		Naja . . .	652
Barium . . .	514	tum . . .	586	Naphthalinum . . .	653
Belladonna . . .	516, 727	Exalginum . . .	484	Natrum nitrosum . . .	655
Bellis . . .	518	Ferrum iodatum . . .	586	— phosphoricum . . .	657
Bismuthum . . .	518	— muriaticum . . .	741	— salicylicum . . .	17, 698
Borax . . .	519	— phosphoricum al-		Nicotinum . . .	279
Bromoformum . . .	520	bum . . .	587	Nuphar . . .	657
Cactus . . .	521, 728	Fuchsinum . . .	485	Nux moschata . . .	659
Caffeinum . . .	525, 729	Gelsemium . . .	596	Onosmodium . . .	660
Calcareæ hypophos-		Geranium . . .	598	Opium . . .	664
phorosa . . .	526	Glonoinum . . .	599	Osmium . . .	665

GENERAL INDEX

TO THE FOUR VOLUMES.

	PAGE		PAGE
nigra	i, 1	Alumina	i, 236
thium	i, 473	Ambra	i, 236
m aceticum	i, 2, 742	Ammonia	i, 246
zoicum	i, 3	Ammoniacum	i, 236
acicum	i, 585	Ammonium bromatum	i, 603; iv, 478
bolicum	i, 4, 742; iv, 465	— carbonicum	i, 241; ii, 725
omicum	ii, 162	— muriaticum	i, 250
ysophanicum	iii, 709	— phosphoricum	iv, 479
ricum	i, 16, 744; iv, 487	Amygdala amara	i, 30; ii, 724
licum	i, 20	Amyl nitrosum	i, 255; iv, 480
fridicum	iv, 469	Anacardium	i, 263; iv, 480
robromicum	i, 603	Angustura	i, 267
rocyanicum	i, 21; ii, 722	Anilinum	iv, 481
ticum	i, 36	Anthemis	i, 269
riaticum	i, 38	Antifebrinum	iv, 483
ricum	i, 39, 744	Antimonium crudum	i, 270, 277
ro-muriaticum	i, 44	— oxydatum	i, 275
ilicum	i, 45; iv, 471	— sulphuratum	i, 270
osphoricum	i, 59	— tartaricum	i, 278; iv, 486, 723
ricum	i, 61	Antipyrinum	iv, 487, 725
icylicum	iv, 12, 472	Apis	i, 310, 748; ii, 725; iv, 491
phuricum	i, 70, 744	Apocynum androsæmifolium	i, 322
taricum	i, 71	— cannabinum	i, 323; iv, 493
tinum	i, 117; iv, 473	Apomorphinum	iii, 525; iv, 726
tum anthora	i, 103	Aralia	i, 339
nmarum	i, 103	Araneæ tela	i, 330
ox	i, 105	Aranea diadema	i, 330, 749
cellus	i, 72; iv, 747, 474	— scinencia	i, 331
montanum	i, 104	Argentum metallicum	i, 340
is	iv, 476	— muriaticum	i, 347
lus glabra	i, 130	— nitricum	i, 350; iv, 493
opocastanum	i, 130	Arnica	i, 379; ii, 725; iv, 494
sa	i, 136; iv, 477	Arsenicum	i, 396; ii, 726; iv, 495, 726
cus	i, 138	— hydrogenisatum	i, 466
s castus	i, 201; iv, 723	— iodatum	i, 416, 431
thus	i, 204	— metallicum	i, 418
s	i, 210; iv, 477	— sulphuratum rubrum	iv, 504
n cepa	i, 213, 748	Artemisia abrotanum	i, 471
ivum	i, 216	— absinthium	i, 473
.	i, 216	Arum dracunculus	i, 475
en	i, 232	— maculatum	i, 478

	PAGE		
Arbia	ii, 555; 756	Lobelinum	iv, 643
Asia	ii, 557	Lycopodium	iii, 155; iv, 743
inum	iv, 484	Lycopus	iii, 181
n	ii, 564	Macrocinum	ii, 746
atum	ii, 573, 578; iv, 586	Magnesia carbonica	iii, 191
uriaticum	ii, 577; iv, 741	— muriatica	iii, 191
osphoricum	ii, 571; iv, 587	— phosphorica	iv, 644
inum	iv, 485	— sulphurica	iii, 191
ogia	ii, 579	Manganum	iii, 196
mium	ii, 583; iv, 596	Meconinum	iii, 531
ana cruciata	ii, 605	Melilotus	iii, 200
tea	ii, 607	Menyanthes	iii, 200
ium	iv, 598	Mercurius	iii, 201; iv, 644
inum	ii, 609; iv, 599	— biniodatus	iii, 273
halium	ii, 621	— bromatus	iv, 647
nites	ii, 623	— corrosivus	iii, 236; iv, 646
ola	ii, 626	— cyanatus	iii, 260; iv, 744
elia	iv, 600	— iodatus	iii, 266
.	ii, 628; iv, 601	— præcipitatus ruber	iii, 278
cum	ii, 629	— sulphuratus	iii, 281
melis	ii, 630	Mezereum	iii, 293; iv, 648
orus	ii, 635; iv, 601	Millefolium	iii, 310
ias	ii, 643	Mitchella	iv, 649
— sulphuris	ii, 647	Morphinum	iii, 498; iv, 651
stis	ii, 649	Moschus	iii, 313
scotyle	ii, 653	Murex	iii, 320; iv, 652
yamimum	ii, 669; iv, 602	Muscarinum	i, 199
yamus	ii, 655; iv, 603	Mygale	i, 333
icum	ii, 678	Myrica	iii, 322
.	iv, 604	Naja	iii, 328; iv, 652
ia	ii, 683	Naphthalinum	iv, 653
.	ii, 689	Narceinum	iii, 531
ormum	iii, 1; iv, 608	Narcotinum	iii, 531
1	ii, 691, 757; iv, 608	Natrum arsenicatum	i, 400, 451
cuanha	iii, 10; iv, 609	— bromatum	i, 618
.	iii, 18; iv, 610	— carbonicum	iii, 342
ndi	iii, 26; iv, 611	— chloratum	iii, 343
sha	iv, 611	— muriaticum	iii, 344
arsenicosum	i, 431-8, 444-8; ii, 726; iv, 496, 501	— nitricum	iii, 396
hromicum	ii, 162, 665; iv, 616	— nitrosium	iv, 655
omatum	i, 606; iv, 619	— phosphoricum	iv, 657
bonicum	iii, 45	— salicylicum	iv, 17, 698
loricum	iii, 45; iv, 620	— sulphuricum	iii, 402
anatum	i, 31-5; ii, 724; iv, 624	Nicotinum	iv, 279
latum	ii, 710; iv, 625	Nitrum	iii, 57
nganicum	iii, 55	Nuphar	iv, 657
ricum	iii, 57	Nux moschata	iii, 411; iv, 659
ia	iii, 69; iv, 630	— vomica	iii, 428
otum	iii, 73	Enanthe	iii, 455
ais	iii, 86; iv, 635	Oleander	iii, 458
ca	iii, 108	Onosmodium	iv, 660
a	iii, 114; iv, 636	Opium	iii, 459; iv, 664
rus	iii, 115	Origanum	iii, 532
cerasus	i, 26, 34; ii, 724	Osmium	iii, 533; iv, 665
n	iii, 119	Pæonia	iii, 540
ndra	iii, 127	Palladium	iii, 543
n tigrinum	iii, 130; iv, 639	Papaverinum	iii, 532
m	iii, 139; iv, 643	Paraffinum	iv, 666
ia	iii, 141	Paris	iii, 545
		Petroleum	iii, 550





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