MATERIA MEDICA

AND

THERAPEUTICS:

BY

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"E'en then a wish (I mind its power),
A wish, that to my latest hour
Shall strongly heave my breast,
That I for poor auld Scotland's sake
Some useful plan, or book could make,
Or sing a sang at least."—*Burns.*

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Dedication.

THIS WORK IS DEDICATED TO MARY ANN, THE WIFE OF THE AUTHOR, AS A SMALL ACKNOWLEDGMENT OF THE SYMPATHY AND ASSISTANCE WHICH SHE HAS CONTRIBUTED TO HIS LITERARY LABORS, OF THE INTEREST WHICH HER PENCIL HAS IMPARTED TO HIS LECTURES ON THE MATERIA MEDICA, AND AS A TESTIMONY OF HER HIGH INTELLECTUAL RANK AND CULTIVATION.

PREFACE.

THE objects of this work are mainly the same as those of the author's *Therapeutical Arrangement of the Materia Medica;* that is to say,

1. To arrange the *Materia Medica* upon intelligible, physiological, and therapeutical principles.

2. To indicate the relative therapeutic value of the various articles, under their different denominations, by arranging them in the order of their value.

3. To give to the student a comprehensive and ready view of the merits of the various articles composing the *Materia Medica*, and of their relations to each other, physiologically considered. The *arrangement* itself is also indicative of the pathological and therapeutical principles which lie at its basis. The work was originally designed, therefore, as a *Compendium of Rational Therapeutics*. With these objects in view, the author has now connected the work throughout with his INSTITUTES OF MEDICINE by *references* to the latter, and has introduced a variety of other practical matter which does not occur in his "*Therapeutical Arrangement*," but which seemed conducive to a more amplified work on Therapeutics. It is especially recommended to the student that he should examine the References which are made to the work on the *Institutes of Medicine*, as they may fall incidentally under his notice.

It is scarcely necessary to say that it is not intended to arrange the Classes, Orders, and Subdivisions of remedies according to their relative importance, but only the articles included under each general de-

nomination. The groups under the subdivisions follow the rule of relation; but it is sometimes only the first two or three of the remedies in each group which surpass the first of the next group, although the numbering proceeds methodically throughout each subdivision. Thus, amongst the Alteratives, Division I., tartarized antimony undoubtedly bears a third relative value, but it is marked 13 for the sake of simplicity. So Ipecacuanha has properly the fourth rank, but is, for the foregoing reason, marked 18. Where the foregoing rule does not obtain, the relative value is explained.

When not otherwise stated, *Infusions* are intended to embrace ℥ j. of the remedy, and ℔ j. (pint) of boiling water; and *Decoctions* the same proportions when boiled down a third part.

The fluid measure is intended for all liquids.

The doses are designed for adults, unless otherwise indicated.

The formulæ which are associated with many of the principal articles are designed in a general sense; and the proportions, therefore, which are indicated are intended merely to aid the practitioner in adapting extemporaneous compounds to the existing state of disease. This is of fundamental importance. But, systematic formulæ, with definite proportions of the several ingredients purporting to be adapted to diseases of some given *name*, and especially where the compounds may be extemporaneously prepared, are not founded upon just conceptions of pathology, lead to inaccurate views, and encourage indolence and empiricism. (*Institutes of Medicine*, pp. 554—556, § 872.)

In all the formulæ, each combination is intended for a single dose, unless otherwise stated.

The author has avoided the usual pharmaceutical statements, as physicians are not, nor should they be, manufacturers and apothecaries. They have weightier objects on hand. He has also neglected the physical and botanical characteristics as being of little relative value, and therefore not appropriate to the objects of the work.

Where substances are embraced in a parenthesis after the principal formula, they are designed for its extension according to the special circumstances of disease; and where more than one occurs in the parenthesis, either one or all may be united with the principal com-

pound. The combinations are often numerous under many of the individual substances, as appearing to the author to supply facilities in prescribing for the various modifications of disease to which the substance in question, when associated with others, may be adapted. (*Institutes of Medicine*, p. 552, § 868.)

The nature of the combinations will generally suggest the conditions of disease to which they are applicable.

Some of the general remarks which precede the different groups of remedies in the "Therapeutical Arrangement," and designed to express the author's views of the relative value of the respective groups, their mode of operating, &c., are omitted in the present work; as the whole of this ground has been surveyed by the author in his late work on the *Institutes of Medicine*.

GENERAL PRINCIPLES.

"EXAMINE all the physiological and all the pathological phenomena, and you will see that there is no one which cannot be ultimately referred to some one of the vital properties of which I have just spoken. The undeniable truth of this assertion brings us to a conclusion not less certain in the treatment of diseases, namely, that every curative method should have for its object the restoration of the altered vital powers to their natural type."

"To what errors have not mankind been led in the employment and denomination of medicines? They created deobstruents when the theory of obstruction was in fashion, and incisives, when that of thickening of the humors prevailed. The expressions of diluents and attenuants were common before this period. When it was necessary to blunt the acrid particles, they created inviscants, incrassants, etc. Those who saw in diseases only a relaxation or tension of the fibres, the *laxum* and *strictum* as they called it, employed astringents and relaxants. Refrigerants and heating remedies were brought into use by those who had a special regard in diseases to an excess or a deficiency of caloric. The same identical remedies have been employed under different names, according to the manner in which they were supposed to act. Deobstruent in one case, relaxant in another, refrigerant in another, the same medicine has been employed with all these opposite views; so true is it that the mind of man gropes in the dark, when it is guided only by the wildness of opinion."

"Hence the vagueness and uncertainty our science presents at this day. An incoherent assemblage of incoherent opinions, it is, perhaps, of all the physiological sciences, that which best shows the caprice of the human mind. What do I say? It is not a science for a methodical mind. It is a shapeless assemblage of inaccurate ideas, of observations often puerile, of deceptive remedies, and of formulæ as fantastically conceived as they are tediously arranged."—*Bichat's General Anatomy, applied to Physiology and Medicine*, vol. i., p. 17.

"It is only here necessary to caution the practitioner against those fallacies into which the captivating theories of the chemist may seduce him."—*Paris' Pharmacologia*, vol. i., p. 319.

1. All remedies operate upon the same principle as morbific agents, and all become morbific when injudiciously applied. Applied to the healthy system, they alter the vital properties and actions so as to constitute disease. If improperly employed under circumstances

of disease, they develop new morbid conditions, and exasperate such as already exist. "Medicines," says Linnæus, "differ from poisons, not in their nature but in their dose." And so Pliny: "*ubi virus, ibi virtus.*"

2. All remedies which actually produce an influence upon disease are alteratives.

3. All curative agents operate upon the morbid properties, either directly or through sympathy, and produce their salutary results by so altering the morbid properties as to enable them to take on their natural tendency to a state of health. It is nature, therefore, that cures; art only places nature in the way of cure. All therapeutics consist in the foregoing principles.

4. Remedial agents operate directly upon the vital properties of the parts to which they are applied, and, through the medium of those parts, upon remote organs by the principle of sympathy. The partial absorption of certain remedies is only a contingent result, and has little or no agency in the physiological phenomena. Their reputed absorption is greatly overrated, often only imaginary, and sometimes misrepresented. Such as have no natural relation to the vital properties modify the natural condition of the absorbing vessels before they can enter the circulation. (See *Commentaries*, vol. i. *Humoral Pathology.*)

5. The properties of every remedial agent possess peculiarities which belong to no other, and each substance, therefore, is capable of exerting physiological influences peculiar to itself.

6. In the physiological arrangement of remedial agents, they must be considered strictly in reference to their most salutary effects, not according to their bad effects, nor according to their effects on the healthy organization.

7. It is not only unsound to reason from the effects of remedial or morbific agents upon man in health to man in disease, but especially so from their effects on animals, whether healthy or diseased. There would be nearly the same propriety in reasoning from animals to man on the subject of food.

8. Those remedies should be always preferred whose salutary and peculiar virtues are equal to others of the same group, but where others possess properties to which objections apply. This is fundamental in the following arrangement. The order of arrangement under the different classes, according to the relative value of medicines, is founded upon their general advantages as curative agents.

9. The combination of two or more remedial agents so modifies the action of each other, that the compound is a new article added to the Materia Medica. There is nothing more important or more difficult in medicine than this creation of new agents. It involves a sound knowledge of physiology, pathology, and the individual physiological effects of each particular substance which may enter into the compound. This necessity of extending the most useful part of the Materia Medica grows out of the mutability of the properties of life, and the consequent variety of changes to which they are liable from different morbific influences. But, from the analogies which prevail among morbid conditions, and the analogous or the opposite or other diverse virtues of remedial agents, and the coincidence in their *methodus operandi*, by bringing two or more of these agents together, we institute remedial virtues that are suited to the varying modifications of disease. Analogous effects may be also obtained by the simple variation of doses, and where

two or more agents are united, every variation of the proportion of either component part is an institution of new remedial virtues. Such is the whole philosophy of this subject; having its deep foundation in organic nature.

Could human skill always adapt the remedies and doses to the constantly fluctuating pathological conditions, so great is the variety of effect from the mere variations of quantity, and from the union of two or more substances, and from a right consecutive order in the application of remedies, the Materia Medica might be reduced to very narrow limits. (*Institutes*, p. 556, § 872, *a*, *b*.)

10. The basis of classification rests principally upon some one or more prominent local results of remedial agents, though those results may not be the most important. Where they are most liable to this objection, and where there is great disparity in the physiological effects of different agents that have been hitherto distributed into groups, according to some special result, as in the groups of *sudorifics*, *sialagogues*, *sorbefacients*, etc., those denominations have been rejected, Such as are founded upon the humoral pathology, or no pathology, are not recognized in our philosophy. No new names are invented, but some general denominations are retained, which are employed in a very different sense from their original import. Such, for instance, is the case with *astringents*. Their *modus operandi*, like all other remedies, is alterative; and it is in consequence of the changes which they thus induce in the diseased organic properties, that hemorrhage or redundant secretions are arrested. Where no prominent local effect, nor a generally uniform and important result happens, the remedies are grouped under the denomination of *altera-*

tives; which term, however, is equally applicable to all other remedial agents. Tonics are especially alterative; but they have a generally uniform effect, which serves as a basis for a distinct group. It is also characteristic of the group of alteratives, that they are employed in small and repeated doses, and with reference to a slow, constitutional effect. They are, therefore, better suited to chronic diseases than any other group of agents. The class of antiphlogistics is far more remedial than all other classes together.

11. The physiological classification has fewer defects than any other, and offers more important advantages. The defects are mainly remedied by distributing some agents among different groups, according to the varieties of their properties and the effects which they produce in different doses, and according to the different modes of application. But it should be constantly borne in mind, that there are no specifics, that medicines are only remedial in reference to certain pathological conditions, which must be ascertained before a medicine be applied, and that what is curative under one combination of circumstances may aggravate disease when that combination is a little varied. Thus, cinchona is a febrifuge in intermittent fever, when no considerable local inflammation or congestion is present; otherwise, it will generally aggravate the fever, and therefore is not a febrifuge in relation to that particular state of the pathology. It is also tonic, in enfeebled states of the system, or of the stomach, in the absence of inflammation; but, if inflammation be present, it is not then a tonic, in the proper therapeutical acceptation. The therapeutical arrangement, therefore, presupposes that remedies will be employed with reference to the existing pathological condition.

12. No just conclusions can be formed of the remedial virtues of any agent from its composition, taste, natural habitudes, &c.; unless an unknown substance may bear certain strong analogies in those respects to remedies whose virtues have been experimentally ascertained. Experiment, therefore, is at the foundation of all remedial agents.

Having learned by observation the various relations of therapeutical agents to morbid conditions, an immense object is accomplished in the generalization of facts, and in ascertaining the great principles which are relative to the Materia Medica. But we have been, also, simultaneously employed in generalizing the facts which relate to the various pathological conditions to which the groups of remedies are adapted, and we thus come to form corresponding principles in pathology and therapeutics. This is *the Science of Medicine;* and this it is which forms the highest and noblest object of human inquiries.

13. The expression, *chemical agents*, has been commonly applied to such remedies as calomel, jalap, ipecacuanha, tobacco, &c., as if they operate upon the living organism in a chemical manner. But I reject this interpretation. They all operate upon the organic properties as vital stimuli, or vital depressants, or vital alteratives, and not most remotely in a chemical sense.

The following scheme for regulating the doses of most medicines is derived from Young's *Medical Literature.*

"For children under twelve years, the doses of most medicines must be diminished in the proportion of the age to the age increased by twelve. Thus, at two years, to $\frac{1}{7}$; namely,

$$\frac{2}{2+12}=\frac{1}{7}$$

At twenty-one, the full dose may be given."

CLASSES

I. Antiphlogistics.
II. Permanent Tonics.
III. Diffusible Stimulants.
IV. Cerebro-Spinants, or Nervous Agents.
V. Astringents.
VI. Uterine Agents.
VII. Genito-Urinary Agents.
VIII. Anthelmintics.
IX. Errhines.
X. Chemical Agents.

ORDERS.

Class I.—Antiphlogistics.

1. Bloodletting.
2. Cathartics.
3. Emetics.
4. Alteratives.
5. Expectorants.
6. Direct Sedatives.
7. Diuretics.
8. Cutaneous and other Applications.
9. Diet and Rest. (*Negative.*)

SUBDIVISION OF ORDERS.

1.—Bloodletting.

Subdivisions.

1. General Bloodletting.
2. Leeching.
3. Cupping.

4.—Alteratives, Internal.

Subdivisions.

(I.) General Antiphlogistic Alteratives.

(II.) Antiphlogistic Alteratives adapted to particular conditions of disease.

1. Adapted to scrofulous and some other specific chronic inflammations, indurations, &c. and to the dropsies which ensue upon them.
2. Adapted to syphilitic and certain other specific chronic inflammations.
3. Adapted to syphilis complicated with scrofula.
4. Adapted to rheumatic inflammation and gout.
5. Adapted to intermittent fever and intermittent inflammation.
6. Adapted to obstinate and chronic cutaneous diseases, illustrating farther the physiological effects of certain remedies.

8.—Cutaneous and other local applications.

Subdivisions.

1. Vesicants.
2. Rubefacients.

3. Suppurants.
4. Escharotics.
5. Potential Cauterants.
6. Actual Cauterants.
7. Alteratives.
8. Sedatives.
9. Astringents.
10. Simple.

INJECTIONS.

1. Enemas.
2. Uterine.
3. Vaginal.
4. Urethral.
5. For abscesses, encysted tumors, &c

GARGLES, etc.

COLLYRIA.

SUBDIVISION OF CUTANEOUS ALTERATIVES.

(I.) Constitutional Alteratives.
(II.) Local Alteratives.
(*a.*) Adapted to cutaneous diseases.
(*b.*) Adapted to scrofulous and other indolent tumors, chronic enlargement of joints, etc.
(*c.*) Adapted to rheumatic inflammation.
(*d.*) Adapted to neuralgia and neuralgic rheumatism.
(*e.*) Adapted to certain conditions of erysipelas, and some other cutaneous inflammations of specific character.

(*f.*) Adapted to sprains, etc.
(*g.*) Adapted to piles.
(*h.*) Adapted to burns and scalds.
(*i.*) Adapted to phagedenic and tuberculous, indolent, venereal, scrofulous, and other unhealthy ulcers.

Class IV.—Cerebro-Spinants, or Nervous Agents.

ORDERS.

1. Narcotics.
2. Antispasmodics.
3. Tetanics, or cerebro-spino-excitants.
4. Moto-paralysants.
5. Senso-paralysants.
6. Cerebro-spino-depressants.

Class I.—ANTIPHLOGISTICS.

ORDER I.

BLOODLETTING,

According to the relative value of its different modes.

1. General Bloodletting.

This operation should always be performed by the physician, who should be guided, especially as to the quantity to be abstracted, by its immediate effects. The head and shoulders of the patient should always be elevated during the flow of blood.

Loss of blood, like all other remedial agents, operates directly upon the vital properties, and alters their condition. It may therefore be morbific as well as curative.

2. Leeching.

Species.— Sanguisuga officinalis ; inhabits the south of Europe. Sanguisuga medicinalis ; inhabits the north of Europe. Imported from Hamburgh, Lisbon, and Bordeaux. Probably long-lived, perhaps twenty years. Subject to many diseases, some of which are epidemical and very fatal. Inhabit pools and swamps.

There is an American species of leech, with a brick-colored belly, which answers tolerably well in warm weather. The American black leech will not bite, and probably has no teeth.

Anatomy of the *Medicinal Leech.*—The Cutaneous System consists of a transparent *epidermis* (which is shed every four or five days), and of a dense *corium.*—The Muscular System is composed of circular, longitudinal, and oblique fibres.—The Digestive System consists of a mouth, alimentary canal, anus, liver, and salivary glands. The *mouth* is situated in the middle of the oval or buccal disk, of a triradiate shape, being composed of three equidistant rays which meet in a centre. Within the mouth are three white cartilaginous *jaws*, armed on their margin with about sixty small teeth, which perforate the skin by a sawing motion. The *œsophagus* is only the fourth of an inch in length. The *stomach* occupies two-thirds of the length of the animal, and is divided into about eleven cells or compartments, each of which, from the second, gives off a *cæcal sac*, those of the last cell being much the largest and elongated. The cells communicate with a common channel, and the last terminates, by a projection, in the intestine. *The Intestine* is about an inch in length, having a valve at its upper end, and a sphincter at its lower end, where it terminates in the *anus*, which is seated on the dorsal surface of the last ring. The *Liver* is a brownish tuft, lying upon the canal, and communicating with the stomach and intestine. The *Salivary Glands* are whitish, granular bodies, arranged around the œsophagus, with which they communicate by a common duct.—The Vascular System consists of four large *pulsating vessels*, without a heart. Two are lateral, one on the dorsal, and one on the abdominal, surface. — The Respiratory

System is composed of small orifices called *Spiraculæ*, disposed in two rows on the abdominal surface, at every fifth ring. These spiraculæ pass into small *sacs* lined with mucous tissue, and are called *pulmonary vesicles.* They appear on each side of the alimentary canal.—The Nervous System consists of *two parts;* one part being composed of a chain of twenty-three ganglia, disposed along the mesial line of the abdomen, and connected by a double nervous cord. The first ganglion or brain is seated on the œsophagus, and supplies the eyes, &c. The second part of the nervous system is the *sympathetic*, which consists of three ganglia, which communicate with the first ganglion of the cerebral system, and a nerve which runs along the abdominal surface of the stomach. —The Senses consist of *Vision*, *Taste*, and *Feeling*. The eyes are ten jet-black spots, in a crescent form, at the extremity. The Sexual System is double; these animals having both male and female organs, though not capable of self-impregnation, but of impregnating each other. The uterus opens by an orifice at the twenty-ninth ring, and the penis at the twenty-fourth ring, from the cervical extremity. The Leech is *oviparous.*

Mode of applying. Let the part be well cleansed. Roll the leeches in a dry linen cloth. Place them in a pill-box and invert it upon the part. Subsequently, promote the bleeding by warm poultices of Indian meal and water. The leech will draw from one to four drachms.

The bleeding is often obstinate from highly vascular parts, and in infants especially. Compression is the surest mode of arresting it. Matico, punk, cobweb, lint, lunar caustic, and alum, are other good applications.

To preserve leeches, they should be kept either in their native mud, or in pure water changed daily. They should also have free access to the open air.

The best method of inducing them to expel their blood is the following: Make a saturated solution of about two teaspoonsfull of salt and water. Immerse the first animal in this solution; as soon as he has discharged his blood, add more salt, but no more water. Plunge in

another leech, and withdraw him as soon as he has fully surrendered. Then add more salt, and so on with every leech. As soon as withdrawn, they should be placed in a bowl of water.

3. Cupping.

Leeching should generally be preferred to cupping, when the animals may be obtained. (See *Commentaries*, vol. i., pp. 134–156, *et seq.*)

General Conclusions relative to Loss of Blood.

"I am of opinion," says Botalli, "that bloodletting sometimes does no service, either because persons have recourse to it too late, or use it too sparingly, or commit some error in both these particulars. But if our fears be so great, and we take away so small a quantity of blood, how is it possible to judge exactly what good or mischief bleeding may do? For, if a disease which requires the loss of four pounds of blood for its cure, and yet but one be taken away, destroy the patient, it does not therefore prove destructive because bleeding was used, but because it was employed in an improper manner. But ill-designing and indolent men always endeavor to lay the fault to the bloodletting, not because it did really do mischief, but because they desire to give everybody an ill opinion of it. Or, suppose they do not do it from wickedness, they cannot be excused from ignorance and perverseness, both which are doubtless pernicious, but the former much more so." And again: "One hundred thousand men perish from the want of bloodletting, or from its not being timely employed, where one perishes from excessive bleeding, when prescribed by a physician."

"Nothing," says Sydenham, "is more frequently

urged as a capital argument, by those who condemn bleeding in the plague, than the mischief which arises from bleeding in an improper manner."

"The half-way practice of moderate bleeding," says Rush, "has kept up the mortality of pestilential fevers *in all ages and in all countries.* It is much better *not to bleed at all* than to draw blood disproportionate in quantity to the violence of the fever; that bleeding must not be discontinued as long as the symptoms which first denoted its necessity continue."

"Whatever be the quantity of blood," says Robert Jackson, "it is the *effect* produced which constitutes the rule for judging the measure." "It must be carried sufficiently far to produce a direct effect upon disease, to which the remedy may be appropriate."

Pereira, in objecting to Dr. Hall's rules, remarks that "the susceptibility to syncope is so great in some persons, that we should, I suspect, be often led into error, if we were to infer the absence of inflammation merely from the occurrence of fainting after the loss of a few ounces of blood. Besides, it not unfrequently happens that a patient faints on the first, but not on the second or third, bleeding." This is very often true in congestive fever. (See *Commentaries*, vol. i. *Bloodletting.* Also, *Institutes.*)

Again Pereira justly observes: "Neither do I think it would always be safe to bleed *ad deliquium*, for in some it is difficult to occasion syncope, although the quantity of blood lost be so great as to endanger the safety of the patient." (*Materia Medica*, 1840.) This is undoubtedly possible, but I know of no instance in which death has immediately followed the abstraction of blood by a physician; nor have I ever seen a patient

apparently much injured by the loss of blood. But, like all other remedies, its excessive application is likely to do more or less injury. Where, however, an excessive loss of blood is detrimental in one instance, abuse of other active remedial agents, or the neglect or other improper application of bloodletting, is injurious or destructive in hundreds of thousands of cases.

In prostrating forms of congestive fever, moderate bloodletting at first increases the tolerance of its loss, so that, within a few hours, large quantities may be abstracted without inducing syncope. (See *Comm.*, vol. i. *Bloodletting.*)

In some conditions of great prostration, previous stimulation may be—though not often—necessary.

General Conclusions from the Essay on the Philosophy of Bloodletting, as contained in the Medical and Physiological Commentaries. (Vol. i., p. 361.)

1. That bloodletting produces its direct and efficient impression upon the *vires vitæ* of the capillary blood-vessels, by modifying their action.

2. The quantity of blood to be removed relates directly to that impression.

3. Its most salutary effect will, therefore, consist in its nearest approximation to a full but just impression upon the *vires vitæ.*

4. To produce and maintain this impression will require the abstraction of a certain quantity of blood in every case, the measure of which will be the antecedent and resulting symptoms.

5. Bloodletting may add to the violence of disease by coming short of that impression; or, it may equally in-

jure, if carried to excess, and may even induce new inflammation.

6. Its local, and sometimes its general, application is remedial when inflammation is induced by excessive bloodletting alone.

7. Bloodletting may be a remedy for other diseases than inflammation.

8. It is equally safe at all periods of life, is most indispensable, in a general sense, in old age, though not less important in many diseases of infancy.

9. If employed as a prophylactic, on passing from northern into tropical countries, it must be with such moderation as shall not increase irritability; and then only in the plethoric or robust.

10. General bloodletting, cupping, and leeching, operate upon common principles, which are more or less modified in each mode of abstracting blood. Cupping is intermediate in this respect betwixt general bloodletting and leeching.

11. General bloodletting is a far more important remedy than leeching; and while cases constantly arise in which the latter cannot be substituted for the former, there are numerous instances in which general bloodletting cannot take the place of leeching. Cupping will sometimes answer the purposes of either, and may, though rarely, be better.

12. The brain has a particular allotment in the effects of bloodletting; and inflammation of this organ will generally sustain a greater loss of blood than any other. There are peculiar conditions of this organ, however, as in some cases of mania, delirium-a-potu, and especially apoplexy, in which, on account of the relation of the nervous influence to the organic powers, and the manner

in which that influence is determined by bloodletting, the abstraction of blood may be either inadmissible, or must be practised with great circumspection.

13. Spontaneous hemorrhages, occurring at adult age, should not be restrained, unless manifestly proceeding to excess.

ORDER II.

CATHARTICS.

Three principal advantages are contemplated in the use of cathartics, namely:

1. Their sympathetic influences, remote and continuous. This is the chief effect, and is of an alterative nature.

2. The increased secretions to which they give rise, especially from the intestinal mucous membrane, and from the liver.

3. The evacuation of fæcal matter.

Cathartics exert their direct impression upon the intestinal mucous tissue; so that the muscular is brought into increased action partly through contiguous, and, in part, through remote sympathy; though the latter has the principal agency. The nervous influence is also simultaneously determined upon the mucous tissue through motor fibres of the pneumogastric and sympathetic nerves, by which the various influences of these agents are increased. From the mucous tissue their alterative action is propagated by the nervous power upon remote parts which may be the seat of disease, while, also, other distant parts, especially the skin, which are

not morbidly affected, may be so influenced in their organic states as to concur in the curative process by generating other sympathetic influences. These influences begin in the organs which are thus secondarily affected, observe the same physiological connection with the nervous centres as when they are propagated from the intestinal mucous tissue, and are more or less expended with an alterative effect upon the diseased parts, or institute other circles of sympathy by bringing other parts within the influence of the nervous power, by which these, also, are rendered tributary to the process of cure.

The same fundamental philosophy is concerned in the curative effects of emetics, and, indeed, in all the remedial and morbific impressions which are exerted upon parts which are not the direct seat of the primary impressions, as set forth in the Author's *Institutes of Medicine*.

Few problems in the application of remedies are more difficult than the right adaptation of cathartics to the present condition of disease, the appropriate kind, the proper combinations, and the proper dose. Each, in its best acceptation, demands a sound acquaintance with medical philosophy. Some kinds will often destroy, even in moderate doses, others may destroy in their maximum doses, when they would be highly salutary in smaller quantities. Hence the immense mortality which springs from the use of these agents when empirically employed. The lancet would be a thousand times safer in the hands of the empiric, for he would employ it only in high states of arterial excitement. There is nothing that can direct their enlightened administration but a sound knowledge of pathology and of the principles which govern their operation. (*Institutes*, p. 563–570, § 889.)

It is incompatible with the plan of this work to dwell upon the difficulties with which the administration of cathartics is sometimes surrounded. But, there is always one point to be kept before us: the existing state of the intestinal canal. If there be much irritation here, or inflammation, we must then move with caution in the use of cathartics till that condition is overcome by its appropriate remedies. And, in our inquiries in reference to this point, it should be recollected that absence of pain, and even of abdominal tenderness, are often compatible with a considerable amount of inflammation in the intestinal mucous membrane, and sometimes the serous.

Satisfying ourselves that nothing exists in the alimentary canal to contraindicate the decisive use of cathartics, we may gain from them, in the treatment of acute inflammation of other organs, and in febrile affections, advantages only inferior to the loss of blood. What we have then to consider is relative to the cathartic itself, its appropriate dose, the proper time and circumstances which will most favor its operation, at what hour of the day it shall be given, and whether, or not, it shall be preceded by loss of blood, &c. These various considerations are presented in the *Institutes* in that comprehensive form which takes in a multitude of other agents, and a variety of relative facts which the principles involve.

GROUPS OF CATHARTICS.

Besides the arrangement which I have made of remedial agents according to the order of their therapeutical value, there is another useful method which separates many common denominations into a certain number of groups; the members of each group possessing

properties analogous to each other, and differing essentially from those of the other groups.

Cathartics may be thus distributed in the following manner:

1. The mercurial cathartics.
2. Jalap, podophyllum, spurious jalap, wild potato.
3. Castor oil.
4. Aloes.
5. The saline cathartics.
6. Rhubarb, mountain rhubarb.
7. Senna, purging cassia, buckthorn.
8. Calcined magnesia, carbonate of magnesia.
9. Colocynth, scammony, gamboge, black hellebore, elaterium, white hellebore, colchicum.
10. Croton oil, spurge oil.
11. The mild aperients—extract of butternut, sulphate of potash, tartrate of potash, bitartrate of potash, saline waters, common salt, sulphur, manna, elder, tamarind, dandelion, soap.
12. Thoroughwort, fever-root, buck-bean.
13. White bryony, variegated iris, tuberous iris, purging flax, American poke root, Indian hemp, purging nuts, mezereon, hedge hyssop, leptandria.

Of the foregoing cathartics, elaterium, colocynth, jalap, gamboge, hellebore, Croton oil, and Indian hemp, are called *Hydragogue*. They are so called by many from their supposed effect of expelling the accumulated fluid in dropsical affections; and the epithet is, therefore, one of the many hypothetical terms which perpetuate important errors in physiology, pathology, and therapeutics. By others the designation is retained on account of the watery evacuations induced by these cathartics, and by such it is extended to the saline purgatives. In

the latter acceptation, which is not the original and prevailing one, the term is unobjectionable, except as it diverts attention from the special effects of the several agents, from a just reference to pathological and therapeutical considerations, indisposes the mind to analytical habits, and leads it to crude and simple views. The objection is alike applicable to most of the terms which have descended from the humoral pathology, and which are now extensively in vogue.

Certain cathartics are also called *drastic*, on account of the energy with which they operate upon the intestines. These are comprehended in the 2d, 7th, 9th, 10th, and 13th of the foregoing subdivisions.

The most remedial cathartics, in the treatment of acute forms of inflammation and fever are embraced in the 1st, 2d, 3d, and 5th subdivisions. Such as are most unsuited to those conditions are comprehended in the 4th, 6th, 9th, 10th, and 13th groups. Many of these, however, are often employed upon the pernicious doctrines of revulsion and counter-irritation, and on that philosophy, the most irritating are recommended by some of the boldest and ablest British writers on *Materia Medica*, in the treatment even of cerebral inflammation, while the lancet is regarded of only secondary importance. But, all experience as well as that philosophy which teaches the propagation of sympathetic influences from the intestinal canal to the nervous centres, declare that the irritating or stimulating cathartics embraced in subdivisions 4, 6, 9, 10, and 13, are pernicious in all inflammations of the brain of much intensity. (*Institutes*, p. 565, § 889*g*; p. 654–656, § 893*n*; p. 715–722, § 960.)

Cathartics, in the order of their therapeutical value.

1. Hydrargyri sub-murias. H. chloridum. Calomel. Chloride of mercury.

Comp. Mercury 85, Chlorine 15 parts; or 1 atom of Mercury, 1 atom of Chlorine.

Dose. Grs. ij. to grs. xv.; in powder or pill.

Incomp. Alkalies and alkaline substances, nitric and hydrochloric acids, sulphurets. The acids injurious; the alkaline substances, particularly soap and chalk, lessen the energy of calomel.

An imperfect cathartic, generally requiring the combination of others, or their subsequent administration. In a general sense, castor oil is the best subsequent cathartic; jalap with soluble tartar the next best; the saline next, and rhubarb with magnesia next. Interval, 6 to 12 hours.

Comb. ℞ Calomel, grs. v. to grs. x.; Jalap, grs. xv. to grs. xx.; M.—℞. Calomel, grs. v. to grs. x.; Rhubarb, grs. x. to grs. xv. (Ipecacuanha, gr. i.); M.—℞. Calomel, grs. v.; Aloes, grs. viij.; Oil of Anise, 1 to 3 drops; M.—℞. Calomel, grs. v. to grs. x.; Jalap or Podophyllum, grs. x. to grs. xv.; Ipecacuanha, grs. i. to v. (or Tart. Antim., gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$); M.—℞. Calomel, grs. ij. to grs. v.; Aloes, grs. v.; Scammony, grs. ij. to grs. iv.; the Pulp or Compound Extract of Colocynth, grs. ij. to grs. iv.; Ext. Hyosciam., grs. ij.; Oil of Anise, 1 to 5 drops; M.—℞. Calomel, grs. ij. to grs. x.; Castor Oil, ℥ ss. to ℥ j.; M.—The combination preceding the last may be often improved by the addition of ipecacuanha, gr. j.; and sometimes by gamboge or hellebore. Morphine, or opium, or the extract of cicuta, may take the place of

the hyosciamus; and one or the other is often a valuable adjunct to any of the foregoing cathartics, for diminishing the irritability of the intestines, or of the system at large, and for preventing pain. Opium restrains the irritating and purgative effect, diminishes the glandular secretions, and, in moderate doses, affects the brain far more than hyosciamus and cicuta.

Calomel is adapted to acute inflammations and to fever in their early stages, especially after bloodletting, where it may be appropriate. It should be cautiously employed, unless in small doses, in inflammatory affections of the bowels. If it produce a large discharge of intestinal mucus, it is bad. It should only be given in scarlet fever at the onset of the disease or in some of its sequelæ, when it is a valuable agent. Calomel is powerfully of an alterative nature, and it is mainly with this intention that it is exhibited in large doses; much less with reference to its cathartic properties.

The most profoundly alterative effect of calomel, and also of blue pill, is obtained by administering it alone, or in combination with one grain of ipecacuanha. Given in this manner, the best time for its exhibition is late in the evening; followed, if it do not purge, by another cathartic in the morning. (*Institutes*, p. 95, §188½, *d*; p. 554–556, § 872, *a*.)

If full vomiting be required along with purging, as at the invasion of fever, an emetic should be administered about two hours after the mercurial cathartic. The latter prepares the way for a more favorable effect of the former, and both will be apt to begin their most efficient influences together. Calomel is the only cathartic that should ever be associated with emetics, unless jalap go along; the combined action being designed for a power-

ful alterative effect. If bloodletting have been premised, as it always should be in acute forms of visceral inflammation, and in grave conditions of fever, the curative force of the internal agents is vastly increased, or their necessity may be thus entirely superseded. The loss of blood, indeed, must always be regarded as the principal remedy, the "*remedium principale*," whenever employed; while the others, which the loss of blood is intended to aid, are, in truth, the auxiliaries only. The principle is of a threefold nature:

1. The loss of blood greatly subdues disease at the time of its application.

2. It increases the susceptibility of the system to the influences of other agents.

3. It brings the diseased condition into a state to be more favorably influenced by other agents.

The foregoing principle, however, is by no means peculiar to loss of blood, though remarkably true of that remedy. It may, indeed, be more or less affirmed of most others; since our prescriptions often follow each other upon the ground that those which have preceded not only lessen the amount of disease, but place the morbid states in a condition to be more and more benefited by each succeeding remedy.

In virtue of its profoundly alterative action, calomel, in large doses, as twenty grains, will sometimes restrain obstinate vomiting and speedily arrest certain forms of diarrhœa, as often witnessed in the malignant cholera. Hence it has acquired the reputation of being a *sedative* in such cases. But the philosophy of its operation is relative to its alterative effects upon disease, and not to that mere simple diminution of irritability which is char-

acteristic of the sedatives. The principle is the same as when calomel arrests cholera infantum in doses of $\frac{1}{10}$ to $\frac{1}{20}$ of a grain, exhibited at intervals of ten or twelve or more hours; though here, also, it is erroneously supposed to act as a sedative. (See ALTERATIVES.)

2. PILLULA HYDRARGYRI. Blue Pill.

The mercury is mostly in a state of minute subdivision, though partly oxydized. Three grains of the pill contain one grain of mercury.

Dose. Grs. ij. to grs. xx.

Less cathartic than calomel, and less irritating to the alimentary canal, and to the general system. May be often very advantageously combined with the same cathartics as recommended for calomel, with the exception of jalap and podophyllum; or, as in the case of calomel, and, indeed, with greater frequency, may be given alone, and subsequently followed, if necessary to a cathartic effect, by the substances recommended for calomel when given uncombined.

Adapted to lower grades of inflammation and fever than calomel, to congestive and indolent affections of the abdominal organs, especially of the liver. The same precautions are necessary, but in an inferior degree, as are required in respect to calomel. Powerfully alterative; and, like calomel, is employed more with that intention, than for its cathartic properties. (See Blue Pill among *Alteratives, and Ol. ricini.*)

Comb. See Aloes and Colocynth, and Blue Pill among *Alteratives.*

Intimately allied to the blue pill are

(*a.*) HYDRARGYRUM CUM CRETA, Mercury with chalk.

(*b.*) Hydrargyrum cum Magnesia, Mercury with magnesia.

The mercury exists in these compounds mostly in a state of minute subdivision. Sixteen grains of mercury and chalk contain six grains of the metal; five grains of mercury and magnesia contain about two grains of mercury. Their action is about alike, milder, and less irritant to the intestinal canal, than blue pill; and antacid. Their most appropriate place is with the *Alteratives.*

Dose. Grs. ij. to grs. xxx., the smaller of which proves laxative with children, the larger, or less, rather purgative with adults.

Comb. Either may be combined with any proportion of magnesia, or with castor oil, or with any of the agents as indicated above for blue pill.

3. Ipomæa Purga. Jalap. *The root.*

Pentandria, Monogynia.

Hab. Slopes of the Mexican Andes.—*Herbaceous.*

Dose. Grs. x. to grs. xxx.

A safe and efficient cathartic, if no intestinal inflammation be present. Rather depresses than raises the general circulation; lessening the frequency and force of the pulse. Is more positive in its influences upon acute inflammation and fever than any other active cathartic, especially when properly combined with other substances, and in the absence of morbid intestinal irritability. Its activity resides especially in a resinous principle, so that alcohol is the proper solvent. The simple resin, however, is more irritant than the powdered root, which should always be preferred, unless the tincture be

sometimes employed in combination with infusions of other purgatives or solutions of salts.

Comb. ℞. Jalap, grs. x. to grs. xx.; Calomel, grs. v. to grs. x.; M.—℞. Jalap, grs. x. to grs. xx.; Calomel, grs. v. to grs. x.; Ipecacuanha, gr. i. to grs. v. (commonly gr. i., as an alterative); M.—℞. Jalap, grs. x. to grs. xx.; Tartrate of Potash, ʒ j. to ʒ iij.; M.—℞. Jalap, grs. x. to grs. xx.; Bitartrate of Potash, ℈j. to ℈iv.; Ginger, grs. ij. to grs. iij. (the "Compound Powder," but much inferior to the last); M.—℞. Jalap, grs. x. to grs. xx.; Rhubarb, grs. v. to grs. x. (Ipecacuanha, gr. i.); M.—℞. Jalap, grs. v. to grs. x.; Tart. Potash and Soda, ʒ j. to ʒ iv.; M.—℞. Jalap, grs. v. to grs. x.; Rhubarb, grs. ij. to grs. v.; Tart. Potash, ʒ ss. to ʒ j.; M.—℞. Infusion of Jalap, Tincture of Aloes; M.—℞. Infusion of Jalap, Tincture of Rhubarb; M.—℞. Infusion of Jalap, Carolina Pink Root; M.—℞. Jalap, grs. x. to grs. xx.; Calomel, grs. v. to grs. x.; Ipecacuanha, grs. x. to grs. xv.; M. Of the last it may be said, that it is commonly most useful to administer the cathartic first, and the emetic in about two hours afterward. (See *Institutes*, p. 547–550, § 863, p. 563, &c.)

If the maximum of the foregoing doses be not sufficient, there will probably have been an error in respect to the proper cathartic, or bloodletting should have been premised, and has been neglected. The same affirmation may be made of calomel, blue pill, and other cathartics. Greater quantities can be rarely wanted in any climate if the disease be otherwise properly treated.

On the other hand it will often happen that the minimum quantities here stated, and under every other de-

nomination of cathartics, will prove too irritating in susceptible states of the intestinal mucous tissue. Variations in dose, and of the relative proportions of each constituent in any given compound, are demanded by the fluctuating conditions of every case of disease that may require repetitions of the same cathartic or the administration of others; and he who practises medicine with a just reference to pathological phases, and the incidental circumstances by which they are surrounded, will have found the right adaptation of doses, and of the relative proportion of ingredients in compound remedies, the most difficult, as it is the most important, attainment in medicine. (*Institutes*, p. 541, § 854; p. 544, § 857.)

(*a.*) *Tincture of Jalap.*

Formulæ.—℞. the Tincture, Infusion of Senna, Tartrate of Potash; M.—℞. the Tincture, Solution or Tincture of Aloes, Oil of Anise; M.—℞. the Tincture, Infusion or Tincture of Rhubarb, Oil of Anise; M.—℞. the Tincture, Sulphate of Magnesia, Infusion of Senna, Tincture of Hyosciamus, or of Opium; M.—℞. the Tincture, Infusion of Quassia, or of Colombo, &c.; M.

(*b.*) *Alcoholic Resinous Extract of Jalap.*

Dose. Grs. iij. to grs. vj., rubbed with sugar, or kept soft and made into pills. Rarely employed alone, but in combinations as directed for aloes.

4. Podophyllum Peltatum. American Mandrake, May Apple. *The root and leaves.*

Polyandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. Grs. x. to grs. xxx. of the root, which is preferable to the leaves.

Very analogous to jalap in its effects, but operates rather more slowly, and with greater violence in overdoses. The same compounds may be employed as directed for jalap, and in the same conditions of disease. The *P. Montanum*, an indigenous species, is said to possess the same virtues.

(*a.*) *Tincture of Podophyllum.*—Similar to the Tincture of Jalap, and employed in the same way.

(*b.*) *Watery extract from the root.*—An excellent cathartic, and analogous to the powdered root.—*Dose*, grs. v. to grs. xv

Comb. ℞. the Extract, grs. v. to grs. x.; Calomel, grs. v. to grs. x. (Extract of Hyosciamus, grs. ij.; Ipecacuanha, gr. i.); M.—℞. the Extract, grs. ij. to grs. v.; Blue Pill, grs. v. to grs. x. (Ipecacuanha, gr. i.); M. Also the same combinations as directed for Aloes.

5. Ricinus Communis. Palma Christi, Castor Oil Plant. *The expressed oil yielded by the seeds.*

Monœcia, Monadelphia.

Hab. India. Cultivated in many equatorial and temperate climates, and appears as a *tree*, or *shrub*, or an *herbaceous plant*, according to the nature of the climate and soil.

Dose. ℥ ss. to ℥ ij.

Possesses very peculiar virtues. When frequently repeated (as every day, or every other day), it is commonly necessary, and pretty early, to reduce the quantity from one or two tablespoonsful to a teaspoonful,

or even to a fourth of a teaspoonful. This is greatly owing, however, to the specific action of castor oil upon the liver, and the consequent increased production of bile. Is often peculiarly advantageous when exhibited a few hours after calomel or blue pill. Very useful to overcome habitual constipation, on account of its action upon the liver, when it should be given in a small dose every evening. (*Institutes*, &c., p. 568, § 889, *m.*) Well adapted to children and pregnant women, and as an enema for ascarides. The only proper cathartic in scarlet fever, unless preceded by a moderate dose of calomel near the invasion of severe forms of this disease. So of dysentery, and other intestinal inflammations. The proper cathartic after a decided impression has been made upon other acute visceral inflammations and fever, for which purpose, the preceding ones may be necessary. But the necessity of these may be often superseded by the timely and appropriate abstraction of blood, when castor oil, rest, and a low diet, may be the principal remaining remedies. In the progress of convalescence, castor oil is apt to become too irritant, when a compound, in small quantities, of Rochelle salts, rhubarb, and calcined magnesia, may be usefully substituted. (*Institutes*, p. 555, § 872, *a.*)

The author called the attention of the Profession to the special influences exerted by castor oil upon the liver in his *Letters on the Cholera Asphyxia of New York*, 1832, and again in his *Medical and Physiological Commentaries*, and the alterative virtues of this remedy appear to be now extensively appreciated.

Comb. ℞. Castor Oil, Croton Oil or Spurge Oil; M.—℞. Castor Oil, Tincture of Opium, or Camphorated Tincture of Opium; M. (*Institutes*, p. 567, § 889, *k*, p.

587, § 891, *i.*)—℞. Castor Oil, Mint Water; M.—℞. Castor Oil, Calomel or Mercury with Chalk; M.

6. Aloe Socotrina. A. Spicata. A. Vulgaris. Aloes. *Inspissated juice of the Leaves, and an extractive called Aloesin, which is the principal constituent of Aloes.*

Hexandria, Monogynia.

Hab. Island of Socotra, Cape of Good Hope, East Indies, Barbary.—*Herbaceous.*

Dose. Grs. v. to grs. xv.

Operates upon the whole tract of the intestines. It is a prevailing, but an important error that its action is principally upon the inferior portion of the large intestine. (*Institutes*, p. 566, § 889, *i.*) Exerts a powerful alterative effect upon diseased conditions of the liver. Excites the whole capillary system of blood-vessels, and the general organs of circulation, and is therefore unsuited to active forms of fever, and to visceral inflammations. Has a special and often salutary effect upon sub-acute inflammation of certain portions of the mucous tissue, as in catarrh and gonorrhœa. Hence, also, its emmenagogue action, and not, by irritation of the rectum, as has been inferred from the error which limits the local operation of aloes mostly to the inferior tract of the large intestine. Very useful in torpid states of the bowels, especially in promoting a secretion of bile. (*Institutes*, p. 366, § 556, *b*; p. 568, § 889, *m.*)

Comb. ℞. Aloes, grs. v. to grs. x.; Calomel, grs. v. to grs. x.; Oil of Anise, one to five drops (Extract of Hyosciamus, grs. ij.); M.—℞. Aloes, grs. ij. to grs. v.; Blue Pill, grs. v. to grs. x. (Extract of Hyosciamus,

grs. ij.; Ipecacuanha, gr. i.); M.—℞. Aloes, grs. v.; Scammony, grs. ij. to grs. iv.; Compound Extract of Colocynth, or the pulp, grs. ij. to grs. iv.; Calomel, grs. ij. to grs. v.; Extract of Hyosciamus, grs. ij.; Oil of Anise, one to five drops (Ipecacuanha, grs. j.); M.—℞. Aloes, grs. ij. to grs. x.; Rhubarb, grs. v. to grs. x.; Castile Soap, grs. ij. to grs. v.; M.—℞. Aloes, grs. v.; the pulp or Compound Extract of Colocynth, grs. v.; Scammony, grs. iij. to grs. v.; Gamboge, grs. ij. to grs. v.; Black Hellebore, grs. ij. to grs. iv.; Tartarized Antimony, gr. $\frac{1}{8}$; Extract of Hyosciamus, grs. ij.; Oil of Anise, one to five drops; M.—℞. Aloes, grs. ij. to grs. v.; Rhubarb, grs. ij. to grs. viij.; Compound Extract of Colocynth, or the pulp, grs. ij. or iij.; Myrrh, grs. ij. to grs. v.; Camphor, grs. ij. or iij. (Sulphate of Iron, gr. $\frac{1}{2}$ to grs. ij.; Carbonate of Potash, grs. i. or ij.); M.—℞. Aloes, grs. v.; Extract of Rhubarb, grs. v. to grs. x.; Oil of Cloves, one to three drops; M.—℞. Aloes, grs. ij. to grs. v.; Extract of Butternut, grs. v. to grs. x.; (Rhubarb, grs. ij. to grs. v.; Sulphate of Iron, grs. i. or ij.); M.—℞. Aloes, grs. v.; Root of Jalap, grs. v. to grs. x. (or Resin of Jalap, grs. iij. to grs. v.); Black Hellebore, grs. ij. to grs. v.; Scammony, grs. iij. to grs. v.; Extract of Hyosciamus, grs. ij. (Ipecacuanha, gr. i., or Tart. Antimon., gr. $\frac{1}{8}$); M.—℞. Aloes, grs. iij. to grs. x.; Resin of Guaiacum, grs. iij. to grs. vj.; Cinnamon Powder, grs. ij. to grs. v.: M.—℞. Aloes, one part; Assafœtida, one or two parts; Castile Soap, one part; M.

(*a.*) *Tincture of Aloes.—Dose*, ʒ ss. to ʒ ij., added to purgative or tonic draughts, or employed alone.

(*b.*) *Compound Tincture of Aloes.—Dose*, ʒ ss. to ʒij., added to purgative and tonic draughts, or employed alone.

(*c.*) *Wine of Aloes.* *Dose.* ʒ ij. to ℥ j.
See Aloes, and Blue Pill, among ALTERATIVES.

7. POTASSÆ SODIO-TARTRAS. POTASSÆ ET SODÆ TARTRAS. SODÆ POTASSIO-TARTRAS. Tartrate of Soda and Potash. Tartarized Soda. Rochelle Salt.

Comp. Tart. Pot. 40, Tart. Soda, 34.5, Water, 25.5 = 100.

Dose. ℥ ss. to ℥ i.

Incomp. Acids generally, and acidulous salts, excepting Cream of Tartar.

Comb. Rochelle Salt, ʒi. to ij.; Bicarbonate of Soda, or of Potash, grs. xx.; Tartaric or Citric Acid, grs. xviij.; forms the *Seidlitz Powder.*—℞. Rochelle Salt, ℈j. to ʒ iv.; Rhubarb, grs. ij. to grs. x.; Calcined Magnesia, ℈ j. to ʒ ss.; M.—℞. Rochelle Salt, Infusion of Senna, Cinnamon Water; M.—℞. Rochelle Salt, ℥ ss. to ℥ i.; Tartarized Antimony, gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$; M.—℞. Rochelle Salt, Bitartrate of Potash; M.

All the saline cathartics induce copious watery secretions from the alimentary mucous membrane, but exert little influence upon the liver, except in some of its morbid states, as in venous congestions, when, unless preceded by other remedies, as loss of blood or mercurials, they commonly aggravate the hepatic, as well as any existing intestinal affection. They have but little alterative effect upon severe conditions of disease, and are less liable to aggravate such conditions, with the foregoing exception, than any other cathartics of equal purgative effects, when injudiciously employed. They are never suited to irritable or inflammatory states of the intestine, though their tendency is to moderate all degrees of general excitement that may arise from fever,

or from inflammation of other parts. Hence the saline cathartics are emphatically called *antiphlogistic*, though, in reality, they are not efficient curative agents. Known, also, as *hydragogue* cathartics.

8. Magnesiæ Sulphas. Sulphate of Magnesia. Epsom Salt. Vitriolated Magnesia.

Comp. Magnesia, 16.26. Sulph. Acid, 32.52, Water, 51.22 = 100.

Dose. ℥ ss. to ℥ j.

Incomp. Nitrates, Acetates, Muriates, Carbonates, &c.

Comb. ℞. Sulph. Mag., Sulph. Soda, of each ʒ ij. to ʒ iv., Tart. Antimon. gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$, Spearmint, Caraway, or Anise, Water, q. s.; M.—The whole, or in divided doses, daily.—℞. Sulph. Mag., Infusion of Senna; M.—℞. Sulph Mag., Sulphuric Acid; M. In a full dose, or in small doses, daily.—℞. Sulph. Mag., Sulph. Soda, of each ℈ ss. to ʒ ss., Sulphate of Iron, gr. $\frac{1}{4}$ to gr. j.; Camphor Mixture, ℥ ss. to ℥ j.; M. Once or twice daily.—℞. Sulph. Mag., ʒ iv. to ʒ vj.; Infusion of Senna, ℥ j. to ℥ ij., Tinct. of Jalap (or of Rhubarb, or of Aloes), ʒ ss. to ʒ j.; Tincture of Opium, six to twelve drops; Ammoniated Tincture of Valerian, ʒ ss. to ʒ j.; M.—℞. Sulph. Mag., ℈ j. to ʒ ss.; Infusion of Gentian, or of Colombo, or of Quassia, ℥ ss. to ℥ j., (Infusion or Tincture of Rhubarb); M.—℞. Sulph. Mag., Infusion of Rhubarb, Compound Tincture of Aloes, Infusion of Gentian, and of Virginia Snake-Root; M. Two or three times daily. The proportion of cathartics in this formula to be only laxative, and the saline often omitted.

9. Sodæ Sulphas. Sulphate of Soda. Glauber's Salt. Sal Mirabile.

Comp. Soda, 19.75. Sulph. Acid, 24.69. Water, 55.56 = 100.

Dose. ℥ ss. to ℥ j.

Incomp. Alkalies and alkaline carbonates.

Comb. ℞. Sulph. Soda, Infusion of Senna; M.— ℞. Sulph. Soda, Sulph. Magnesia, Muriate of Soda, Sulphate of Iron; M. Cheltenham Salts. See Sulph. Mag.

This salt appears to act more upon the liver than any other, but is more irritating to the stomach than Rochelle Salt, and less so than Epsom Salt. Upon the intestine its purgative effect is more strongly pronounced than that of the others, but with less irritation than from Epsom Salt.

10. Sodæ Phosphas. Phosphate of Soda. Sal Mirabile Perlatum.

Comp. Soda, 18.2. Phosphoric Acid, 20.5. Water, 61.3 = 100.

Dose. ʒ ss. to ʒ iss.

Incomp. Compounds of magnesia and of chalk, acetate of lead, and many other metallic salts.

This salt has the reputation of being less irritant to the stomach than any other saline cathartic; but it has no advantage in that respect over the Tartrate of Potash and Soda, while it is less efficient. It should be stated that distinguished men attribute to it the important property of renovating the blood and bones. "In small and continued doses," says Pereira, "it has been used with a view of altering the composition of the blood, and of promoting the deposit of phosphate of lime in the bones." (*Mat. Med.*) This conclusion involves the supposition that remedial agents operate by absorption; that they are capable of effecting a radical and salutary change in the blood by their direct action upon that vital, complex, yet homogeneous fluid; and that not only are inorganic compounds assimilated by

animal organization, but even those of a medicinal nature. This, indeed, is a cardinal point in the philosophy of therapeutics as taught by the present school of chemistry. (*Institutes*, p. 15, 16, § 13, 14, 17, 18; p. 171, § 350, Nos. 41, 42.)

11. Potassæ Tartras. Tartrate of Potash. Soluble Tartar. Vegetable Salt.

Comp. Potash, 42.1. Tartaric Acid, 57.9 = 100.

Dose. ʒ ij. to ʒ vj.

Incomp. Acids and salts generally.

Comb. Tart. Potash, Senna; M.—℞. Tart. Potash, ʒ j. to ʒ iij.; Jalap, grs. x. to xx., or Scammony, grs. v. to grs. x.; M.—℞. Tart. Potash, ʒ j. to ʒ ij.; Rhubarb, grs. x. to grs. xx.; M.—℞. Carbonate or Bicarbonate of Potash, ℈ ij. to ʒ ij.; Tartaric Acid, ʒ ss. ʒ j.; Tartrate of Potash and Soda, ʒ ij. to ℥ ss.; M. The last formula is analogous to the *Seidlitz Powders;* but with the advantage, in some cases, of the substitution of the bicarbonate of potash for the bicarbonate of soda, which results in the formation of tartrate of potash.

This salt is far preferable to the bitartrate of potash, whether employed alone, or in combination. The excess of acid in the latter often renders it injuriously irritating to the stomach and intestines. The tartrate, on the contrary, is remarkably exempt from the fault of irritating injuriously, is mild as a cathartic when employed alone, but forms a very active and useful compound with Jalap, Scammony, or Rhubarb. It corrects, also, much of the stimulant effect of rhubarb upon the system at large, and upon the alimentary mucous tissue, while it imparts to the compound a "hydragogue" effect which does not belong to the rhubarb.

12. Rheum Palmatum. R. Rhaponticum. R. Undulatum. R. Compactum. R. Leucorrhizum. R. Spiciforme. R. Emodi. R. Webbianum. R. Moorcroftianum. Rhubarb. The root.

Enneandria, Monogynia.

The foregoing are the only species of rhubarb which are known to supply any of the varieties of the root that are met with in commerce. The true source of the best, or Russian-Chinese rhubarb, is probably unknown to naturalists. It is brought by the Chinese to Kiatcha, a Russian frontier town, and is supposed to be the growth of the central part of Thibet, or within 35 degrees north latitude and 95 east longitude, and particularly from the mountains and plains around Lake Lokonor.

The root is known under several denominations, according to its varieties and the places from which it is obtained. These varieties consist of the *Russian; Chinese or East Indian; Bucharian; Siberian; Himalayan; Dutch-trimmed or Batavian; White or Imperial; English; French.*

Dose. Grs. x. to grs. xxx.

Tonic and astringent; differing in these respects from all other cathartics, excepting the Rumex, which is somewhat allied. Not adapted to fevers or acute inflammations till they have been mainly subdued by other remedies, but is largely and injuriously employed in their treatment. A common, but pernicious agent in dysentery. Limited in its use as a cathartic, but very valuable in large, or in small alterative doses, in certain forms of disease. (*Institutes*, p. 452, § 693; p. 547, § 863, *d*; p. 571, § 890, *b*.)

Comb. ℞. Rhub., Calcined Magnesia, Simple Water, or Mint Water; M.—℞. Rhub., grs. v. to grs. xv.; Calomel, grs. ij. to grs. x.; M.—℞. Rhub., grs. v. to grs. x.; Calomel, grs. v. to grs. x.; Jalap, grs. v. to grs. xv. (Ipecac., gr. j.); M.—℞. Rhub., grs. ij. to grs. v.; Aloes, gr. j. to grs. v.; Castile Soap, grs. ij. to grs. v.; M.—℞. Rhub., grs. v. to grs. viij.; Calomel or Blue Pill, grs. ij. to grs. v.; Aloes, grs. ij. to grs. v. (Ext. Hyosciam., grs. ij.; Ipecac., gr. j.); M.—℞. Rhub., grs. v. to grs. viij.; Scammony, grs. iij. to grs. v.; Aloes, grs. iij. to grs. v. (Ext. or Pulp of Colocynth, grs. ij. to grs. v.; Ext. of Hyosciamus, grs. ij.; Ipecac., gr. j.; Blue Pill, grs. v.); M.—℞. Rhub., grs. ij. to grs. v.; Aloes, gr. j. to grs. iij.; Myrrh, gr. j. to grs. iij.; Castile Soap, grs. ij. (Oil of Caraway, or of Cinnamon, 1 or 2 drops; Sulphate of Iron, gr. ½ to gr. j.; Camphor, gr. j. to grs. ij.); M.—℞. Rhub., grs. x. to grs. xx.; Sulphate of Potash, grs. xv. to ʒ j.; Cinnamon or Mint Water, ℥ j.; M.—℞. Rhub., grs. ij. to grs. x.; Rochelle Salt, grs. x. to ʒ iij.; Calcined Magnesia, grs. x. to grs. xxx.; Simple Water or Mint Water, ℥ j.; M.—A very useful combination during convalescence from fever, &c. (See *Institutes*, p. 555, § 872, *a*; p. 568, § 889, *m*).—℞. Rhub., gr. j. to grs. ij.; Prepared Chalk, grs. ij.; Oil of Anise, half a drop; Refined Sugar, grs. v.; Mucilage, ʒ j.; M. In the "gripes" of infants.

(*a.*) *Tincture of Rhubarb.—Dose*, ʒ j. to ℥ j.

(*b.*) *Wine of Rhubarb.—Dose*, ʒ ij. to ℥ j.

(*c.*) *Tincture of Rhubarb and Aloes.—Dose*, ʒ j. to ℥ j.

(*d.*) *Tincture of Rhubarb and Gentian.—Dose* ʒ j. to ℥j.

(*e.*) *Tincture of Rhubarb and Senna.—Dose*, ʒ j. to ℥ j.

Either of the foregoing may be added to the saline cathartics, or to infusions of senna, podophyllum, or of any of the vegetable tonics.

(*f.*) *Extract of Rhubarb.—Dose*, grs. x. to grs. xxx. May be combined with calomel, blue pill, or with any of the cathartics which are formed into pills.

(*g.*) *Infusion of Rhubarb.—Dose*, ʒ j. to ℥ ij. May be combined as the Tincture.

(*h.*) *Syrup of Rhubarb.—Dose*, ʒ ij. to ℥ j.

(*i.*) *Aromatic Syrup of Rhubarb.—Dose*, ʒ j. to ℥ j.

The peculiar substance derived from the root of *Berberis vulgaris* (Barberry), and known as *Berberin*, is said to resemble Rhubarb very greatly in its effects.

13. Magnesia Calcinata. Magnesia Usta. Calcined Magnesia.

Comp. Magnesium 60, Oxygen 40=100.

Incomp. Acids and saline compounds.

Dose. ℈ j. to ʒ iss.

In the absence of acids in the primæ viæ, the action of this and the next following agent is much promoted by a small quantity of Lemon or Orange juice, taken soon after the remedy.

Comb. See Rhubarb.

14. Magnesiæ Carbonas. Carbonate of Magnesia.

Comp. Magnesia 40, Carbonic Acid 33, Water 27=100.

Incomp. Acids, alkalies, salts, &c.

Dose. ℈ j. to ʒ ij.

A useful and mild cathartic, but liable to the objection of inflating the stomach and intestines by the extrication of the carbonic acid. Its use is therefore superseded by the calcined magnesia.

Comb. Same as with Calcined Magnesia, for which see Rhubarb.

15. Cucumis (Citrullus) Colocynthis. Colocynth. Bitter Cucumber. Pulp of the fruit.

Monœcia, Monadelphia.

Hab. Cape of Good Hope, Japan, Coromandel, Syria, Egypt, Turkey. Cultivated in Spain.—*Herbaceous.*

Dose. Grs. v. to grs. xv.

Rarely used uncombined, and then with the same ingredients as are directed for the compound extract. A safe and useful purgative in small doses, when united with other cathartics, and where efficiency is required, and in the absence of fever and visceral inflammation. Very irritating in large doses, and poisonous in still larger, having been fatal in a dose of about ninety grains of the pulp. Extensively employed in combination with other cathartics, by which its action is moderated. Resembles gamboge in its production of copious watery discharges, and aloes in its irritant effects upon the system in febrile and inflammatory diseases. Called a *hydragogue*, and *drastic*, cathartic.

(*a.*) *Extract of Colocynth.—Dose*, grs. v. to grs. xv.

The simple extract is of difficult preservation, and is mostly superseded by the officinal compound.

(*b.*) *Compound Extract of Colocynth.—Dose*, grs. v. to grs. xx.

The compound extract is of variable activity, on account of the impurity of the Aloes, and the adulteration of the Scammony, which enter largely into its composition. An inferior extract from the seeds is also more or less substituted for the genuine. Hence it is often better to form extemporaneous compounds with the pulp of Colocynth instead of the extract, while the proportion of the former, as a component part of any compound, may be better regulated than as it exists in the latter, and the aloes or scammony, or both, may be thus excluded if expedient. The combinations, however, will be indicated for either the pulp or the compound extract, so that each formula will be affected in its cathartic, therapeutical, or morbific virtues, as the pulp or the compound extract may be employed.

Comb. ℞. Compound Extract, grs. x. to grs. xx.; Ext. of Hyosciam., grs. ij., or Sulphate of Morphine, gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$; M.—℞. Pulp or Compound Ext., grs. ij. to grs. iv.; Aloes, grs. iij. to grs. v.; Scammony, grs. ij. to grs. iv.; Oil of Anise, 1 to 5 drops (Calomel or Blue Pill, grs. ij. to grs. v.; Ext. of Hyosciamus, grs. ij.); M.—℞. Pulp or Co. Ext., grs. iij. to grs. v.; Aloes, grs. v.; Scammony, grs. iij. to grs. v.; Gamboge, grs. ij. to grs. v.; Black Hellebore, grs. ij. to grs. iv.; Tartarized Antimony, gr. $\frac{1}{8}$; Ext. of Hyosciamus, grs. ij.; Oil of Anise, 1 to 5 drops; M.—℞. Pulp or Co. Ext., grs. iv. to grs. vi.; Rhubarb, grs. v. to grs. viij.; Scammony, grs. ij. to iv.; Aloes, grs. ij. to grs. iv. (Ext. Hyosciamus, grs. ij.; Ipecacuanha, gr. j.); M.—℞. Pulp or Co. Ext., grs. v. to grs. viij.; Root of Jalap, grs. v. to grs. x.;

Aloes, grs. ij. to grs. v.; Calomel or Blue Pill, grs. iij. to grs. v.; Ipecacuanha, gr. j. (Ext. Hyosciamus, grs. ij.); M.—℞. Pulp or Co. Ext., grs. ij. or iij.; Rhubarb, grs. ij. to grs. viij.; Aloes, grs. ij. to grs. v.; Myrrh, grs. ij. to grs. v.; Camphor, grs. ij. or iij. (Sulphate of Iron, gr. ½ to grs. ij.; Carb. Potash, grs. j. or ij.); M.—℞. Pulp or Co. Ext., grs. v. to grs. x.; Resin of Jalap, grs. ij. to grs. iv.; Calomel, grs. iij. to grs. v.; Gamboge, grs. ij, or iij.; Tartarized Antimony, gr. ⅛ to gr. ¼; Ext. Hyosciam., grs. ij. or iij. (Croton Oil, 1 drop); M.

16. Convolvulus Scammonia. Scammony. The Gummy, Resinous, Exudation from the Root.

Pentandria, Monogynia.

Hab. Greece and the Levant.—*Herbaceous.*

Dose. Grs. v. to grs. xv. Is often adulterated by the "Scammony makers," with chalk, flour, sand, and guaiacum.

Like Colocynth, is useful in torpid states of the intestines, especially when attended by deficient biliary secretions. Very irritating, and therefore objectionable in all fevers and active inflammations. It is most useful in combination with calomel, blue pill, aloes, colocynth, rhubarb, and the extract of butternut; either with those substances individually, or more or less collectively—which see.

(*a.*) *Compound Powder of Scammony.* Rarely used. —*Dose,* grs. v. to ʒ j.

Comb. ℞. Compound Powder, grs. v. to grs. x.; Colocynth, grs. ij. to grs. v.; Ginger, grs. v. to grs. x.; M. Or may be combined according to the formulæ for Aloes and Colocynth.

(*b.*) *Scammony Confection.* A stimulating compound. —*Dose*, grs. xv. to ʒ j. Rarely employed.

(*c.*) *Extract or Resin of Scammony.* Active.—*Dose*, grs. v. to grs. x. May be combined like the gum-resin. But little used.

17. CASSIA ACUTIFOLIA, AND C. OBOVATA. Alexandrian Senna, and Aleppo Senna.

Other Species. C. ÆTHIOPIA, Tripoli Senna, Smyrna Senna. C. LANCEOLATA, Mecca Senna. C. MARYLANDICA, American Senna. The leaves.

Decandria, Monogynia. *Shrubby.*

Dose, ʒ j. to ʒ iij., infused in boiling water; drunk at short intervals.

Very irritating to the intestinal mucous membrane, and should never be given in its irritable or inflammatory states. Is rarely useful in climates where remittent and intermittent fevers prevail, on account of the general tendency of disease to affect the abdominal organs. It has no great alterative effects of a useful nature, but very readily increases and excites disease in the intestinal canal, and therefore is quite liable to propagate injurious sympathetic influences to other parts. It is most useful in combination with other cathartics.

Comb. ℞. Senna Infusion, Infusion of Anise Seed, or of Coriander Seed, Sulphate of Soda; M.—℞. Senna Infus., Tartrate of Potash and Soda, Cinnamon Water; M.—℞. Senna Infus., Manna, and infusions of Valerian Root and Anise Seed; M.—℞. Senna Infus., Sulphate of Magnesia, Tincture of Rhubarb or of Jalap; M.—℞

Senna Infus., Infusion of Jalap; M.—℞. Senna Infus., Sulphate of Potash, Infus. of Coriander Seeds; M.—℞. Senna Infus., Infusion of Cinchona; M.

(*a.*) *Compound Tincture of Senna.—Dose*, ℥ ss. to ℥ j.

(*b.*) *Syrup of Senna.—Dose*, ℥ ss. to ℥ j.

(*c.*) *Confection of Senna.—Dose*, ʒ j. to ℥ ss.

18. Hebradendron Cambogioides. Also, Garcinia Cambogia. Gamboge. The gummy resinous exudation.

Monœcia, Monadelphia.

Hab. Siam, Ceylon.—*Tree of Moderate size.*

Dose. Grs. ij to grs. x.

Acrid and often violent, especially when uncombined; frequently vomiting as well as purging. United with mercury, aloes, rhubarb, scammony, or colocynth, its irritating properties are moderated, when it contributes also to the useful effects of the other remedies, and promotes their activity as cathartics.

Comb. May be united with two or more or with all the substances which occur in the formulæ under Aloes and Colocynth. The following is the compound pill which originated with Dr. George Fordyce, and which has been introduced into the Pharmacopœias:—℞. Gamboge, ʒ j.; Aloes, ʒ iss.; Ginger, ʒ ss.; Castile Soap, ʒ ij.; M.—*Dose*, grs. v. to grs. xx. This pill has obtained great favor with the public, especially under the designation of Morrison's Pills.

The inspissated juice of the *Argemone Mexicana*,

the Gamboge Thistle, or Prickly Poppy, and of the *Chelidonium Majus*, Celandine, is said to resemble Gamboge in its effects.

19. Croton Tiglium. Tree yielding the Croton, or Purging Oil. Oil expressed from the seed.

Monœcia, Monadelphia.

Hab. India, Ceylon, Indian Archipelago.—*Small tree.*

Dose. Of the oil, one to three drops; of the seeds, one grain.

An old remedy restored. Active or moderate in doses of one or two drops; but commonly very irritating and powerful in larger quantities. Sometimes valuable in obstinate constipation, and peculiarly useful in apoplexy and comatose affections, as it operates upon the combined principles of continuous and remote sympathy, and therefore does not require to be swallowed. (*Institutes, &c.*, p. 322, &c., § 498, 500.) This explains the reason why it sometimes operates when applied to the skin.

Comb. Often forms a useful addition to castor oil, and to other cathartics where it is an object to increase the activity and rapidity of their operation.

Antidotes. Bloodletting, opiates, blister to abdomen, which, indeed, should be the principal means when other cathartics induce inflammation of the intestinal canal.

20. Euphorbia Lathyris. Caper or Spurge Oil; expressed from the seeds.

Monœcia, Monadelphia.

Hab. Europe and America.—*Herbaceous.*

Dose. Five to ten drops.

Actively cathartic, and apt to nauseate, or to occasion vomiting. More irritating than Croton oil, but otherwise analogous to it, and may be used as a substitute.

Comb. May be united with other cathartics after the manner of Croton oil; when also, from the diminished quantity employed, and the modifying effects of the associated remedies, it is less irritating to the gastro-intestinal mucous membrane than when uncombined.

21. Inspissated Ox-gall.

Dose. Grs. v. to grs. xv., twice to five or six times daily.

Restored to practice by Charles Clay, M.D., of Manchester, England. Its action, says Dr. Clay, is peculiarly unique; and no other remedy is safer, or so generally applicable. It appears not to act on the system or on any organ, but on the material intended to pass from the system. It speedily softens indurated fæces, and if it do not at once prove laxative, it prepares the way for a ready and easy operation of other cathartics. Its habitual use for a few days, or weeks, or now and then months, especially in conjunction with very small quantities of blue pill, is said to remove the most obstinate constipation. It is not always to be trusted alone, but is always sure to fulfil the important office attributed to it, of softening the fæces, and of correcting, chemically, offensive secretions. Counteracts, also, the constipating effect of opium.

"An enema of two ounces of fresh gall in simple gruel will act instantaneously upon indurated fæces, and break it down to a pulp."

The safety of this remedy, and its imputed excellen-

ces in the hands of judicious physicians, commend it to an extensive trial. The author of this work has realized, in a limited use of the gall, and in a more limited degree, the virtue attributed to it, but has found that it will sometimes occasion nausea in doses not exceeding five grains; nor has this effect been fully counteracted by previous eating.

Mode of preparing the Inspissated substance.—Evaporate in a large flat dish, in an oven, at 96 degrees Fahr. or less, perfectly healthy gall of a young ox, to a consistence for making hard pills. The pills will keep for an indefinite time in wheat flour, secured in a close jar.

Comb. ℞. Inspissated Ox-Gall, grs. v. to grs. x.; Blue Pill, gr. $\frac{1}{2}$ to gr. $\frac{1}{6}$; M.

22. JUGLANS CINEREA. Butternut. **Extract, yielded by the inner bark of the root.**

Monœcia, Polyandria.

Hab. United States.—*Large tree.*

Dose. Grs. v. to ʒ ss.

Is entitled, perhaps, to a higher rank in this arrangement, though not capable of any great medicinal effects, but mostly limited in its uses to mild forms of constipation. Safe and moderate in its action, producing much less intestinal and constitutional irritation than other cathartic extracts of equal power, which imparts to it a valuable consideration.

Comb. May be associated with any of the preceding cathartics which are susceptible of being formed into pills. Forms with small quantities of blue pill, especially, a very useful agent in habitual constipation. (*See*

Blue Pill and Aloes, among Alteratives, and Castor Oil.)

23. Potassæ Sulphas. Sulphate of Potash. Vitriolated Tartar.

Comp. Sulph. Acid, 45.45. Potash, 54.55 = 100.

Dose. ʒ i. to ʒ ss.

Incomp. Nitric acid, hydrocyanic acid, nitrate of silver, acetate of lead, &c.

Mild, little irritating, and when uncombined is mostly useful as a laxative.

Comb. ℞. Sulph. Potash, grs. x to ʒ ij.; Rhubarb, grs. v. to grs. xv.; M.—℞. Sulph. Pot., grs. x. to ʒ ss.; Sulphur, ʒ ss. to ʒ j.; Treacle, ʒ j. (Confection of Senna); M.—℞. Sulph. Pot. ʒ ss. to ʒ j.; Jalap, grs. x. to grs. xv; (Ipecacuanha, gr. j.); M.—℞. Sulph. Pot., ʒ j. to ʒij.; Sulphate of Magnesia, ʒ ij. to ʒ iij.; Muriate of Soda, ʒ ij. to ʒ iij.; M. This combination is useful in daily, and smaller doses, in constipation.

24. Potassæ Bisulphas. Bisulphate of Potash. *Sal Enixum. Sal Auri Philosophicum.*

Comp. Sulph. Acid, 54.80. Potash, 32.87. Water, 12.33 = 100.

Dose. ℈ j. to ʒ ij., in water.

Unlike the Sulphate of Potash, this salt is very soluble in water.

Incomp. Alkalies, Alkaline Carbonates, Earths, &c.

Comb. Forms a mild, effervescing purgative with an equal part of the Bicarbonate of Soda.

25. Potassæ Bitartras. Bitartrate of Potash. Cream of Tartar.

Comp. Potash, 25.3. Tartaric Acid, 70. Water, 4.7. 100.

Dose. ʒ j. to ʒ vj.

Incomp. Mineral Acids, Alkaline Earths, Alkalies, &c.

Properties analogous to the Tartrate of Potash, but inferior. The excess of tartaric acid often renders the bitartrate irritating to the intestinal mucous membrane.

Comb. ℞. Bitart. Pot., Sulphur, Molasses (Confection of Senna); M. Useful in piles. Also, the Pharmaceutical preparations, *Pulv. Jalapæ Compos.* and *Pulv. Scammonii Compos.* The latter rarely used, and the Tartrate of Potash a much preferable constituent in the former compound.

26. Aquæ Salinæ Naturales. Saline mineral waters.

There are five principal varieties.

1. *Brine Waters*, in which the distinguishing ingredient is the chloride of sodium. These occur at Saratoga, Cheshire, Staffordshire, Worcestershire, and Leicestershire, to which may be added the sulphurous old well of Harrowgate, and the thermal waters of Baden-Baden and Wiesbaden.

2. *Purging Saline Waters*, having either the sulphate of soda or the sulphate of magnesia for the characteristic ingredient. The sulphate of magnesia predominates in the springs of Epsom, Scarborough, Seidlitz, Bedford, and White Sulphur. Sulphate of soda occurs in the springs of Cheltenham, Spital, Leamington, Karlsbad and Marienbad.

3. *Calcarious Waters.* These contain chiefly the sulphate or the carbonate of lime. They have no great remedial virtues. They occur at Bath, Burton, and

Bristol. Their apparently useful results are mostly due to exercise, change of air, society, etc.

4. *Alkaline Waters*, of which the carbonate or bicarbonate of soda or magnesia are large constituents. They pass into the preceding orders, and, indeed, belong chiefly to them. They then assume a compound name, as the acidulo-alkaline, etc. This order embraces the Ballston Sans Souci Spring, the Saratoga Congress Spring, the Springs of Karlsbad, Malvern, Marienbad. Pyrmont, Seltzer, etc.

5. *Silicious Waters*. Silica occurs in small quantities in most mineral waters, but is very abundant in some, as in the boiling springs of Geyser, in Iceland, and in others of the western United States, where the quantity exceeds more than half the solid contents. It is not, however, medicinal.

The principal sulphurous waters are the celebrated Harrowgate, the Moffatt and Rothsay, Aix-la-Chapelle, Aix, and Enghien, in Europe; the White Sulphur, Avon, &c., in the United States.

The foregoing waters, as far as they are medicinal, exert considerable alterative effects; especially when employed in connection with exercise, change of air, the enjoyments of society, &c., which contribute largely toward the improvement by their direct influence, and indirectly by placing the system in the most favorable state for the medicinal agent. (*Institutes*, p. 543, § 855, 856.)

The purgative waters are mostly salutary in cases of habitual constipation. But the whole are commonly detrimental unless they produce a purgative effect. To secure this result, the waters should be generally drunk in the morning, an hour before eating, and followed by

exercise as laborious as the health and strength of the patient will admit without much fatigue. Running, sawing wood, and riding on horseback, are the most efficient modes of exercise, where they may be endured.

It is frequently necessary to associate, from time to time, other laxatives with the mineral waters; of which, in a general sense, the blue pill or rhubarb is the best. The former should commonly be taken in the evening, and the latter, in its solid form, chewed when drinking the waters. In most instances the purgative effect should be pretty thorough, but should be obtained as far as possible by the mineral water alone. The appetite, digestion, and muscular vigor are thus improved as the remedial action takes place; but if other cathartics have contributed more than a subordinate part, there is apt to be a present failure, at least, of these advantages.

26½. Potassæ Sulphas cum Sulphure. Glaser's Salt of Polychrest.

Dose. ℥ ss. to ℥ j.

Incomp. The same as for Sulphate of Potash.

It is stated by Duncan in the Edinburgh Dispensatory, that this salt "in its medicinal effects and exhibition agrees with the sulphurous mineral waters, which contain a portion of neutral salt."

27. Sodii Chloridum. Chloride of Sodium. Muriate of Soda. Sea Salt.

Comp. Sodium 40, Chlorine 60=100.

Dose, as a cathartic, ℥ j. to ℥ iv.; emetic and cathartic, ℥ vj. to ℥ xij.

Mild; but probably more remedial than is generally supposed. It is capable of arresting hæmoptysis rather

remarkably; and other special influences denote peculiar alterative virtues.

In the North of Europe the brine of cucumbers, or brine impregnated with aromatic herbs, is in extensive use. Like the Mineral Waters, this remedy is mostly adapted to cases of habitual constipation, and should be employed in the manner indicated for the use of those waters.

28. SULPHUR SUBLIMATUM. S. PRECIPITATUM. Sulphur. Brimstone.

Sicily, Naples.

Dose. ʒ j. to ʒ iij.

A mild cathartic, and as such is capable of alterative influences upon some chronic cutaneous diseases, and chronic rheumatism. Useful in the piles. (See *Cutaneous Applications.*)

Comb. ℞. Sulphur, Bitartrate of Potash, Molasses; M.—℞. Sulphur, Confection of Senna, Bitartrate of Potash; M.

29. EUPATORIUM PERFOLIATUM. Thoroughwort. Boneset. Flowers and leaves. Also, other species, as *E. Purpureum; E. Teucrifolium;* and, perhaps, thirty other species in the United States have analogous but inferior virtues.—*Herbaceous.*

Syngenesia, Æqualis.

Dose, of powdered leaves, ʒ ss. to ʒ j. *Infusion,* ℞. Leaves or Flowers, ℥ ss.; Boiling Water, ℥ viij.; strain. —*Dose,* ℥ ij. to ℥vj., repeated.

Cathartic, emetic, and, in small quantities, a valuable tonic. But little irritating to the intestine, and in large

doses induces a salutary perspiration and moderates fever. (*Institutes*, p. 335, § 512, *b*; p. 632, § 892$\frac{3}{4}$, *c*; p. 667–670, § 902.) Mostly adapted to common colds in full doses, and to dyspeptic affections in smaller ones, for which it is a popular and safe remedy.

Comb. May be usefully added to the vegetable tonics.

(*a.*) *Extract of Eupatorium.* Less useful.—*Dose*, grs. x. to ʒ ss.

30. Triosteum Perfoliatum. Fever Root. Wild Ipecacuanha. Bark of Root.

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. ℈ j. to ʒ ss.

Mildly cathartic and emetic.

Comb. ℞. Triosteum, Calomel; M.—℞. Infusion of Triosteum, any of the Saline Cathartics; M.—℞. Infus. of Triost., Infus. of Eupatorium; M.

(*a.*) *Extract of Triosteum.*—*Dose*, grs. x. to grs. xv.

Comb. ℞. Ext. of Triost., Calomel or Blue Pill; M.—℞ Ext. of Triost., Calomel, Aloes, or Rhubarb; M.

31. Ornus Europæa. European flowering ash. The concrete exudation, Manna; yielded by other species of Ornus, and by species of Fraxinus.

Diandria, Monogynia.

Hab. South of Europe, particularly Calabria and Sicily.—*Small tree.*

Dose. ℥ ss. to ℥ ij.

Mildly cathartic, but like other saccharine substances, in considerable quantities and concentrated form, liable

to affect the stomach injuriously. Children are often thus injured by it.

Comb. ℞. Manna, Infusion of Senna and Coriander Seeds; M.—Also, the *Pharm. Prep.* Confection of Senna. Syrup of Senna.

(*a.*) *Mannite* (Manna Sugar). Laxative—*Dose*, ʒ ss. to ʒ j.

32. Taraxicum dens Leonis. Dandelion. *The fluid expressed juice of root.*

Syngenesia, Polygamia Æqualis.

Hab. Europe, United States.—*Herbaceous.*

Dose. ʒ ss. to ʒ j.

The fresh juice, expressed from the sliced root, slightly moistened with spirit, is said to produce biliary evacuations without intestinal irritation. Is worthy of farther trial.

(*a.*) *Extract of Dandelion.—Dose*, ʒ ss. to ʒ ss. Nearly inert.

33. Rhamnus Catharticus. Buckthorn. The berries.

Pentandria, Monogynia.

Hab. Europe; United States.—*Shrub.*

Dose. Of Syrup, ʒ ss. to ʒ j.; of recent Berries, ℥ j.; of dried Berries, ʒ j.; of expressed Juice, ʒ ij. to ʒ ss.

Irritating, griping; rarely used. Formerly much employed in dropsy, rheumatism, and gout.

34. Ipomæa (Convolvulus) Orizabensis. Spurious Jalap. The root.

Pentandria, Monogynia.

Hab. Mexico.—*Herbaceous.*

Dose. ℥ ss. to ℥ j.

Analogous to Jalap, which is adulterated by it, but comparatively inert.

35. Convolvulus Sepium. Great Bindweed. German Scammony. Root and extract.

Pentandria, Monogynia.

Hab. Europe; United States.—*Herbaceous.*

Dose. Of Root, grs. x. to grs. xxx.; of Extract, grs. v. to grs. xv.

Of more than its reputed value. Considerably in use in the north of Europe.

Comb. May be combined according to the formulæ directed for Jalap and Scammony.

36. Helleborus Niger. Black Hellebore. Christmas Rose. The root. Also, of the same nature, *H. Viridis; H. Officinalis; H. Fœtidus; H. Hiemalis.*

Polyandria, Polygynia.

Hab. Greece, Italy, France, Spain, &c.—*Herbaceous.*

Dose. Grs. iij. to grs. xv.

A drastic, irritating cathartic, but its action so modified by combinations as to be rendered useful. In an over-dose, a narcotico-acrid poison.

Comb. For combinations with other cathartics, see formulæ for Calomel, Aloes, Colocynth, &c.

(*a.*) *Tinc. of Black Hellebore.—Dose,* ℥ ss. to ℥ j. Used mostly as an emmenagogue.

(*b.*) *Extract of Black Hellebore.—Dose,* grs. ij. to grs. x.

37. Ecbalium (Momordica) Elaterium. Elaterium. Squirting Cucumber. Extract from the fruit.

Monœcia, Syngenesia.

Hab. South of Europe.—*Herbaceous.*

Dose. One-sixteenth of a grain to one grain, in pill or aqueous solution.

A violently active, acrid cathartic, leading to inflammation of the intestinal mucous membrane, to great constitutional disturbance, and, therefore, to the development of disease in remote organs, or to the exasperation of such as may already exist. It should be rejected from the Materia Medica, and is only allowed the place it here occupies on account of the high estimation in which it is held by many as a cathartic in dropsy and in obstinate constipation, and as "a revulsive counter-irritant to the intestinal canal in cerebral inflammations." (*Institutes*, p. 653–656, § 893.)

Elaterium is very liable to deterioration from age, and therefore to great uncertainty in its effects.

Antidotes. Bloodletting, opiates, blisters to abdomen.

The *Luffa* (Momordica) *Operculata* of Dr. Hancock has the same virtues as Elaterium. The dose of the capsule is one grain.

38. Cassia Fistula. Purging Cassia. Pulp of fruit.

Decandria, Monogynia.

Hab. East Indies; Egypt; cultivated in the West Indies.—*Tree.*

Dose. Laxative, ʒ ss. to ʒ ij.; Purgative, ℥ ss. to ℥ ij.

Comb. Rarely employed alone. The officinal Confection of Cassia is the usual form, the *dose* of which is ʒ ij. to ℥ j.

39. Ipomæa (Convolvulus) Pandurata. Wild Potato. The root.

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. ℥ ss. to ʒ j.

Mildly cathartic, producing but little irritation, and probably not very remedial. Its virtues have not been much investigated.

40. Rumex Crispus; R. Obtusifolius; and R. Alpinus. Dock. Mountain Rhubarb. The Root.

Hexandria, Trigynia.

Hab. Europe, United States, &c.—*Herbaceous.*

Dose. Of strong decoction, as an habitual laxative, ʒ ij. to ℥ j.—*Dose*, as a cathartic, and repeated, ℥ ij. to ℥ iv.

Analogous to Rhubarb, but much inferior. Mildly laxative, tonic and astringent. Used rather extensively as an alterative in cutaneous eruptions and in syphilis. For the last purposes the remedy is entitled to a much higher rank than it occupies among the cathartics, though doubtless a laxative effect is necessary to its constitutional influences as an alterative. An ointment of dock root is also employed.

41. Tamarindus Indica. Tamarind. Pulp of Pod.

Monadelphia, Triandria.

Hab. East and West Indies, Arabia, Egypt.—*Small tree.*

Dose. ʒ ij. to ℥ j.

Incomp. Alkalies and Alkaline Carbonates.

A mild laxative, but has no other remedial virtues. Employed by the humoralists, in fever, under the denomination of *refrigerant;* but its frequent repetition,

in such cases, even in small quantities, irritates the intestinal mucous membrane, though much less so than lemon juice, another reputed *refrigerant*. In this way, therefore, it is readily seen that these supposed *refrigerants* must often aggravate the fever which they are intended to assuage; while the truly and rapidly and permanently refrigerant effect of bloodletting exposes the error of humoralism, and discloses the whole philosophy of this important subject.

Comb. ℞. Tamarind, ʒ j., to ʒ ij.; Sulphate of Potash, ʒ ss. to ʒ j. (or Bitartrate of Potash, ℈ j. to ʒ ij.); Sulphur, ʒ ss. to ʒ j.; M.

42. MENYANTHES TRIFOLIATA. Buckbean. Marsh Trefoil. The root and leaves.

Pentandria, Monogynia.

Hab. Europe; United States.—*Herbaceous.*

Dose. Of Powder, ℈ j. to ʒ j; of Extract, grs. x. to ℈ j.

Cathartic, emetic, and tonic; being somewhat analogous to Eupatorium. Formerly employed in the treatment of intermittent fever, rheumatism, dropsy, scurvy, scrofula, &c., but has been found deficient in alterative virtues. Not much employed now.

43. BRYONIA ALBA. White Bryony. The root.

Monœcia, Syngenesia.

Hab. Europe.—*Herbaceous.*

Dose. ℈ j. to ʒ ss.

An irritating cathartic and emetic. Once in vogue; little employed now.

44. VERATRUM ALBUM. White Hellebore. The root.

Polygamia, Monœcia.

Hab. Mountainous countries of Europe.—*Herbaceous.*

Dose. Gr. j. to grs. vj.

An acrid cathartic and emetic; very liable to produce intestinal inflammation. Employed only in some conditions of rheumatism and gout, where veratria along with a purgative effect is desirable.

45. Colchicum Autumnale. Meadow Saffron. The root and seeds.

Hexandria, Trigynia.

Hab. Various countries of Europe.—*Herbaceous.*

Dose. Of Cormus or root, grs. ij. to grs. viij.; of Seeds, gr. j. to grs. vj.; of Tincture of Seeds, ℥ ss. to ℥ j.; of Compound Tincture of Seeds, ℈ ss. to ℥ j.; of Wine of the Seeds, ℥ ss. to ℥ j.; of Wine of the Root, ℥ ss. to ℥ j.; of the Acetate of the Root, ℥ ss. to ℥ ij.; of the Acetated Extract of Root, gr. j. to grs. iij.; of the Extract of the Root, gr. ½ to gr. j.; of the Oxymel of the Root, ℥ ss. to ℥ ij.; of preserved Juice of the Root, drops vj. to x.

Although the Meadow Saffron is now restricted to the treatment of gout and rheumatism, on account of, especially, its veratria, I have assigned to it this place among the Cathartics, as I am persuaded that it does not often afford relief in the foregoing affections till some purgative action is produced. In all other respects it is unworthy the consideration of a cathartic; nor can I agree with Pereira and others (*Mat. Med. Art.* Colchicum), that "it may be useful as an auxiliary to bloodletting and cathartics in those forms of fever and inflammation requiring an active antiphlogistic treatment"—

not even in the active forms of gout and rheumatism. (See *Institutes*, p. 715–723, § 960.)

46. Sambucus Nigra. Black Elder. S. Canadensis. American Elder. Inspissated juice of the berries, and the inner bark of the stem.

Pentandria, Trigynia.

Hab. The former, Europe; the latter, United States. —*Shrubby.*

Dose. Of Inspissated Juice, ʒ j. to ʒ ij.; of Decoction of inner Bark, ℥ ss. to ℥ iv.

The inspissated juice is mildly laxative; the inner bark mild, or actively purgative, according to the dose, being used "as an aperient, or as a hydragogue cathartic in dropsy."

46½. Sinapis Alba. White Mustard. The seeds.

Tetradynamia, Siliquosa.

Hab. Europe; United States.—*Herbaceous.*

Dose. ʒ j. to ℥ j. of the unbruised seeds.

Although the seeds of this plant are laxative mostly by their mechanical effect, they may occupy advantageously the place which is here assigned to them. They have been unreasonably brought into disrepute by their late indiscriminate and excessive use in the hands of dyspeptics. The statements which occur in some of the books as to the accumulation of the seeds in the appendix cœci, and other parts of the intestine, has only the slender foundation upon which a similar demonstration has been made against the habitual use of magnesia. These seeds are adapted only to cases of constipation where they will not irritate the stomach mechanically,

and are, therefore, rarely suited to the true forms of dyspepsy or indigestion.

47. PHYTOLACCA DECANDRIA. American poke root. The root.

Icosandria, Decandria.

Hab. United States.—*Herbaceous.*

Dose. Grs. x. to ℈ j.

Emetic and cathartic; the former virtue predominating. Operation begins slowly and is prolonged. In over-doses, excessive and dangerous in its action. Moderately narcotic.

48. APOCYNUM CANNABINUM. Indian Hemp. The root.

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

Dose. Of Root, grs. x. to ʒ ss., or an equivalent infusion. *Dose*, of *Watery Extract*, grs. ij. to grs. v.

An active emetico-cathartic. Lessens the frequency of the pulse in virtue of a moderate narcotic property. Enjoys some reputation as a remedy for dropsy; but the frequent violence of its operation is an objection to its use. The extract is said to be milder than the root.

49. LEPTANDRA VIRGINICA. Culver's Physic. The root.

Diandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. ℈ j. to ʒ j.

Emetic and cathartic. Still pretty largely employed by some practitioners in the country. Its operation is violent in the recent state, and uncertain when the plant is dry.

50. Iris Versicolor. Variegated Iris. The root.
Triandria, Monogynia.
Hab. United States.—*Herbaceous.*
Dose. Grs. v. to grs. xx.
A powerful, acrid, irritating, prostrating cathartic and emetic.

51. Iris Tuberosa. Tuberous Iris. The root.
Triandria, Monogynia.
Hab. Europe.—*Herbaceous.*
Dose. Grs. x. to ʒ ss.
Emetic and cathartic. Active.

52. Linum Catharticum. Purging Flax. The herb.
Pentandria, Pentagynia.
Hab. Europe.—*Herbaceous.*
Dose. Of dried Plant, ʒ ss. to ʒ j.; or an infusion of fresh plant.
Uncertain. Employed in rheumatism, and as a diuretic in dropsy. Nearly obsolete.

53. Melia Azedarach. Pride of China. Bead Tree. Bark of the root.
Decandria, Monogynia.
Hab. China, Syria, Persia. Cultivated in the Southern States.—*An ornamental tree.*
Dose. Of strong decoction, ℥ j. to ℥ ij.; repeated every two or three hours, or in larger quantities night and morning.
Emetic and cathartic. Employed as an efficient anthelmintic.

54. Jatropha Curcas. Purging nuts. Barbadoes nuts. *The seeds.*

Monœcia, Monadelphia.

Hab. South America ; Asia.—*Tree.*

Dose. About four nuts.

Emetic and cathartic. Slow, acrid, and in large doses poisonous. A drastic oil is obtained from the seeds, called *Oleum Infernale*, whose effects are analogous to the Croton oil, but mostly used in India for lamps.

55. DAPHNE MEZEREUM. Mezereon. Spurge Olive. *Bark of root.* Also, D. GNIDIUM and D. LAUREOLA. Spurge Laurel.

Octandria, Monogynia.

Hab. Europe. Cultivated.—*Shrubby.*

Infusion. ℞. Mezereon, ʒ ss.; Boiling Water, ℔ ij. —*Dose*, ʒ ss. to ʒ ij., repeated.

Comb. ℞. Bark of Mezereon in chips, ʒ ij.; Bruised Liquorice Root, ʒ ss.; Water, ℔ ij.; boil to ℔ iss.—*Dose*, ʒ j. to ʒ iij. United with Sarsaparilla in the treatment of syphilis and rheumatism.

Although a proportion of the acrid principle is dissipated in preparing a decoction of Mezereon, it still remains an acrid emetic and cathartic, and, in its large or smaller sudorific doses, without its reputed claims as an alterative in syphilis, though useful in some cases of rheumatism. But there are much better and less hazardous remedies.

56. GRATIOLA OFFICINALIS. Hedge Hyssop. *The herb.*

Diandria, Monogynia.

Hab. South of Europe.—*Herbaceous.*

Dose. Grs. x. to ʒ ss. Also, an infusion.

An acrid, drastic cathartic and emetic, poisonous in

over-doses. Formerly employed in hepatic affections, scrofula, syphilis, and dropsy.

57. Iris Florentina. Florentine Iris. Orris Root. *The root.*

Triandria, Monogynia.

Hab. Southern Europe.—*Herbaceous.*

An acrid, irritating emetico-cathartic; now mostly valued for the purpose of issue peas, and for the agreeable odor of its root.

58. Euphorbia Officinarum. The concrete, waxy resinous juice known as *Euphorbium*, and as gum euphorbium.

Dodecandria, Trigynia.—*Linn.* Monœcia, Monandria.—*Smith.*

Hab. Northern Africa.—*Arborescent.*

An acrid, irritating cathartic and emetic, violent in its operation, and once considerably employed in the treatment of dropsies. Its use is now restricted within the narrow limits of an occasional auxiliary to milder sternutatories, of a rubefaciant diluted with pitch or resin, a caustic in carious ulcers, and as the worst of irritating vesicants.

59. Sapo Durus. Hard Soap.

Scarcely laxative, unless in large doses. As employed in this group, therefore, it serves merely as a solvent constituent of gummy and resinous substances when made into pills.

The concrete resinous exudation, *mastic*, yielded by the *Pistacia Lentiscus* (the Mastic or Lentisk Tree), is often quite a useful addition to aloetic pills, in which it serves the purpose of reducing the aloes to a fine powder.

NEARLY OBSOLETE.

60. Euphorbia Hirta. Creeping hairy spurge. *The plant.* 61. Iris Virginica. Blue flag. *The root.* 62. Iris pseudo-acorus. Yellow water iris. *The root.* 63. Euphorbia Cyparissias. Scammony spurge. *The root.* 64. Euphorbia Angustifolia. Narrow-leafed spurge. *The root.* 65. Tithymalus Paralius. Sea spurge. *The root.* 66. Actæa Rubra, and A. Alba. Red and white cohosh. Squaw root. *The root.* 67. Actæa Spicata. *The root.* 68. Colutea Arborescens. Bladder senna. *The leafets.* 69. Carthamus Tinctorius. Dyer's saffron. Safflower. Bastard saffron. *The flowers.* 70. Linaria Vulgaris. Toad flax. *The herb.* 71. Chelidonium Majus. Celandine. *The herb.* 72. Sedum Acre. Biting stone-crop. *The herb.* 73. Cichorium Intybus. Chicory. *The root.* 74. Polypodium Vulgare. Polypody. *The root.* 75. Triticum Repens. Couch grass. *The Herb.* 76. Ficus Carica. Fig. *The fruit.* 77. Cynanchum (or Asclepias) Vincetoxicum; and C. Monspeliacum. French scammony. *The inspissated juice.* 78. Impatiens, (several species.) Touch-me-not. *The herb.* 79. Galium Aparine. Cleavers. *The herb.* 80. Polyporus Laricis, (*Boletus purgans.*) Purging agaric. 81. Bromus Purgans. Purging grass. (The only medicinal species of grass.) 82. Ononis Spinosa. 83. Rosa Galica. R. Canina; R. Centifolia. The rose. 84. Bixa Orellana. The arnotto bixa. *The seeds.* 85. Baptisia Tinctoria. Wild Indigo. *The root.* 86. Robinia Pseudacacia. Locust tree. *Bark of root.*

ORDER III.

EMETICS.

Like all other remedial agents, emetics operate as alteratives, and upon vital principles. In all their influences upon parts remote from the stomach, the results are determined through the laws of sympathy.

The range of disease to which emetics are applicable is very limited compared with that over which cathartics and the specific group of alteratives extend their reach. They are mainly applicable to acute and chronic inflammatory affections of the pulmonary mucous and cellular tissues ; to continued, intermittent, and some conditions of remittent fevers; and finally, are important for the simple purpose of dislodging offensive matter, poisons, etc, from the stomach.

They are never appropriate to active inflammations of important organs without previous bloodletting, and then mostly of the pulmonary mucous tissue. The best time for their exhibition in fever is a little before an expected paroxysm, and the next best, during the decline of the hot stage. (*Institutes*, p. 335–337, § 512–514; p. 547–550, § 863; p. 563, &c., § 889 ; p. 639, § 892½; p. 645–648, § 893 ; p. 662–670, § 895–902.)

An impression has obtained through the high authority of Dr. Marshall Hall, that pressure may be advantageously applied over the region of the stomach, to promote the operation of emetics. But it appears to embarrass the action of the muscles, if continued beyond a momentary application ; while it is the action of the emetic itself, not of pressure, which is wanted in dis-

ease. (See *Institutes*, as above.) Tickling the fauces is a better mechanical means.

GROUPS OF EMETICS.

1. Ipecacuanha and substitutes.
2. Tartarized antimony.
3. Sulphate of zinc, sulphate of copper, ranunculus.
4. Squill, blood-root.
5. Thoroughwort, fever root, buckbean.
6. Common salt, black and white mustard, horse-radish.
7. Indian tobacco, tobacco.
8. The Euphorbiæ, American poke weed, Indian hemp, asarabacca, white hellebore, leather wood, acetate of copper.
9. Dog's bane, dog's tooth violet.

Emetics, in the order of their relative therapeutic value.

1. CEPHAËLIS IPECACUANHA. The Ipecacuanha Cephaëlis. *The root.*

Pentandria, Monogynia.

Hab. Brazil.—Stem *suffruticose*, often rooting at first, finally erect.

Dose. Grs. xv. to grs. xxv.; repeated if necessary once in twenty or thirty minutes. (See *Alteratives.*)

When the emetic action of ipecacuanha has begun, it may be promoted by drinking warm water. And so of tartarized antimony; each of which requires about 20 minutes; but no auxiliary means should be allowed to interfere in bringing about an act of vomiting which is contemplated from the specific virtues of a remedial agent. Where it is merely an object to remove the contents of the stomach, the most simple means are the

best, consisting of all the variety from a moral emotion, or tickling the throat, up to the sulphate of zinc. (*Institutes*, p. 547–549, § 863.)

Though ipecacuanha is less alterative than tartarized antimony, it is safer, and adapted to a greater range of useful purposes, and is efficient in its influences wherever the antimonial is appropriate. It is remarkably exempt from liability to irritate the mucous tissue of the stomach injuriously; purges but moderately when at all; may be employed in emetic doses in some active forms of muco-intestinal inflammation, as in dysentery, where tartarized antimony is inadmissible, even in its small alterative doses; may be salutary in fevers attended by hepatic congestion and gastric irritation where antimony might be destructive; has no narcotic property, and is but little more active in a dose of 40 than of 20 grains; does not exert the prostrating effect of tartarized antimony, and probably never destroyed life by direct effect.

Comb. ℞. Ipecac., grs. x. to grs. xx.; Tart. Antimony, gr. ½ to grs. ij.; M.—℞. Ipecac., grs. xx.; Sulphate of Zinc, grs. xv. to grs. xx.; M.—℞. Ipecac., grs. x. to grs. xv.; Tart. Antimon., gr. j. to grs. ij.; Sulphate of Zinc, grs. x. to grs. xx.; M.—℞. Ipecac., grs. xx.; Sulphate of Copper, grs. ij. to grs. v.; M.—℞. Ipecac., grs. v. to grs. xx.; Calomel, grs. v. to grs. xij.; M.—℞. Ipecac., grs. ij. to grs. x.; Tart. Antimon., gr. ¼ to gr. ½; Calomel, grs. v. to grs. x.; M.—℞. Ipecac., gr. j. to grs. v.; Jalap, grs. xv. to grs. xx.; Calomel, grs. v. to grs. x.; M.

The combinations with the sulphates of zinc and of copper are designed for cases of poisoning, especially by narcotics. (*Institutes*, p. 366, § 556; p. 568, § 889, *l.*)

(*a.*) *Emetin.—Dose*, for an adult, gr. $\frac{1}{6}$ to gr. $\frac{1}{2}$.

(*b.*) *Wine of Ipecacuanha.—Dose*, for a child, drops xx. to ℥ j.

(*c.*) *Syrup of Ipecacuanha.—Dose*, for a child, drops x. to ℥ j.

No one of the officinal preparations is equal to the powdered root. The syrup is uncertain; the wine may be too stimulant; and emetin is apt to be violent, and is never as useful as the root.

Analogous substances.—The following plants are so considerably allied to Ipecacuanha in their direct action and remedial effects, that they may be substituted for it, though they are all inferior. (*Institutes*, p. 556, § 872, *b.*) They are as follows:

1, *a.* Psychotria Emetica. Striated or Peruvian Ipecacuanha. *The root.* Colombia; Peru. Also, Pombelia Itubu. *The root.* S. A.

1, *b.* Richardsonia Scabra. Undulated Ipecacuanha. *The root.* Brazils; Peru; New Granada. Also, R. Rosea.

1, *c.* Ionidium Ipecacuanha. False Brazilian Ipecacuanha. *The root.* Brazils. Also, I. Microphyllum. Cuichunchully. *The root.* Quito. Inferior.

1, *d.* Gillenia Trifoliata. G. Stipulacea. Northern and Southern American Ipecacuanha. *Bark of the root.* United States.—*Dose*, grs. xv. to ℥ ss.

2. Potassæ Antimonio-tartras. Tartrate of Antimony and Potash. Tartarized Antimony. Tartar Emetic.

Comp. Sesquioxide of Antimony, 42.65. Potash, 13.29. Tartaric Acid, 36.56. Water, 7.47 = 99.97.

Dose. Gr. $\frac{1}{2}$ to grs. ij. (See *Alteratives.*)

Incompat. Astringent and bitter infusions, Alkalies and Alkaline Carbonates, Strong Acids, Salts of Lead, Hydrosulphurets.

Tartarized antimony is actively emetic; sure, beginning its operation, in full doses, in about 20 minutes; profoundly alterative; rather liable to purge, and in so doing, to prostrate the powers of life, when the most remarkable phenomena indicative of approaching death, are a near extinction of the radial pulse, sighing, and jactation, with, perhaps, no other sign of the impending danger; inducing more or less muco-intestinal inflammation unattended by much suffering or tenderness on pressure; apt to aggravate any existing inflammation, acute or chronic, of the stomach or intestine, even in its small alterative doses; and often distressing to adults when uncombined by its direct emetic effect, though less so to children. The gastric irritation, gastric and other spasms, which it is apt to produce in adults, are greatly obviated by combining it with ipecacuanha. Is a violent poison in excess, especially when it purges actively. It is then difficult to restrain its fatal tendency, especially in diseases of much severity. The purging is not then likely to be arrested, as it depends upon a fearful lesion of the intestinal mucous tissue, to the maintenance of which powerful concurring causes exist in the natural malady itself, and in the aggravated conditions established in all parts through the morbific sympathies which are propagated from the intestinal mucous tissue, and which are now reverberated with intensity upon the abdominal viscera, and the organs of circulation. (*Institutes*, p. 63, § 137, *d*; p. 67, § 150; p. 355, § 526, *a.*)

If the foregoing remarks be founded in correct observation, it is obvious that what is denominated the "Tartar Emetic treatment of fever, pneumonia, &c., by large doses," according to Rasori's method, and now considerably in vogue, especially in Europe, must be replete with danger; while a demonstration is thus afforded, in the substitution of this practice in grave forms of fever and pneumonic inflammation for that of bloodletting, of the force of prejudice over the obvious dictates of experience and philosophy. (*Institutes*, p, 598–604, § 892, *d*–892, *k*; p. 652–656, § 893, *n*; p. 715–723, § 960.)

Comb. As suggested under Ipecacuanha.

When thus united with the vegetable substance, its energy is moderated, and its dangers lessened. This union is particularly important where tartar emetic is exhibited in irritable states of the stomach and intestines. It may be also often usefully combined, in small quantities, with calomel, jalap, aloes, sulphate of magnesia, rhubarb, colocynth, scammony, gamboge, and eupatorium, as suggested under several of those denominations. It imparts to them an energy as cathartics, and promotes their alterative action. It is also very usefully combined with other expectorants, in pneumonic inflammations, and often with quinine in the treatment of remittent and intermittent fevers. (*Institutes*, p. 552–556, § 870–872; p. 601, § 892, *g*; p. 608, 609, § 892¼, *c*; p. 638, 639, § 892½, *f*, *g*.)

(*a*.) *Wine of Antimony.—Dose*, ℥j. to ʒ ij. to children. Less certain than extemporaneous solutions in water.

Antidotes.—At an early stage, recourse should be had to vomiting by warm water, and irritating the fauces, or to the stomach-pump. Simultaneously, decoctions

or infusions of nut-galls, cinchona, and other vegetable astringents capable of forming insoluble tannates with sesquioxide of antimony, should be administered.

3. Zinci Sulphas. Sulphate of Zinc. White Vitriol.

Comp. Oxide of Zinc, 32.585. Sulphuric Acid, 30.965. Water, 36.450 = 100.

Dose. Grs. x. to grs. xxx.

Incomp. Alkalies, and Alkaline carbonates, Lime water, Vegetable astringents, Salts of Lead and of Barium.

An active and safe emetic, operates in about five minutes, its effects soon over, but little alterative, excepting as an astringent, and therefore but little remedial in disease. Mainly and peculiarly adapted to the simple purpose of dislodging the contents of the stomach, and therefore valuable in cases of poisoning. In poisoning by narcotics, however, its operation is often uncertain when employed alone. (*Institutes*, p. 593, § 891½, *i.*)

Comb. As suggested under Ipecacuanha.

Antidotes. This substance is an irritant poison in over-doses, when the usual antidotes consist of warm water, and subsequently of bloodletting and blisters to the abdomen. Opium, also, to aid in restraining excessive vomiting and purging.

4. Ranunculus Flammula. Lesser Spearwort. Crowfoot. *The fresh leaves.*

Polyandria, Polygynia.

Hab. Europe.—*Herbaceous.*

Notwithstanding the acridity of this plant, as well as that of *R. acris* and *R. bulbosus*, the dilute juice of their

leaves appears to be a safe emetic in cases of poisoning by the narcotics, but inapplicable under any other circumstances. Its safety is doubtless greater than the requisite quantities of the Sulphate of Copper, while it is more certain and more speedy in its action. It should therefore be tried where the Sulphate of Zinc or its appropriate combinations may fail of an early effect, or may be employed simultaneously with the Sulphate in less than its full doses. Directions are provided for the preservation of the juice. (See *Vesicants.*)

5. Scilla Maratima. Squill. Sea Onion. *The bulbous root.*

Hexandria, Monogynia.

Hab. Shores of the Mediterranean, Spain, Italy, France, Africa, Greece, sea-coast.—*Herbaceous.*

Dose. Grs. v. to grs. xv.

An acrid, uncertain emetic, stimulant to the extreme vessels in all its doses, and never adapted to acute inflammations. Much employed in croup, especially as an expectorant, where its stimulant virtues are often detrimental, as they are in no small proportion of the incipient cases of pulmonary phthisis, and where the doses do not exceed the usual expectorant. (*Institutes*, p. 637–642, § 892½, *c–i.*) Useful in chronic inflammations of the pulmonary mucous tissue which are not of a specific character, and in those chronic serous inflammations which form the immediate pathological cause of dropsy. Often purges in full doses. In excessive doses it acts as a narcotico-acrid poison. Not much employed as an emetic.

(*a.*) *Oxymel of Squill.*—(*b.*) *Vinegar of Squill.*—(*c.*) *Syrup of Squill.*—*Dose*, of either, ʒ j. to ℥ ss.

(*d.*) *Tincture of Squill;* rarely used as an emetic.—*Expectorant dose*, drops xv. to ʒ ss.

(*e.*) *Compound Squill Pill.—Expectorant dose*, grs. v. to grs. xv.

(*f.*) *Compound Syrup of Squill.* (Nearly allied to *Cox's Hive Syrup*).—*Dose*, drops x. to ʒ j.

The bitter principle, *Scillitin*, is not employed.

Antidotes. Evacuate the stomach, and depend upon bloodletting and vesication when inflammation supervenes.

6. VIOLA ODORATA. Sweet Violet. *The root, and seeds.*

Pentandria, Monogynia.

Hab. Europe. Introduced.—*Herbaceous.*

Dose. Grs. xx. to ʒ j.

Analogous to Ionidium, and like that may be employed as an inferior substitute for Ipecacuanha. Often cathartic.

7. SANGUINARIA CANADENSIS. Blood-root. *The root.*

Polyandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. Grs. x. to grs. xx.

An acrid, narcotic, irritant emetic, inducing "violent emesis, burning sensation in the stomach, faintness, vertigo, dimness of vision, and alarming prostration," in large doses. (*United States Dispensatory.*) Placed in this rank in accordance with the more favorable opinion of some judicious physicians. It is more useful in its small alterative doses, as employed in catarrhal affections;

but there are better remedies. Yields an unimportant alkaloid, *Sanguinarin.*

(*a.*) *Tincture of Sanguinaria.—Dose,* ʒ ss.

Comb. Ipecacuanha, or tartarized antimony, moderates its irritant effect.

8. Eupatorium Perfoliatum. Thoroughwort. Boneset. *The herb.*

Syngenesia, Æqualis.

See *Cathartics*, No. 29.

9. Cupri Sulphas. Sulphate of Copper. Blue Vitriol. Blue Stone.

Comp. Oxide of Copper, 32.13. Sulphuric Acid, 31.57. Water, 36.30 = 100.

Dose. Grs. ij. to grs. x.

Incomp. Alkalies, Alkaline Carbonates, Astringent Vegetable Infusions, Salts of Lead, Nitrate of Silver, Tart. Potash, Borax, &c.

This substance has been greatly abused as an emetic. In doses which are necessary to produce vomiting, it is apt to be injuriously irritant to the stomach, while it has proved itself wanting in remedial virtues. As a speedy emetic, operating in about five minutes, it is sometimes desirable in cases of poisoning by opium and other narcotics which are not of an acrid nature. (See Nos. 2, 3, and 4.)—Poisonous in excessive doses. (See *Escharotics* and *Astringents.*)

Antidotes. White of Eggs, and other albuminous Substances, Milk, Wheat flour, Ferrocyanide of Potassium; and the antiphlogistics, Bloodletting and vesication, if necessary.

10. Triosteum Perfoliatum. Fever root. Wild Ipecacuanha. *Bark of root.*

Dose. ℈ j. to ℈ ij.

Emetic and cathartic, non-stimulant. Probably more valuable than is reputed. Safe; usefully combined with calomel in the treatment of fevers and inflammations. (See *Cathartics*, No. 30.)

11. Sodii Chloridum. Common Salt.

Dose. ʒ ss. to ʒ j.

A very mild emetic and cathartic. (See *Cathartics*, No. 27.)

12. Apocynum Androsæmifolium. Dog's-bane. *The root.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

A mild emetic in a dose of about thirty grains, but without reputation as an alterative. The dried root should have been recently reduced to powder.

13. Lobelia Inflata. Indian Tobacco. Emetic weed. *The Herb.*

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. Grs. x. to grs. xx.

A speedy and violent emetic, attended with distressing nausea, great prostration, copious sweating, and occasionally with purging. Although a principal agent among the large class of Thompsonian empyrics, it is a hazardous remedy, and only adapted, as an emetic, to spasmodic asthma, and to facilitate the reduction of strangulated hernia, for which last purpose it is as useful

as tobacco, and safer. Nauseating doses are sufficient. Its utility in spasmodic asthma is well established, and in doses short of an emetic effect. (See *Expectorants.*)

(*a.*) *Tincture of Lobelia.—Dose,* ℥ j. to ℥ ss.

14. Menyanthes Trifoliata. Buck-bean. Marsh Trefoil. *The root and leaves.*

Pentandria, Monogynia.

Dose. ℥ j. to ℥ iss. (See *Cathartics*, No. 42.)

15. Euphorbia Corollata. Large flowering Spurge. *Bark of root.*

Monœcia, Monadelphia.

Hab. United States.—*Herbaceous.*

Dose. As an emetic, grs. x. to grs. xx.; as a cathartic, grs. v. to grs. x.

Emetic and cathartic; but uncertain, though apt to be severe. Greatly inferior to Ipecacuanha and its immediate associates.

16. Euphorbia Ipecacuanha. *Bark of root.*

Monœcia, Monadelphia.

Hab. United States.—*Herbaceous.*

Dose. Grs. x. to grs. xx.

Another plant put forth as a competitor of its distinguished namesake; but unavoidably degraded to the rank which it here occupies, in being very similar in its effects to the *E. corollata.*

17. Phytolacca Decandria. American Poke-root. *The root.*

Icosandria, Decandria.

Dose. Grs. x. to grs. xx.

An uncertain emetico-cathartic; dilatory but perse-

vering. Has no special alterative virtues, and but little to recommend it. (See *Cathartics*, No. 47, and *Alteratives* for Rheumatism.)

18. Apocynum Cannabinum. Indian hemp. *The root.*

Pentandria, Digynia.

Dose. Grs. xv. to ʒ ss.

An emetico-cathartic, often severe in its operation. Employed mostly in dropsy, where it is gaining reputation. (See *Cathartics*, No. 48.)

19. Asclepias Incarnata. Flesh-colored Asclepias. *The root.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

Dose. Grs. xx. to ʒ j.

Mildly emetic and cathartic. Worthy of farther trial.

20. Sinapis Nigra. Black Mustard. *The seeds.*

Tetradynamia, Siliquosa.

Hab. Europe; United States.—*Herbaceous.*

Dose. ℈ j. to ʒ ss. of powdered seeds, diffused in water.

Mildly emetic, and employed for the same purposes as the next following substance.

Comb. ℞. Flour of Mustard Seeds, Horse-radish, equal parts, Boiling Water; M. Strain. (See *Rubefacients.*)

21. Cochlearia Armoracia. Horse-radish. *The root.*

Tetradynamia, Siliculosa.

Hab. Mountainous countries of Europe. Introduced.—*Herbaceous.*

Dose. Of strong infusion of the root, ℥ j. to ℥ ij.; repeated often.

Mildly emetic, and, like the mustard, employed only to evacuate the stomach when vomiting may be easily excited, or to promote the operation of more active emetics in cases of poisoning by narcotics.

Comb. Infusion of equal parts of, and of Flour of Mustard.

22. ERYTHRONIUM AMERICANUM. Dog's-tooth Violet. *The leaves and bulb.*

Hexandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. ℈ j. to ℈ ij.

Mildly emetic. Loses its virtues when dry. Nearly obsolete.

23. ASARUM EUROPÆUM. Asarabacca. *The leaves and root.*

Dodecandria, Monogynia.

Hab. Europe.—*Herbaceous.*

Dose. ℈ j. to ℈ ij.

An acrid, violent emetico-cathartic; once in considerable favor, now almost obsolete.

24. VERATRUM ALBUM. White Hellebore. *The root.*

Polygamia, Monœcia.

Dose. Gr. j. to grs. vj. (See *Cathartics*, No. 44.)

25. HYDRARGYRI SUBSULPHAS FLAVUS. Yellow Subsulphate of Mercury. Turpeth Mineral.

Comp. Binoxide of Mercury, 84.5. Sulphuric Acid, 15.5 = 100.

Dose. Grs. ij. to grs. v.

A dangerous and useless emetic; nearly obsolete.

26. NICOTIANA TABACUM. Virginian Tobacco. *The leaves.*

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Also, other cultivated species, particularly N. RUSTICA, N. REPANDA, and N. PERSICA.

Proximate Composition. The principal compounds chemically obtained from Tobacco are, 1. Nicotina (*Nicotin*), which is found in the whole plant. Unites with acids. A narcotic poison. 2. *Concrete Volatile Oil of Tobacco.* (*Nicotianin. Tobacco Camphor.*) From the dry leaves; the fresh leaves yielding none, and, therefore, the process of drying being necessary to the chemical transformation which, with the subsequent influences, results in the formation of the oil. (See *Institutes*, p. 27–29, § 52–54.) Powerful irritant. 3. *Empyreumatic Oil of Tobacco*, "is produced, in part at least, by the decomposition of some of the constituents of Tobacco."—(*Pereira.*) Supposed to be the "*Juice of cursed hebenon*," or "*Distilment*" *of Shakspeare.*

Too dangerous to be employed as an emetic, and found wanting in every other remedial aspect. (See *Institutes*, p. 715–722, § 960.)

An infusion, wine, and tincture of the leaves are in use. *Infusion*, ℞. Tobacco, ℥ ss.; Boiling Water, ℔ ss.; M. Strain.—*Dose*, ʒ j. to ʒ iv. *Dose*, of the Wine or Tincture, ʒ j. to ʒ iv.; as an emetic. Not more than 15 or 20 grains in 8 or 16 ounces of water should be given as an enema.

The greater violence with which this poison acts upon the system through the mucous tissue of the rectum than of the stomach, while it is inoffensive in its most

concentrated forms in chewing, smoking, and snuffing, is one of the thousands of demonstrations that remedies do not operate by absorption. An infusion of twelve grains of tobacco, administered as an enema, has proved fatal. See other facts supplied by Tobacco of the same import in *Institutes*, p. 675, § 904, *b;* p. 347, 348, § 516, *d*, No. 13; p. 718, § 960, *a*, *Note*.

Antidotes. None better are known than such as are employed for poisoning by opium. See Narcotics, Nos. 14, and 19.

RECENTLY OBSOLETE.

27. Dirca Palustris. Leather Wood. 28. Cupri Acetas. Acetate of Copper. 29. Convallaria Majalis. Lily of the Valley. 30. Narcissus Pseudo-Narcissus. 31. Cynanchum Vincetoxicum. 32. Paris Quadrifolia.

ORDER IV.

INTERNAL ALTERATIVES.

All remedies produce their essential effects by altering the existing condition of the vital properties, from whence result all the changes of function and all the changes of a physical or vital nature that are obvious to the senses. It is convenient, however, to distribute remedies into groups, according to some uniform, prominent, and important result, which certain groups are capable of producing.

I have included under the denomination of alteratives all such remedies as, in certain doses and at certain in-

tervals of exhibition, interrupt the progress of disease without any prominent demonstration. The changes which are thus induced are generally gradual, and may or may not be, sooner or later, attended by some evacuation, as with the group of cathartics. Thus, a profuse discharge of saliva may be established by minute doses of calomel, or an equally profuse secretion of bile and consequent diarrhœa; and antimony and ipecacuanha may occasion, in their small alterative doses, copious perspiration. (See *Preface* and *Institutes*, article *Alteratives* in Index.)

DISTRIBUTION OF INTERNAL ALTERATIVES.

I. General, Constitutional, Internal Alteratives, adapted to inflammatory and febrile diseases in a general sense.

II. Internal Alteratives, adapted mostly to particular conditions of disease.

Subdivisions.

1. Adapted to scrofulous and some other specific chronic inflammations.

2. Adapted to syphilis and certain other specific chronic inflammations.

3. Adapted to syphilis complicated with scrofula.

4. Adapted to rheumatic inflammation and gout.

5. Adapted to intermittent fever and intermittent inflammation.

6. Adapted to obstinate and chronic cutaneous diseases.

I. General Internal Alteratives,

Adapted to inflammatory and febrile diseases in a general sense.

GROUPS,

In the order of their relative therapeutic value.

MERCURIAL ALTERATIVES,

In the order of their relative therapeutic value.

1. Hydrargyri Chloridum. H. Submurias. Calomel. Submuriate of Mercury.

Dose. Gr. $\frac{1}{8}$ to grs. ij., repeated once in two to twelve or more hours.

Especially adapted to chronic inflammation, common or specific; less useful in acute inflammation, particularly the specific forms, but better suited than any other mercurial preparation. More useful in continued fever than in other types of fever. A valuable alterative in intestinal diseases attended by frequent watery discharges, especially of children, in doses of $\frac{1}{16}$ to $\frac{1}{4}$ of a grain, once in four to twelve hours, with or without opium or Dover's powder. Much less useful if the discharges be frequent and slimy. Effects cumulative. A poison to some constitutions, when given in alterative doses, and sometimes in large doses. (See *Cathartics*, No. 1.)

Comb. ℞. Calomel, gr. $\frac{1}{2}$ to grs. ij.; Tart. Antimon., gr. $\frac{1}{12}$ to gr. $\frac{1}{2}$; M.—℞. Calomel, gr. $\frac{1}{2}$ to grs. ij.; Ipecacuanha, gr. $\frac{1}{4}$ to gr. j.; M.—℞. Calomel, gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$; Aloes, gr. j to grs. ij.; Rhubarb, gr. j. to grs. v.

(Ipecac., gr. j.); M. In obstinate habitual constipation.—℞. Calomel, gr. ½ to gr. j.; Squill, gr. j. to grs. ij. (Ipecac., gr. ½ to gr. j.); M. Expectorant.—℞. Calomel, gr. ½ to gr. j.; Squill, gr. j. to grs. v. (Colchicum, grs. ij. to grs. v.); M. Diuretic.—℞. Calomel, Blue Pill; various proportions; M.—℞. Calomel, Opium (or Hyosciamus, or Cicuta); M.—℞. Calomel, Dover's Powder; M.—℞. Calomel, Opium, Camphor; M.—℞. Calomel, Mucilage of Gum Acacia, Prepared Chalk, (Camphorated Tincture of Opium); M. Where the proportions are undefined, they are apt to be very variable.

2. Hydrargyri Pilula. Blue Pill.

Dose. Gr. ⅛ to grs. v.

Three grains of the pill contain one grain of mercury.

Adapted to the same general conditions as calomel, and employed when a milder preparation is wanted. Often preferable in chronic diseases; less so in acute. Formulæ the same as for calomel. The following is an excellent alterative for habitual constipation: ℞. H. gr. ⅙ to gr. j.; Aloes, gr. ¼ to grs. ij.; Mastic, gr. ½, M. ft. pl. Generally the smallest proportions. One, night and morning. It soon establishes the secretion of bile, and so modifies the vital condition of the intestines as to enable the patient gradually to discontinue the medicine. It may be necessary to promote the effect, at first, by an enema or castor oil. Half a grain or a grain of ipecacuanha, or one or two grains of the extract of hyosciamus or of cicuta, may be sometimes advantageously added. This formula, like a more active one of the same nature under Calomel, is stated to exemplify the

action of this agent and the substances combined. (*Institutes*, p. 568, 569, § 889, *m*, *mm*.)

Other combinations may be formed as directed for Calomel in this order of antiphlogistics. (See *Cathartics*, No. 2.)

3. Hydrargyrum cum Creta. Mercury with Chalk.

Comp. Prepared by rubbing quicksilver with chalk. The mercury exists mostly in its metallic state. Eight grains contain three of mercury and five of chalk.

Incomp. Acids, Supersaturated salts, Acetates of Lead, Sulphates.

Very mild and certain. Gently laxative in a full dose, and rather less speedy in its constitutional effects than blue pill when given in small repeated doses. Much employed in the syphilis of infants, and in their strumous affections, especially of the lymphatic glands, but undoubtedly inferior to iodine as an alterative in these cases. Well adapted to many conditions of abdominal disease in children, especially in irritable states of the intestine.

Alterative dose. Gr. j. to grs. x., twice a day, or oftener.

Comb. Similar to those suggested for Calomel.

4. Hydrargyrum cum Magnesia. Mercury with Magnesia.

Very similar to the *Hydrargyrum cum Creta;* perhaps rather milder. Five grains contain nearly two grains of quicksilver; said to be in a state of minute division. *Doses*, the same as with No. 3.

5. Unguentum Hydrargyri. Blue Mercurial Ointment.

Comp. Mercury and lard, equal weights. The mercury is supposed by some to be merely finely divided, by others to be oxidized. May be separated without a de-oxidizing process.

Dose. Gr. j. to grs. v., made into pills.

Its constitutional action is said to be very certain when swallowed, but its use is mainly limited to the skin. When thus employed, it also acts with great certainty, especially if applied to a vesicated surface. Its great advantages arise from its substitution, in part or entire, for the internal administration of mercurials where they are contra-indicated by existing states of the stomach or bowels. Is also advantageously applied in connection with the internal use of mercurials, and may be employed in all the cases to which the foregoing preparations are adapted.

Comb. May form all the combinations with other substances which are appropriate to the Blue Pill.

Externally, ℥ ss. every hour or two for speedy salivation, or ʒ ss. to ʒ j., night and morning, in syphilis, etc. (See *Local Applications.*)

6. Hydrargyri Bichloridum. H. Murias. H. Chloridum Corrosivum. Bichloride of Mercury; Corrosive Sublimate.

Comp. Mercury, 73.53. Chlorine, 26.47 = 100 parts, or 1 atom of Mercury, and 2 atoms of Chlorine.

Dose. Gr. $\frac{1}{16}$ to gr. $\frac{1}{6}$. in water, spirit, or pill.

Incomp. Alkalies and Alkaline Carbonates, Soap, Lime Water, Acetate of Lead, Nitrate of Silver, Tart. Antimony, Iodide of Potassium, Iron, Infusions of As-

tringent and other Vegetable matters, and many Animal substances.

Poisonous in small quantities, but safe in proper doses, though apt to nauseate, gripe, and purge. Perhaps less likely to salivate than most other active preparations, and manifests useful effects without exerting any strongly marked influence upon the system, and is only adapted to some forms of chronic inflammation, especially venereal affections; also to chronic rheumatism, cutaneous diseases, diseases of the bones, in combination with sarsaparilla, etc.

℞. H. grs. ij. distilled water, ʒ iv. M.—*Dose*, half to one teaspoonful, increased. An equal part of Hydrochlorate of Ammonia increases the solvent property of the water.

Antidotes.—White of Eggs and other Albuminous Substances; Gluten of Wheat (Wheat Flour); Milk; Meconic Acid; Protosulphuret of Iron, if within 15 or 20 minutes after the poison is taken; Iron filings. Also, an infusion of Nut-galls or of Catechu or Kino immediately after the Albumen.

7. Hydrargyri Bicyanidum, or H. Cyanuretum. Bicyanide of Mercury.

Comp. Mercury. 79.91. Cyanogen, 20.09 = 100.

Rather milder than the bichloride of mercury and less irritating to the stomach and intestines. Employed in syphilis and other chronic inflammatory affections, though not much in use. Valued mostly for yielding hydrocyanic acid.

Given in pills and aqueous solution. *Dose*, one-sixteenth of a grain, gradually increased to half a grain.

8. Hydrargyri Acetas. Acetate of Mercury.

Comp. Protoxide of Mercury, 80.66. Acetic Acid, 19.34=100 parts.

Dose. Gr. j. to grs. v.

A mild preparation; but little employed, and mostly so in Syphilis.

9. Hydrargyri Sulphuretum cum Sulphure. Black Sulphuret of Mercury. Bisulphuret of Mercury with Sulphur. Æthiops Mineral.

Comp. Bisulphuret of Mercury, 58. Sulphur, 42=100 parts.

Dose. Grs. v. to ℥j.; for adults.

One of the mildest of the mercurials; rarely active. Employed mostly as a gradual alterative in chronic cutaneous diseases, and glandular affections, particularly of children. Once in repute, and has probably greater remedial virtues than is now attributed to it, with the advantage of ease and safety. This is especially true of those constitutions which are particularly susceptible of the action of mercury.

10. Hydrargyri Subsulphas Flavus. Yellow Subsulphate of Mercury. Turpeth Mineral.

Comp. Binoxide of Mercury, 84.5. Sulphuric Acid, 15.5 = 100.

Dose. Gr. ¼ to gr. j.

An acrid compound, occasioning severe emesis, purging, griping, and salivation, in small doses, especially as formerly employed in its sure emetic dose of three to five grains.

11. Hydrargyri Binoxydum. Binoxide of Mercury. Red Oxide of Mercury.

Comp. Mercury, 92.66. Oxygen, 7.34 = 100.

Dose. Gr. $\frac{1}{8}$ to gr. j.

An acrid substance, once in use in the treatment of Syphilis, but not much employed now for constitutional objects.

12. Hydrargyri Oxydum Rubrum, or H. Nitrico-Oxydum. Nitric Oxide of Mercury. Red Precipitate. Violent; nearly abandoned as an internal remedy. Employed externally in various affections of the surface. (See *Index.*)

ANTIMONIAL ALTERATIVES,

In the order of their relative value.

13. Potassæ Antimonio-tartras, or Antimonii Tartras. Tartrate of Antimony and Potash. Tartarized Antimony. Tartar Emetic.

Dose. Gr. $\frac{1}{20}$ to $\frac{1}{4}$, once in an hour to two or three hours, generally increased gradually, often to half a grain, seldom to one grain, and rarely to two grains without occasioning nausea, or vomiting. It may be often salutary in fevers, and inflammations, attended by high arterial excitement, to carry this remedy, and, also, Ipecacuanha, occasionally, though but for a short time, to the point of nausea; but, if continued nausea be kept up, the stomach is injuriously irritated, morbid sympathies propagated to the liver and other organs, and the whole condition of disease aggravated. The arterial excitement, it is true, will abate; but that is only a minor and deceptive symptom. Where the excitement does not exist, prolonged nausea is more detrimental. (See *Institutes*, p. 344, 345, § 516, *d*, No. 6; p. 355, § 526, *a*; p. 365, 366, § 551–556; p. 547–550, § 863, *d*; p. 557, § 873, *a*; p. 668, 669, § 902, *g–i*; p. 725–732, § 961–970.)

Water is the best vehicle for Tartarized Antimony, and the solution should be extemporaneously made.

Ranks in value after blue pill. Others would place it as the first of the alteratives, from its almost universal adaptation to fever and acute inflammations. But, though far more unreservedly applicable to these affections than the mercurials, antimony will not, in like manner, suddenly arrest them, and though succeeding where the mercurials may fail, the latter as often surpass the antimonials. Again, the mercurials exert a profound influence upon most chronic inflammations, of which the antimonials are far less capable.

Adapted to the hot stage of all fevers; and wherever constitutional excitement attends local inflammation, if not contra-indicated by irritable states of the stomach and intestines. Depresses the circulation, and establishes secretions in the skin, liver, and various other organs.

Comb. ℞. Tart. Antim., gr. $\frac{1}{12}$ to gr. $\frac{1}{2}$; Calomel, gr. $\frac{1}{2}$ to grs. ij. Though given separately, and often at different intervals, this mode of administration is nearly equivalent to the simultaneous.—℞. Tart. Antim., gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$; Calomel, gr. j. to grs. ij.; Guaiacum, grs. v. to grs. xv. (Dover's Powder, grs. ij. to grs. v.); M. In chronic rheumatism.—℞. Tart. Antimon., gr. $\frac{1}{16}$ to gr. $\frac{1}{6}$; Ipecac., gr. $\frac{1}{2}$ to gr. j. (Calomel); M.—℞. Tart. Antimon., gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$; Dover's Powder, grs. ij. to grs. v. (Calomel or Blue Pill); M.—℞. Tart. Antimon., gr. $\frac{1}{6}$ to gr. $\frac{1}{3}$; Syrup of Squill, ʒ ss. to ʒ j.; Emulsion of Gum Ammoniac, ʒ j. to ʒ ss.; Camphorated Tinct. of Opium, ℥ j. to ʒ j.; Syrup of Bals. Tolu, ʒ ss. to ʒ ij.; M.—℞. Tart. Antimon., gr. $\frac{1}{6}$ to gr. $\frac{1}{4}$; Sulph. Quinine, gr. $\frac{1}{2}$ to gr. j.; M.—

Also, as associated with Cathartics, under Aloes and Colocynth. (See *Emetics*, No. 2.)

(*a.*) *Wine of Antimony.* One ounce contains two grains of the salt.

14. Pulvis Antimonialis. Compound Powder of Antimony. James' Powder.

Comp. "A mixture of Antimonious Acid and Phosphate of Lime, with some Sesquioxide of Antimony and a little Antimonite of Lime." An imitation only of the *Nostrum*, whose composition is not accurately known.

Superseded by Tartarized Antimony. Very variable in strength, and therefore not to be depended upon.

Dose. Grs. ij. to grs. x., once in 2 to 4 hours.

15. Antimonii Oxysulphuretum, or A. Sulphuretum Præcipitatum. Kermes Mineral.

Dose. Gr. j. to grs. iij., once in 3 to 12 hours. As an emetic, grs. v. to grs. xv.

Uncertain; but all its effects like Tartarized Antimony, to which it is greatly inferior.

Usually combined with Calomel and Guaiacum, making the nostrum known as Plummer's Pill.

16. Antimonii Sesquioxydum. Sesquioxide of Antimony. Flowers of Antimony.

Comp. Antimony, 85. Oxygen, 15 = 100.

From the Sesquioxide is prepared the Oxychloride of Antimony, or Algaroth's Powder; uncertain in its operation, but still occasionally employed.—*Dose*, gr. j. to grs. x.

17. Antimonii Sulphuretum Præparatum. Prepared Sulphuret of Antimony.

Uncertain. Now confined to veterinary practice.

17½. Antimonii Vitrum. Glass of Antimony. Uncertain. Out of use.

VEGETABLE SUBSTANCES,

In the order of their relative value.

18. Cephaelis Ipecacuanha. Ipecacuanha.

Dose. Gr. ¼ to gr. j., once in 4 to 6 hours. (*Institutes*, p. 557, § 873, *a.*)

Should rank next after Tartarized Antimony. Is adapted to all the inflammatory affections to which Tartarized Antimony is suited, but is less efficient in most, though far more so in a few, as in dysentery. Is much inferior to antimony in idiopathic fever. May be employed in irritable states of the alimentary canal, where antimony cannot. Its advantages in some cases of indigestion have procured for it a place among the tonics; but its operation involves different principles.

Comb. ℞. Ipecac., gr. ½ to gr. j.; Calomel, gr. j. to grs. ij.; or Blue Pill, grs. ij. to grs. v. (Ext. Hyosciam., grs. ij.; or Opium, gr. 1/6 to gr. ½); M.—℞. Ipecac., gr. ¼ to gr. ½; Tart. Antimon., gr. ⅛; M.—℞. Ipecac., gr. ½ to gr. j.; Mercury with Chalk, grs. iij. to grs. v. (Opium, gr. 1/10 to gr. ¼); M.—℞. Ipecac., gr. j.; Camphorated Tincture of Opium, ʒ ss. to ʒ j.; M. Colds.—℞. Ipecac., gr. ¼ to gr. ½; Dover's Powder, grs. ij. to grs. v. (Calomel, gr. j. to grs. v.); M.—Ipecac., gr. j.; Rhubarb, grs. ij. to grs. v. (Blue Pill, grs. ij. to grs. v.); M.—Also, as associated with Cathartics, under Aloes and Colocynth.

See, also, other substances analogous to Ipecacuanha, among Emetics, No. 1, which may be employed in the present acceptation of Alteratives.

19. Rheum Palmatum. *Rhubarb.*

Dose. Gr. j. to grs. v., morning and evening. (See *Cathartics*, No. 12.)

Adapted to indolent inflammations complicated with indigestion and deficient secretion of bile.

This, and the two next following substances will probably appear to many not to belong to my denomination of Alteratives. If their remedial action, however, be duly considered, and how constantly low conditions of chronic inflammation remote from the abdominal organs, but complicated with derangements of those parts, and often more active forms of the disease, yield to the gradual influences of one or the other of these remedies, and how, also, indolent hepatic congestions give way to their moderate use, it will be allowed that these agents should fall within the present group of Alteratives, and that, in this relation, they illustrate the pathological complications of disease, and the involved influences by which those complications in their primary and sympathetic aspects are removed. It will be readily seen, too, how either of these three substances may be variously modified in their effects by associating other alteratives, according to the exigencies of disease; as iodine, or quinine, for example, or as occurs in the formula stated under Blue Pill, in the present order. (See *Institutes*, References and Index to article *Alteratives.*)

Comb. ℞. Rhubarb, gr. j. to grs. iv.; Aloes, gr. ¼ to gr. j.; Hard Soap, grs. ij.; M.—℞. Rhubarb, gr. j. to grs. iv.; Aloes, gr. ¼ to gr. j.; Blue Pill, gr. ⅓ to gr. ½; M.—℞. Rhubarb, gr. j. to grs. v.; Ipecacuanha, gr. ½ to gr. j.; Aloes, gr. ½ to grs. ij.; Soap, grs. ij. (Blue Pill, gr. ⅓ to gr. j.); M.—℞. Infusions of Rhubarb and

Bitter Tonics; M.—℞. Rhubarb, and Ferruginous Tonics (Camphor, Assafœtida); M.

20. Aloe Socotrina. Aloes.

Dose. Gr. ¼ to grs. ij., morning and evening. (See *Cathartics*, No. 6.)

Comb. As indicated under Rhubarb, No. 19.

Adapted to inflammations complicated with deficient action of the liver and intestines, and to some chronic hepatic congestions.

21. Oleum Ricini. Castor Oil.

Dose. ℈ j. to ℥ j., every evening. (See p. 37, No. 5.)

Comp. Carbon, 74. Hydrogen, 10.29. Oxygen, 15.71 = 100.

Adapted as No. 20, or to simple constipation, or to early stages of convalescence from fevers, &c. (See *Institutes*, p. 555, § 872, *a;* p. 568, § 889, *m.*)

22. Pulvis Ipecacuanhæ Compositus. Compound Powder of Ipecacuanha. Dover's Powder.

Comp. Ten grains contain one grain of Opium, one of Ipecacuanha, and eight of *Sulphate of Potash.*

Dose. Gr. j. to grs. x.

In this powder we have a good example of the modifying influences of remedial agents upon each other, and of the manner in which the several ingredients of a compound operate as an entire whole. The Sulph. Potash, however, contributes but little more than to promote the levigation of the opium, and its intimate incorporation with the Ipecacuanha. (See *Institutes of Medicine*, p. 94, 95, § 188½, *d;* p. 554–556, § 872.)

Adapted to some conditions of inflammation and fever

after bloodletting and cathartics, especially pneumonia and rheumatism. Often beneficial in allaying intestinal irritation. It is principally useful for the same purposes as opium, and, whatever may be its reputation as a "sudorific," it is not an agent upon which we may depend for any important curative influences. Where this confidence is reposed in its virtues it is apt to be oftener injurious than beneficial. It should never be employed where there is any cerebral disease. (See *Narcotics*, No. 13.)

23. Sanguinaria Canadensis. Blood Root.

Dose. Gr. j. to grs. iv., once in 4 to 6 or 8 hours.

Esteemed by many in typhoid pneumonia, rheumatism, catarrh, whooping cough, jaundice, etc., for all of which, however, there are far better, and less hazardous remedies. (See *Emetics*, No. 7.)

II. Internal Alteratives, adapted mostly to particular Conditions of Disease.

Unlike the "General Alteratives," a large proportion which fall under the present denomination are adapted only to a few conditions of inflammatory or febrile diseases. But, as several of the "General Alteratives" are also adapted to this limited range of affections, such of them as are thus endowed, are also brought under the present subdivision, that a comprehensive view may be presented of all the internal remedies that are applicable to what are called specific forms of disease; and by taking them in the order of their relative value as it respects the groups of diseases to which they are adapted, the relations which remedies bear to each other will be more

readily observed; our habits of analysis in this most important and difficult branch of therapeutics improved; and the means more accurately and readily seized which may be best suited to particular pathological conditions.

The arrangement, as usual, is intended to indicate the general relative value of the several agents; but here, as with the mercurials, &c., it is most convenient to go over at once with all the preparations of any compounded substance, from the best to the most inferior. Where this deviation from the general plan is adopted, it will be evident from the mode of arrangement.

SUBDIVISION I.

Adapted to scrofulous and some other specific chronic inflammations. In the order of their value.

PREPARATIONS OF IODINE,

In the order of their value.

1. IODINIUM. Iodine.

A simple elementary substance. Discovered in 1811. Found native in silver, zinc, and lead ores, in sea water, in many mineral waters. (See *Order* II. No. 26.) In animals, the genera *Spongia*, *Doris*, *Gorgonia*, *Sepia*, *Venus*, and *oil of Cod's liver;* in vegetables, the family *Algæ*, especially many *Fuci*. Also in phænogamous plants, as a species of *Agave*, *Salsola*, and of *Zostera*. It is principally obtained from the *kelp* of the *Fucoid* plants. Iodine is a crystalizable rhombic octahedron; but generally occurs in soft micaceous scales, of a greyish black, metallic lustre, and acrid taste. Odor strong and like chlorine, volatilizes at 347 degrees Fahrenheit, or with water at 212 degrees. Vapor, a fine violet, whence

the name, ιωδης, (iodes,) *violet colored.* Stains the cuticle and irritates the skin. Not often adulterated.

Iodine may remove disease without any other sensible manifestation of its action, although continued for a great length of time. (See *Institutes*, p. 612, 613, § 892½.) Various bad effects have been attributed to iodine by different observers, but those results appear to have been generally as different as the observers; so that there is much reason to believe that they may have been commonly owing to other causes, especially as many very able physicians, who have employed this medicine extensively, have rarely witnessed much inconvenience from it. Like all other agents, however, which possess active virtues in their relation to morbid states, its abuse or improper use will, of course, lead to injurious results. But there are certainly many articles far more capable of mischief, which are employed with comparatively little reserve, but which it would be well to surround with the precautions which have been invented for iodine. Different constitutions appear to be susceptible in different degrees of its effects, as witnessed of the mercurial preparations. If it be not adapted to any given case, the symptoms will admonish the practitioner in due time to abandon its use; or its effects, in other cases, will enable him to moderate or otherwise vary its exhibition. (See *Institutes*, p. 61, § 134; p. 63, § 137, *d;* p. 65, § 143, *c;* p. 67, § 150, 151; p. 73, § 163; p. 613, § 892½, *b.*)

Iodine and its preparations appear to be only adapted to chronic inflammations, unattended by much constitutional excitement. They should not be exhibited in irritable states of the stomach and intestines.

Like the "general" mercurial alteratives, all the iodines arranged here are capable of analogous effects—differing, indeed, in this respect, less than the mercurials, and mostly so in the intensity of their operation. They are said to be absorbed; and this is undoubtedly true, in a limited sense, though some able observers have failed to detect them in the blood. But this is in no respect a proof that the absorption is sufficient to produce any effect, while all physiology and all therapeutical analogies leave no doubt that the primary action is exerted upon the gastro-intestinal mucous membrane, and thence upon other parts through the cerebro-spinal and ganglionic systems.

Iodine and its preparations are the most efficient remedies for scrofula, in an abstract sense; which is more obviously true of bronchocele. They have been employed with success in some cases of chronic enlargements and indurations of the liver and spleen after depletion, in Europe and in the United States. They are not suited to pulmonary tubercles or pulmonary phthisis. They have been employed successfully in some cases of chronic dropsy, but much will depend upon its complications. Ovarian, and other internal tumors, chronic mammary tumor, indurated prostate, parotid, and lymphatic glands, chronic indurated enlargements of the uterus, incontinence of urine, leucorrhæa, chronic discharges from the nostrils, gout, secondary syphilis, paralysis, chorea, chronic rheumatism, chronic cutaneous diseases, phagedenic ulcers, amenorrhæa, and impotence, have yielded to a judicious use of iodine or its simple combinations.

Some rather active inflammations, occurring in scrofulous constitutions, not affecting important organs, as of

the conjunctiva, or eyelids, or ears, or skin, etc., yield remarkably to the alterative action of iodine. But there must be an absence of much general sympathetic excitement, which, in all cases, should be first subdued by the direct antiphlogistic means.

The action of iodine is generally slow, especially in chronic enlargements, often not manifesting its salutary effects till the expiration of several weeks. (See *Institutes*, article IODINE.)

The internal use of iodine may be commonly promoted by its external application. (See *Local Applications.*)

℞. Iodine, grs. xxx.; Alcohol, ℥ j.; M.—*Dose*, ten to twenty drops twice a day, gradually increased to forty, fifty, or one hundred.

℞. Iodine, grs. xxx.; Ether, sulphuric, ℥ j.; M.—*Dose*, as above.

Antidotes.—Should Iodine be taken in such excessive doses as to offend the stomach, a free use of starch, in solution, is the best corrective.

Comb. See No. 3, which embraces them.

2. POTASSII IODIDUM. Iodide of Potassium. Hydriodate of Potash.

Comp. Iodine, 76. Potassium, 24 = 100. Often adulterated with Carbonate of Potash.

Incomp. Acids, Acidulous and Metallic Salts.

Less energetic than iodine, but similar in its alterative effects.

℞. Potass. Iodid., grs. xxx. to ʒ j.; Distilled Water, ℥ j.; M.—*Dose*, 10 to 30 drops three times a day, gradually increased to 40, 60, or more.

Comb. See next following compound.

3. Potassii Iodidum Iodurettum. Iodurretted Iodide of Potassium.

Sometimes preferable to 1 or 2. The iodide of potassium increases, greatly, the solubility of iodine in water, and less so in alcohol.

℞. Iodine, grs. x to grs. xx.; Potass. Iodid., grs. xx. to grs. xxx.; Distilled Water, ℥ j.; M.—*Dose*, 10 to 20 drops, gradually increased.

℞. Iodine, grs. x. to grs. xx.; Potass. Iodid., grs. xx. to grs. xxx,; Alcohol, ℥ j.; M.—*Dose*, same as above.

Iodine, or the foregoing combinations, may be variously united with the extract of hyosciamus, or opium, where pain or general irritability exists, or with infusions of the bitter tonics.

4. Quiniæ Iodidum. Iodide of Quinine. Also, Quiniæ Biniodidum.

℞. Quinine, iodide, grs. xxx.; Alcohol, ℥ j.; M.—*Dose*, same as above.

Employed in scrofula, where quinine is indicated.

Comb. ℞. Quinine, iodide, grs. xxx.; Quinine, sulph., grs. iij. to v.; Alcohol, ℥ j.—*Dose*, same as above.

5. Acidum Hydriodicum. Hydriodic Acid.

Liable to decomposition.—*Dose*, of Dr. Buchanan's preparation, ♏ ss., two or three times a day, gradually increased.

6. Ferri Iodidum. Iodide of Iron.

Comp. Iron, 14. Iodine, 63.3. Water, 22.7 = 100.

Incomp. Alkalies and Alkaline Carbonates, Vegetable Astringents, Acids, &c.

Sometimes useful in scrofula, and in some indurated

tumors accompanied by simple indigestion, to which iron is adapted. Has been suggested in diabetes mellitus.

℞. Iron, iodid., ℈ iv.; Water distilled, ℥ j.; M.—*Dose*, 15 to 20 drops, two or three times a day, gradually increased to 40 or 60.

Wine or spirit may be substituted for the water.

7. Amyli Iodidum. Iodide of Starch.

A very mild preparation.—*Dose*, grs. xxx., two or three times daily, increased to ʒ iij. or ʒ iv.

8. Aquæ Minerales cum Iodinio. Iodine Mineral Waters.

Iodine occurs in waters at Saratoga, and in many springs in Great Britain, as at Leamington, Bonnington, Nantwich. But the quantities are small. Also, in Germany, Bavaria, and South America.

9. Barii Iodidum. Iodide of Barium.

An acrid agent.—*Dose*, gr. $\frac{1}{10}$, three times a day, cautiously increased to one or two grains.

10. Fucus Vesiculosus. Bladder Wrack. Sea Wrack. *The herb and fruit.*

Cryptogamia, Algæ.

Prepared by Incineration in a crucible, forming the Vegetable Ethiops.

Dose. Grs. xv. to ʒ ij., in syrup. The juice of the fresh plant is also employed. It appears to be ascertained that the *Fucus Palmatus*, which grows in deep water, and the *Fucus Digitatus* and *Fucus Loreus*, which form the "drift-weed," yield most of the iodine

found in kelp; while the *F. Vesiculosus* and *F. Serratus*, which form the "cut-weed," yield much smaller proportions.

11. Spongia Officinalis. Burnt Sponge.
Hab. Red. and Mediterranean seas.
Poriphera.
Like the fucus, it owes its virtues to the presence of iodine and bromine.—*Dose*, ʒ j. to ʒ iv.

12. Plumbi Iodidum. Iodide of Lead.
Comp. Lead, 45.1. Iodine, 54.9 = 100.
Dose. Gr. i., gradually increased to 5 or 10 grains.

13. Oleum Raiæ Clavatæ Jecoris, Skate's Liver Oil. Also, R. Batis.
Employed as Cod's Liver Oil. Yields more Iodide of Potassium than Cod's Liver Oil, and is less offensive to the taste. (See *Institutes*, p. 619, § 892½, *r*.)

14. Oleum Jecoris Aselli. Cod's Liver Oil.
Dose. ℥ ss. to ℥ ij.
Probably owes any virtues it may possess to the presence of a little iodine and bromine. In high repute with the Germans in scrofula, rickets, rheumatism, and chronic cutaneous diseases. Has no apparent physiological effects, and the German physicians say that its therapeutical influences are very slowly developed. Thirty-six pounds have been taken by an individual within the space of two years and a half.

PREPARATIONS OF BROMINIUM,

In the order of their value.

Bromine was discovered by Balard, in 1826. A simple elementary substance. Name derived from βρωμος (*bromos*), *a strong, rank odor.* Always combined. Found in *cadmium, zinc,* sea-water, many mineral waters, especially the *brine* in Europe and America. (See p. 57, No. 26.) In *organized bodies,* sea-weeds of the Mediterranean, etc.; in the officinal sponge, the testaceous molluscous *janthina violacea.* Generally procured from *bittern,* or from the mother waters of *kelp.* A blackish red, very volatile fluid. At 4 degrees Fahrenheit it becomes a yellowish brown, crystaline, brittle solid. Boils 116½ degrees Fahrenheit. Odor, something like chlorine; taste intense. Acts energetically on organic substances, as wood, etc., and destroys the animal texture.

Much more irritating to the stomach than iodine, but exerts analogous effects, as do, also, its corresponding combinations. They are therefore adapted to the same diseases; but iodine is the safer and probably more curative remedy. The bromides, however, should probably rank next after the iodide of quinine.

15. Potassii Bromidum. Bromide of Potassium.

Comp. Bromine, 67.42. Potassium, 32.58 = 100.

Incomp. Acids, Acidulous Salts, and Metallic Salts.

Crystalizes in whitish transparent cubes. Inodorous. Taste pungent and like common salt. Very soluble in water. Adapted to bronchocele and scrofula, internally and externally; also, like iodine, to chronic enlarged tumors, spleen, etc. Less energetic than bromine.

℞. Potass. bromide, grs. xxxij.; Water distilled, ℥ j.; M.—*Dose*, half a drachm to two drachms, three or four times a day. May be given in 4 to 8 grain doses, in the form of pills.

16. Ferri Bromidum. Bromide of Iron.

Brick-red color. Dissolves freely in water; deliquescent in air; styptic to taste. Adapted as the preceding. Actively tonic.

℞. Bromid., grs. xxx.; Water distilled, ℥ j.; M.—*Dose*, 15 to 30 drops, twice or thrice a day. May be given in the form of pills, in a dose of one or two grains.

17. Brominium. Bromine. The simple substance. See remarks above.

Its activity suits it to some cases in which the preceding preparations, or those of iodine, fail.

℞. Bromine, ♁ iv.; Water distilled, ℥ j.—*Dose*, 6 to 12 drops, two or three times a day, gradually increased and diluted with water.

Antidotes.—Solution of Starch, Magnesia.

18. Aquæ Minerales cum Brominio. Bromide Mineral Waters. (See p. 57, No. 26; p. 111.)

OTHER PREPARATIONS OF BARIUM.

19. Barii Chloridum. Muriate of Barytes.

Comp. Barium, 56.09. Chlorine, 29.26. Water, 14.63= 99.98 parts.

Incomp. Common Water, Soluble Sulphates, Carbonates, Tartrates, Borates, Phosphates, Oxalates, Acetates of Lead and of Mercury, Nitrate of Silver.

Crystalizes; taste bitter. Poisonous in over-doses,

like arsenic; in proper, cautious quantities, no sensible effects at first; often becomes laxative; improves the appetite. Principally adapted to scrofula, but has been successfully employed in the other affections to which iodine and bromine are better adapted. May be given in active scrofulous inflammation of the eyes, etc.

℞. Chloride of Barium, ʒ ij.; Water distilled, ℥ j.

Dose. 5 or 6 drops, cautiously increased till some nausea or giddiness is produced.

Antidotes. Sulphates of soda, of magnesia, alum, &c.

OTHER SUBSTANCES,

In the order of their relative value, but less frequently or less successfully applicable than the preceding.

20. SMILAX OFFICINALIS. S. MEDICA. S. SYPHILITICA. S. SARSAPARILLA? Sarsaparilla. *The root.* Diœcia, Hexandria.

Hab. Mexico, Guatemala, Magdalena river, Brazil, Jamaica.

Often inert from age, or the substitution of inferior species. The Brazilian and Honduras commonly the best. Should leave an acrid taste after being chewed. Has had a vacillating reputation. Renowned and exploded in secondary syphilis, and now restored again. Consumption large at present. Adapted to syphilis, scrofula, mercurial diseases, and to chronic cutaneous affections. It has also the special recommendation, as is said, of being "employed in other depraved conditions of the general health to which the physician may find it difficult to apply a name."—*Wood and Bache's Dispensatory*, p. 609. "Its mode of action," as also

said, "is less evident than its ultimate effects."—*Ibid.* But is not this equally true, and no more so, of all other remedies? "In this ignorance of its precise *modus operandi*, we may call it an *alterative*."—*Ibid.* But is not this equally true of all other absolute agents in respect to their effects upon disease, whether they produce evacuations or not?

Lawrence, Müller, and Pereira concur in the above opinion. Pereira agrees with Müller, that "the most plausible explanation of the agency of alterative medicines is that offered by Müller, which *assumes* that these remedies cause changes in the nutritive fluids, the chyle and blood, and thereby produce slight chemical alterations in organs morbidly changed in composition," and that sarsaparilla comes under this rule. This doctrine may be sustained by the authority of man, but it is not by nature. (*Institutes*, p. 676–679, § 904, *c*, *d*.)

Pereira commends sarsaparilla as having "the great advantage over many other alteratives and tonics, that although it may fail in doing good, it never does any harm, beyond that of now and then causing slight disorder of the stomach."—*Mat. Med.*, p. 669. Is it as curative, then, as imagined by our author and others, even upon the chemical hypothesis? If not, the obscurity clears up as to the *modus operandi*. Indeed, Pereira states, that "many practitioners have doubted or denied its remedial virtues, on what, it must be admitted, are *very plausible grounds*."—*Ibid.*

℞. Sarsaparilla, ℥ iv., boiled in two quarts of water to one.—*Dose*, 1 or 2 gills, three or four times a day. Far preferable to the syrup, which is liable to derange the stomach. A cold infusion is preferred by many to the

decoction. May be employed simultaneously with the foregoing preparations.

(*a.*) *Extract of Sarsaparilla*, when well prepared, possesses much of the virtues of the root.—*Dose*, ʒ ss. to ʒ iij.

21. Calcii Chloridum. Chloride of Calcium. Muriate of lime.

Comp. Calcium, 36.7. Chlorine, 63.3=100.

Incomp. Alkalies and Alkaline Carbonates, Sulphates, Sulphuric and Nitric Acids.

Perhaps from the affinity between the virtues of this substance and the chloride of baryta, it should follow that remedy. Safer than that, though probably less efficient. Employed with much success in scrofula, sometimes useful in pulmonary phthisis, even when attended by hectic fever. Also, in bronchocele, paralysis, chronic gouty affections.

℞. Calc. Chlorid., ʒ iij.; Water, distilled, ℥ j.; M.—*Dose*, 30 to 40 drops, twice or thrice a day, gradually increased, till slight nausea is produced.

22. Hydrargyri Bichloridum cum Iodinio. Corrosive Sublimate with Iodine.

See Subdivision III., No. 3, for *Dose*, &c.

23. Hydrargyri Iodidum. Iodide of Mercury.

See Subdivision II., No. 6, for *Dose*, &c.

24. Hydrargyri Biniodidum. Biniodide of Mercury.

See Subdivision II., No 10, for *Dose*, &c.

25. Hydrargyri Bicyanidum. Bicyanide of Mercury.

See Subdivision II., No. 8, for *Dose*, &c.

26. Hydrargyri Deuto-Bromidum. Deuto-Bromide of Mercury.

See Subdivision II., No. 12, for *Dose*, &c.

27. Hydrargyri Bichloridum. Corrosive Sublimate.

The four Mercurials, *Bichloride of Mercury*, *Bicyanide of Mercury*, *Biniodide of Mercury*, and *Deuto-Bromide of Mercury*, appear to be nearly alike in their energy and other therapeutic effects, and as irritant poisons in about the same quantities.

The Bichloride of Mercury is adapted to some indolent cases of scrofula, especially in combination with antimony, sarsaparilla, or tincture of cinchona.

See p. 94, No. 6, for *Dose*, &c.

28. Tinctura Ferri Sesqui-Chloridi. Tincture of Muriate of Iron.

Tonic; and adapted to indolent cases of scrofula attended by indigestion, without constitutional excitement. Also in repute with many in chronic enlargements of the liver and spleen, as connected with intermittent fever. *Dose*, 10 to 30 drops, twice or three times a day, gradually increased to one or two drachms.

29. Hydrargyri Sulphuretum cum Sulphure. Bisulphuret of Mercury with Sulphur.

Very mild; and sometimes employed in the scrofulous glandular affections of children.

See p. 96, No. 9, for *Dose*, &c.

30. Zinci Chloridum. Chloride of Zinc.

Comp. Zinc, 47. Chlorine, 53=100.

Whitish, soft, soluble in water, alcohol, or ether. Employed in scrofula, chorea, epilepsy. In large doses, a caustic poison.

℞. Zinc. chlorid., ʒ j.; ether, sulph., ℥ j.; M.—*Dose*, 5 to 10 drops, twice a day.

31. Chimaphila Umbellata. Pipsissewa. Wintergreen. *The herb.*

Decandria, Monogynia.

Hab. United States, Europe, Asia.—*Herbaceous.*

In considerable repute in scrofula, chronic affections of the urinary organs, rheumatism, and in dropsical affections attended by the indigestion which is relieved by mild tonics.

℞. Pipsis., ℥ j.; Water, ℔ iss.; M. Boil to ℔ j.—*Dose*, ℥ j to ℥ ij.

(*a.*) *Extract of Chimaphila.*—*Dose*, grs. x. to grs. xx., twice or thrice daily. (See *Index.*)

32. Conium Maculatum. Cicuta. Poison Hemlock. *The leaves and seeds.*

Pentandria, Digynia.

Hab. Europe, Asia. Introduced into the United States.—*Herbaceous.*

Dose, of leaves or seeds, grs. iij. or iv., gradually increased till slight vertigo or nausea arises.

(*a.*) *Extract of Cicuta*, which is mostly in use.—*Dose*, grs. ij., morning and evening, gradually increased.

(*b.*) *Tincture of Cicuta.*—*Dose*, ʒ ss. at first.

Employed in painful scrofulous and other chronic tumors, indurated liver, scirrus and chronic cutaneous

diseases. The relief which has been afforded by Cicuta in most of those affections is probably due to its mere effect in lessening *irritability* without affecting injuriously, like opium, the organs of digestion. (See *Institutes*, p. 89, § 188; p. 587, § 891, *i*; p. 681–683, § 905, *b*.)

33. GUAIACUM OFFICINALE. Guaiacum.
See SUBDIVISION IV., No. 4.

34. THE PREPARATIONS OF GOLD.
See *next Subdivision*.

SUBDIVISION II.

Adapted to syphilis, and certain other chronic inflammations. In the order of their relative value.

PREPARATIONS OF MERCURY,

In the order of their value.

1. HYDRARGYRI CHLORIDUM, or SUBMURIAS HYDRARGYRI. Calomel.
See p. 91, No. 1, for *Dose*, &c.

2. HYDRARGYRI PILULA. Blue Pill.
See p. 92, No. 2, for *Dose*, &c.

3. HYDRARGYRUM CUM CALCIS CARBONATE. Mercury with Chalk.
See p. 93, No. 3, for *Dose*, &c.

4. HYDRARGYRUM CUM MAGNESIA. Mercury with Magnesia.
See p. 93, No. 4, for *Dose*, &c.

5. HYDRARGYRI UNGUENTUM. Blue Mercurial Ointment.
See p. 94, for *Dose*, &c.

6. Hydrargyri Iodidum. Iodide of Mercury.

Comp. Mercury, 55.5. Iodine, 44.5=100 parts.

Greenish yellow. Insoluble in water or alcohol. Thought to resemble calomel. Given to children as well as adults.

℞. Iodide of Mercury, ʒ j.; Rose Conserve, ʒ ij.; M. Divid. into pil. No. lx.—*Dose*, 1 to 3 or 4, morning and evening.

7. Hydrargyri Bromidum. Bromide of Mercury.

Comp. Hydrarg., 1 eq. Brominium, 1 eq.

Purges moderately in 4 or 5 grains. Rather milder than calomel in its constitutional effects, which it resembles.

℞. Bromide Mercury, grs. xvi.; Ether, Sulphuric, ℥j.; M.—*Dose*, 10 to 20 drops, morning and evening, gradually increased to 60 or 100.

8. Hydrargyri Bicyanidum. Bicyanide of Mercury.

Comp. Mercury, 79.91. Cyanogen, 20.09=100.

Crystals, heavy, opaque, white, or transparent; inodorous, taste strongly metallic; soluble in water, very little in alcohol.

An energetic therapeutic agent, and an acrid poison in over-doses, rather less so than corrosive sublimate. Greatly commended by some in syphilis.

℞. Bicyanide of Mercury, grs. viij.; Water, distilled, ℥j.; M.—*Dose*, 5 drops, three or four times a day, gradually increased to 30 or 40 drops.

℞. H. B. grs. iv.; Crumb of Bread, ʒ ij.; M.—Divide into pil., No. lx.—*Dose*, 1 or 2, gradually increased to

15 or 20, or the proportion of the mercurial increased. Opium, morphia, or hyosciamus, etc., may be added.

Antidotes. None known. Emetics, or stomach pump.

9. Hydrargyri Bichloridum. Corrosive Sublimate.

See p. 94, No. 6, for *Dose*, &c.

10. Hydrargyri Biniodidum. Biniodide of Mercury.

Comp. Mercury, 44.5. Iodine, 55.5 = 100.

An irritant poison. Resembles corrosive sublimate, and adapted to syphilis, complicated with scrofula. Vermilion colored, changeable by heat to yellow, etc.

℞. Biniodide of Mercury, grs. x.; Ether, Sulphuric, ʒ j.; M.—*Dose*, 6 drops, two or three times a day, gradually increased to 20 or 30 drops. Strong alcohol will dissolve it; insoluble in water.

℞. Biniodide of Mercury, grs. iv.; Crumb of Bread, ʒ ij.; M.—Divide into pil., No. lx.—*Dose*, 1 or 2 pills morning and evening, gradually increased.

11. Potassii Iodo-Hydrargyras. Iodo-Hydrargyrate of Potassium.

Thought to be less likely to salivate than the other combinations of mercury and iodine. The following is the most convenient preparation.

℞. Biniodide of Mercury, grs. iv.; Potass. Ioduret, grs. iv.; Water, distilled, ʒ j.; M.—*Dose*, 20 to 40 drops, gradually increased, two or three times a day.

12. Hydrargyri Deuto-Bromidum. Deuto-Bromide of Mercury.

Resembles corrosive sublimate, but is more energetic, nauseating, purgative, and griping.

℞. Deuto-Bromide of Mercury, grs. viij.; Ether, Sulphuric, ℥ j.; M.—*Dose*, 10 to 20 drops, after eating, once or twice a day.

13. Hydrargyri et Arsenici Iodidum. Iodide of Mercury and Arsenic.

Particularly in Venereal Eruptions.

℞. Iodide of Mercury and Arsenic, grs. ij. to v.; Water, distilled, ℥ j.; M.—*Dose*, 10 to 20 drops, thrice a day, gradually increased.

14. Pilulæ Hydrargyri Chloridi Compositæ. Compound Calomel Pills.

Comp. Calomel, Oxysulphuret of Antimony, each ʒ ij.; Guaiacum, Resin of, ℥ ss.; Treacle, ʒ ij.; M.—Ft. pil.

Dose. Grs. v. to grs. x.

In repute in the papular and pustular conditions of syphilis, and chronic eruptions of the skin.

15. Other Preparations of Mercury. Also, Simple Preparations of Iodine. (See *Index.*)

OTHER SUBSTANCES.

16. Smilax Sarsaparilla. Sarsaparilla. *The root.* See p. 113, No. 20, for *Dose*, &c.

17. Acidum Nitricum. Nitric Acid.

Dose, of *dilute* nitric acid, 20 to 40 drops; of *strong*, 5 to 10 drops. (See *Index.*)

18. Acidum Nitro-Hydrochloricum. Nitro-Hydrochloric Acid.

Dose. 2 to 5 drops, diluted, and gradually increased.

Applied, also, as a bath, or the body sponged, in syphilis and hepatic affections.—℞. the Acid, ℥ iv. to ℥ vj.; Water, three gallons; Mix in a deep foot tub. Time for immersion 10 to 40 minutes.

19. Guaiacum Officinale. Guaiacum.

See p. 131, No. 4, for *Dose*, &c.

20. Strychniæ Acetas. Acetate of Strychnine.

℞. The Acetate, grs. iij.; Alcohol, ℥ j.; M.—*Dose*, 5 to 30 drops, at night.

Employed in deep-seated syphilitic pains.

21. Daphne Mezereum. Mezereon. *Bark of the root.*

See p. 135, No. 13, for *Dose*, &c.

22. Lappa Minor. Burdock. Clot-Bur. *The seeds and root.*

Syngenesia, Polygamia Æqualis.

Hab. United States; Europe.—*Herbaceous.*

Dose, of strong decoction of the Root, ℥ ij. to ℥ iv., three or four times daily.—*Dose*, of Seeds, ℥ j.

Mildly laxative and diuretic. Employed in syphilis, chronic rheumatism, gout, &c.

PREPARATIONS OF GOLD,

In the order of their value.

All the preparations of gold are inferior, at least, to the mercurials, and probably to most of the other preceding substances. Does metallic gold operate by absorption? Has it been "found in the blood and secretions?" Has it been "injected into the veins?" "It is said to promote, in its *metallic state*, the secretions of the skin, kidneys, and salivary glands."—PEREIRA. Also, *Christison*, *Niel*, and others. Is its *modus operandi* understood?

The preparations of gold have been mostly employed in secondary syphilis; but, also, in scrofula, bronchocele, and other chronic tumors, chronic diseases of the skin, etc.

Great discrepancy of opinion exists as to the power of these substances, which professes to be founded upon careful observation. In the latest works on Materia Medica they continue to be represented as agents of great energy, and scarcely surpassed by corrosive sublimate as acrid poisons. Thus, it is said by *Dr. Royle*, that the dose of *Powdered Gold* is "gr. $\frac{1}{4}$ to gr. j., two or three times a day, or *applied in friction to the tongue*." Of *Perchloride of Gold*, that "in action and virulence, it is analogous to Corrosive Sublimate." "The *Chloride of Gold and Sodium* is most to be depended upon," the dose of which is gr. $\frac{1}{15}$ at first, which has been gradually increased to gr. $\frac{1}{2}$.—ROYLE, *Materia Medica*, *London*, 1846.

On the other hand, it appears to be less generally known that these reputedly violent agents have been administered by distinguished physicians in Paris in doses

exceeding *ten grains*, and in some instances to children, without any apparent effect. But as caution, in medicine particularly, is the parent of safety, I shall submit, with the foregoing explanation, the most approved formulæ and doses, as standards for farther experimental trials to such as may refer to this work for information.

23. Sodii Auro-Terchloridum. Auro-Terchloride of Sodium.

Orange colored ; soluble in water.

℞. Auro-Terchlor. of Sodium. gr. j. ; Crumb of Bread, ℈ij. ; M. Divid. into pil. No. xv.—*Dose*, one or two, twice or thrice a day, gradually increased.

24. Auri Teroxydum. Teroxide of Gold.

Brown colored ; reduced by solar light and heat.

℞. Teroxide of Gold, gr. j. ; Crumb of Bread, ℈j. ; M. Divid. into pil. No. x.—*Dose*, one to five or ten, once or twice a day, gradually increased.

25. Auri-Terchloridum. Terchloride of Gold.

Orange-red colored ; strong styptic taste ; inodorous.

℞. Terchloride of Gold, grs. ij. ; Water, distilled, ℥j. ; M.—*Dose*, twelve to twenty drops, once or twice a day, gradually increased.

26. Auri Iodidum. Iodide of Gold.

Greenish yellow.

℞. Iodide of Gold, gr. j. ; Crumb of Bread, ℥ ss. ; M. Divid. into pil. No. xx.—*Dose*, one or two, twice or thrice daily, gradually increased.

27. Auri Tercyanidum. Tercyanide of Gold. Cyanide of Gold.

Yellow powder; insoluble in water.

℞. Tercyanide of Gold, gr. j.; Crumb of Bread, ʒ ss. Divid. into pil. No. xx.—*Dose*, one or two, twice or thrice daily, gradually increased.

28. Auri Pulvis. Powdered Gold.

℞. Powdered Gold, grs. x.; Crumb of Bread, ℈ iv.; M. Divid. into pil. No. xl.—*Dose*, one to four, three or four times a day, gradually increased.

29. Auri Ammoniaretum. Aurate of Ammonia. Ammoniuret of Teroxide of Gold. Fulminating Gold.

Dose. Same as No. 27.

This preparation is said to have been fatal. Explodes at 400°.

30. Aurum Stanno Paratum. Purple of Cassius.

Dose. Same as No. 28.

PREPARATIONS OF SILVER.

Order of value undetermined.

All the following preparations of silver have been but little employed, and only so for syphilis. Like the mercurials, they are applied externally as well as internally. They never salivate, and produce but little intestinal or constitutional irritation. These are great recommendations, should these remedies prove themselves worthy, which is scarcely to be expected.

Argenti Chloridum. Chloride of Silver.

Argenti et Ammoniæ Chloridum. Chloride of Silver and Ammonia.

Argenti Iodidum. Iodide of Silver.

Argenti Cyanidum. Cyanide of Silver.
Argenti Oxydum. Oxide of Silver.

MORE OR LESS OBSOLETE.

Clematis Erecta.—Stillingia Sylvatica.—Lobelia Syphilitica.—Kalmia Latifolia.—Piper Angustifolium.—Senecio Jacobœi.—Dalibarda Repens.—Ceanothus Americanus.—Celastrus Scandens.—Sassafras Officinale.

SUBDIVISION III.

Adapted to syphilis complicated with scrofula. In the order of their value.

The effect should come rather short of salivation.

1. Hydrargyri Iodidum. Iodide of Mercury.
See p. 119, No. 6, for *Dose*, &c.
May be often very advantageously combined with free iodine.

2. Hydrargyri Bromidum. Bromide of Mercury.
See p. 119, No. 7, for *Dose*, &c.

3. Hydrargyri Bichloridum cum Iodinio. Corrosive Sublimate with Iodine.
An extemporaneous combination, which should rank perhaps higher. The proportions must be regulated by the circumstances of the case; and it is often useful to associate a decoction of sarsaparilla in the treatment.

4. Hydrargyri Biniodidum. Biniodide of Mercury.
See p. 120, No. 10, for *Dose*, &c.

5. Acidum Nitricum. Nitric Acid.

See p. 121, No. 17, for *Dose*, &c.

Commonly most useful when conjoined with a decoction of sarsaparilla.

6. Acidum Nitro-Hydrochloricum. Nitro-Hydrochloric Acid.

See p. 122, No. 18, for *Dose*, &c.

7. Ferri Iodidum. Iodide of Iron.

See p. 108, No. 6, for *Dose*, &c.

8. Hydrargyri Bichloridum. Corrosive Sublimate.

See p. 94, No. 6, for *Dose*, &c.

9. Smilax Sarsaparilla. Sarsaparilla.

See p. 113, No. 20, for *Dose*, &c.

10. Guaiacum Officinale. Guaiacum.

See p. 131, No. 4, for *Dose*, &c.

SUBDIVISION IV.

Adapted to rheumatic inflammation and gout. In the order of their value.

1. Bloodletting, General and Local.

This remedy is so important in acute rheumatism and often in gout, that it must be incorporated as the first, although with remedies which are especially relative to the specific forms of disease. This, however, is not less true of all severe specific inflammations, acute or chronic, loss of blood having a reference to the general principles of treatment, and the agents of special virtues to the special conditions which distinguish *specific* forms from the

common form of inflammation. For a like reason, *cathartics* should stand next after loss of blood in this subdivision, particularly calomel and blue pill, as there is generally present much abdominal disease in acute rheumatism. Tartarized Antimony is also a general remedy; but its advantages have come to be so generally recognized in the treatment of rheumatism, that it might be placed at the head of the "*specifics*," without the explanation which many might require as to bloodletting and cathartics. And so, again, of EXPECTORANTS. (See *Institutes*, p. 65, § 143, *c*; p. 67, § 150; p. 424, 425, § 662, *a–c*; p. 430–433, § 675; p. 553, § 870, *aa*; p. 597, § 892, *c*; p. 641, § 892⅘, *i*; p. 662–664, § 895–900.)

The remedies which are included in this group, with the exception of loss of blood and tartarized antimony, are mainly adapted to chronic rheumatism, or to acute rheumatism after it has passed its active stages.

2. POTASSÆ ANTIMONIO-TARTRAS. Tartarized Antimony.

Adapted especially to acute rheumatism, and should be exhibited every hour or two, in doses increased as far as may be without nausea. Is generally borne in rheumatic inflammation in larger doses than in any other, at least in the United States. Can rarely be carried beyond two grains, nor often beyond half a grain at a dose. There has never been any such experience with the large doses of tartar emetic in America, as represented by Rasori, Lænnec, and others, in Europe. Such quantities would be fatal to most of our patients. It is remarkable, and it cannot be too often repeated, that they, who commend this substance in the excessive doses

of many grains at intervals of two hours, are especially those who have been most alarmed at the loss of blood in the same inflammatory affections for which they administer this substance in such poisonous quantities.

See p. 77, No. 2; and for *Dose*, &c., see p. 97, No. 13.

3. Colchicum Autumnale. Meadow Saffron. *The root, and seeds.*

Hexandria, Trigynia.

Europe. Most active just before the production of the flower, in July and August. An active poison in excessive doses, Apt to nauseate and purge, or prove emetic. Affords most relief when it purges, and often none till this effect is produced. Promotes the secretions, especially of the intestinal mucous membrane; often lessens the frequency of the pulse; not stimulant, but irritant to the general and local circulation in all high grades of inflammation. Bloodletting should therefore precede if there be much inflammation. Not adapted to acute rheumatism till all violence of the disease is overcome, and where pain may afterward prove obstinate, when, as in gout also, where it is most useful, it will often yield relief very quickly. (See *Cathartics*, No. 45. Also, *Diuretics*, *Anthelmintics*, *Antispasmodics*.)

Substance, and Preparations, in the Order of their Value.

(*a.*) *Vinum Seminum Colchici.* Wine of Colchicum Seeds.—*Dose*, twenty to eighty drops, gradually increased.

(*b.*) *Vinum Bulbi Colchici.* Wine of Colchicum

Root.—*Dose*, twenty to eighty drops, gradually increased.

(*c.*) *Tinctura Seminum Colchici.* Tincture of Colchicum Seeds.—*Dose*, twenty to eighty drops, gradually increased.

(*d.*) *Acetum Colchici.* Acetate of Colchicum.—*Dose*, thirty to one hundred drops, gradually increased.

(*e.*) *Oxymel Colchici.* Oxymel of Colchicum.—*Dose*, forty to sixty drops, gradually increased.

(*f.*) *Pulvis Seminum Colchici.* Powder of Colchicum Seeds.—*Dose*, two to ten grains.

(*g.*) *Pulvis Bulbi Colchici.* Powder of Colchicum Root.—*Dose*, two to ten grains.

(*h.*) *Extractum Bulbi Colchici.*—Extract of Colchicum Root.—*Dose*, gr. j.

(*i.*) *Extractum Bulbi Colchici Acetum.* Acetated Extract of Colchicum Root.—*Dose*, gr. j. to grs. iij.

All the foregoing preparations may be administered from once in four to twelve hours.

Colchicinia, active proximate; very poisonous; resembles *veratria* in its effects.

4. Guaiacum Officinale. Officinal Guaiacum. *The wood and resin.*

Decandria, Monogynia.

Hab. St. Domingo; Jamaica.—*Tree.*

An acrid stimulant, and therefore suited only to chronic forms of rheumatism and gout. Also, syphilis, indolent forms of scrofula, chronic cutaneous diseases, some cases of amenorrhœa. (See *Institutes*, p. 628, 629, § 892⅔, *q–t*; p. 684–687, § 905½, *b.*)

The Substances and their Preparations, in the Order of their Value.

(*a.*) *Resina Guaiaci.* Resin of Guaiacum.—*Dose*, grs. x. to grs. xxx., once, twice, or thrice daily.

(*b.*) *Tinctura Guaiaci.* Tincture of Guaiacum.—*Dose*, ʒ j. to ʒ ss., once or twice daily.

(*c.*) *Decoctum Ligni Guaiaci.* Decoction of Guaiacum Wood.—℞. Guaiacum Turnings, ʒ ij.; Water, ℔ vj. Boil to three pints.—*Dose*, a gill, four or five times daily.

(*d.*) *Tinctura Guaiaci Composita.* Compound Tincture of Guaiacum.—*Dose*, ʒ ss. to ʒ ij. Too stimulant for this group, but appropriate as an emmenagogue, once or twice daily.

A peculiar resin, and aqueous extractive, the active proximates.

5. Veratrum Album. White Hellebore.

A powerful acrid. Employed in gout and chronic rheumatism, often combined with opium. (See *Cathartics*, No. 44.)

Substances and Preparations, in the Order of their Value.

(*a.*) *Vinum Veratri.* Wine of White Hellebore.—*Dose*, ten to fifteen drops, twice or thrice daily.

(*b.*) *Tinctura Veratri Albi.* Tincture of White Hellebore.—*Dose*, five to eight drops, carefully increased, two or three times daily.

(*c.*) *Pulvis Veratri.* Powder of White Hellebore.—*Dose*, gr. j. to grs. ij., gradually increased.

Veratria, active proximate. (See *Asagræa.*)

Elementary Comp. of Veratria. Carbon, 70.83. Hydrogen, 7.64. Nitrogen, 4.86. Oxygen, 16.67=100.

6. ASAGRÆA OFFICINALIS. (*Veratrum Officinale. Helonias Officinalis.*) Spike-flowered Asagræa. Sabadilla. Cebadilla. *The seeds.*

Hexandria, Trigynia.

Hab. Mexican Andes.—*Herbaceous.*

Virtues similar to veratrum album, though more acrid. Most useful externally in rheumatism, neuralgia, and paralysis.

Substances and Preparations, in the Order of their Value as Internal Agents. Externally, c, e, d, and a.

(*a.*) *Extractum Alcoholicum Sabadillæ.* Alcoholic Extract of Sabadilla.—*Dose*, one-fifth of a grain, cautiously increased.

(*b.*) *Pulvis Seminum Sabadillæ.* Powder of Sabadilla Seeds.—*Dose*, one to five grains, gradually increased.

(*c.*) *Veratria.*

℞. Veratria, grs. ij.; Ext. Hyosciam., grs. xxiv.; M. Divid. into pil. No. xxiv.—*Dose*, one pill once in three or four hours, or two pills once in six or eight hours.

(*d.*) *Tinctura Veratriæ.* Tincture of Veratria.

℞. Veratria, grs. ij.; Alcohol, ℥ ss.; M.—*Dose*, ten to thirty drops, largely diluted. Analogous to tinct. colchici.

(*e.*) The *Sulphate* and *Tartrate of Veratria* may be used instead of the alkali.—*Dose*, the same.

Veratria and *Sabadillina*, the active proximates, are generally united.

Antidotes. The same as indicated under No. 8.

7. VERATRUM VIRIDE. American Hellebore. *The root.*

Polygamia, Monœcia.

Hab. United States.—*Herbaceous.*

Very similar to the veratrum album. Actively emetic in doses of 4 to 6 grains of the powder, or 1 to 2 grains of the extract. Lessens frequency of pulse in emetic doses. Applied, also, externally.

(*a.*) *Vinum Veratri Viridis.* Wine of American Hellebore.—*Dose*, ten to forty drops.

(*b.*) *Pulvis V. V.*—*Dose*, grs. j. to ij.

(*c.*) *Ext. V. V.*—*Dose*, gr. $\frac{1}{4}$ to $\frac{1}{2}$, twice or thrice daily.

8. DELPHINIUM STAPHYSAGRIA. Staves-acre. *The seeds.*

Polyandria, Trigynia.

Hab. Europe, Levant.—*Herbaceous.*

Also, *D. Consolida* and *D. Exaltatum.*

The proximate, *Delphinia*, employed. Analogous to Sabadilla, No. 6.

℞. Delphinia, grs. ij.; Ext. Liquorice, ℈ j.; M. Divide into pil. No. xx.—*Dose*, one to six.—℞. Delphinia grs. ij.; Ext. Hyosciam., ℈ j–ʒ ss.; M. Divide into pil. No. xx.—*Dose*, one, every 3 or 4 hours.

Also externally, in form of tincture.

Antidotes. Perhaps vegetable astringents, coffee, but mostly what may be suggested by the symptoms. The same for poisoning by substances containing *veratria.*

9. Potassii Iodidum. Iodide of Potassium.

In chronic rheumatism and gout.

See p. 107, No. 2, for *Dose*, &c.

10. Xanthoxyllum Fraxineum. Prickly Ash. Toothache Tree. *The bark.*

Dicœcia, Pentandria.

Hab. United States.—*Shrub.*

Dose. Grs. x. to ʒ ss., three or four times daily.

Infusion. ℞. the Bark, ℥ ss.; Water, ℥ xvj.; M.—*Dose*, ℥ ss. to ℥ ij.

Stimulant and diaphoretic; being analogous to guaiacum and mezereon. In chronic rheumatism.

11. Aquæ Minerales cum Acido-Hydro-Sulphurico. Mineral Waters containing Sulphuretted Hydrogen.

In chronic rheumatism. (See *Cathartics*, No. 26.)

12. Aconitum Napellus. Aconite. Wolfsbane, Monkshood. *The leaves and root.*

Polyandria, Trigynia.

Hab. Europe.—*Herbaceous.*

Dose, of Alcoholic Extract, gr. $\frac{1}{10}$ to gr. $\frac{1}{6}$, three or four times daily.—*Dose*, of Tincture, five drops, three or four times daily. Very cautiously increased.

A virulent narcotic poison. Pure Aconitine is the most active poison known; one-fiftieth part of a grain having endangered the life of an adult.

Much commended by some writers as an internal remedy for chronic rheumatism, and the moderated stages of acute, when attended by much pain. Others, commendably cautious, as well as more successful in its

external use, limit its application to the surface. Its usefulness appears to depend mostly upon its power of diminishing morbid *sensibility*, and thus relieving pain, and in simply lessening *irritability*, without other alterative action. Hence it is most useful in neuralgia, where, as externally employed (along the course of an affected nerve), it often yields complete relief while the application is in progress. (See p. 117, No. 32, *Conium*. Also, *Index*, article *Aconitina*.)

Antidotes.—Agents which are so rapid in their effects, are scarcely moderated by emetics unless speedily applied; nor is there any known chemical or reliable antidote for most of the narcotic poisons. The treatment must proceed upon general principles, and in conformity with the symptoms of individual cases. The obvious relief which is afforded by coffee in cases of poisoning by opium suggests that remedy for those narcotics whose effects, like aconite, are more or less analogous; and this is rendered more probable by the advantages yielded by stimulants in the early stages of great depression from hydrocyanic acid, tobacco, aconite, veratria, delphinia, &c.; or, again, by bloodletting at more advanced stages of poisoning by the same agents.

13. Daphne Mezereum. Mezereon. Spurge Olive. *Bark of root.*

Octandria, Monogynia.

Decoction. ℞. Mezereon, ʒ ij.; Water, ℔ iij. Boil to ℔ ij.—*Dose*, ℥ j. to ℥ iij., three or four times daily. Generally combined with Sarsaparilla, as employed in chronic rheumatism and syphilis. (See *Cathartics*, No. 55.)

14. Solanum Dulcamara. Bitter-sweet. Woody Nightshade. *Twigs and stem.*

Pentandria, Monogynia.

Hab. United States; Europe; Asia.—*Shrubby.*

Decoction. ℞. Twigs chopped, ʒ j.; Water, ℔ iss. Boil to ℔ j.—*Dose*, ʒ j. to ʒ iv., three or four times a day.

Narcotic in large doses. Promotes the secretions. Employed more extensively in chronic affections of the skin.

The *Solanum Nigrum*, Black Nightshade, is supposed to be endowed with the same properties, and is worth farther trial on account of its greater, but simple anodyne virtue.

15. Potassii Cyanidum. Cyanide of Potassium.

℞. Cyanide of Potass., grs. viij.; Distilled Water, ʒ j.; M.—*Dose*, 15 drops gradually increased to 60 or 80. ℞. Cyanide of Potass., grs. vj.; Ext. Liquorice, grs. vj.; M.—Divide into 12 pills.—*Dose*, one pill, two or three times a day.

Applied, also, externally; when the proportions of the solution are grs. ij. to viij. and Water, ʒ j.; or of ointment, grs. ij. to x.; Lard, ʒ j.

A violent poison, similar to hydrocyanic acid. Employed very successfully by some for the relief of pain in chronic rheumatism, neuralgia, and cephalalgia; especially to the surface.

Antidotes.—The same as for poisoning by hydrocyanic acid. (See No. 12.)

16. Aralia Spinosa. Angelica Tree. *The bark.*

Pentandria, Pentagynia.

Hab. United States.—*Shrub.*

Dose. Of Decoction, ʒ j. to ʒ ij., two or three times a day.

Proves cathartic and emetic in full doses, and is stimulant to the general circulation. Employed, also, in syphilis, and diseases of the skin.

The *Aralia Nudicaulis*, False Sarsaparilla, is officinal, and is applied as the foregoing—being also used by some as a substitute for the true Sarsaparilla ; but it appears to be overrated by such as employ it.

17. Cimicifuga Racemosa. Black Snake-Root. Cohosh. *The root.*

Polyandria, Pentagynia.

Hab. United States.—*Herbaceous.*

Decoction. ℞. Bruised Root, ʒ j. ; Boiling Water, ℔ j. *Dose*, ʒ j. to ʒ ij., four or five times daily.

Besides the advantages of this stimulant diaphoretic in chronic rheumatism, and probably sometimes as an antispasmodic, it has a greater, but factitious reputation in pulmonary diseases. (See *Institutes*, p. 636-642, § 892½, *d-i.*) Has been recommended, also, for diarrhœa, cholera morbus, chronic vomiting, facial neuralgia, amenorrhœa, cardialgia, dysentery, scirrus of the stomach, &c.

18. Juniperus Sabina. Common Savin. *Tops and leaves.*

Dicœcia, Monadelphia.

Hab. Southern and Midland Europe. Introduced.—*Bushy Shrub.*

Infusion. ℞. Tops or Leaves, ʒ ij. to ʒ iij., bruised; Boiling Water, ℔ j. *Dose*, ʒ ss. to ʒ j. (See *Index.*)

A powerful stimulant and irritant ; poisonous in over-

doses, especially the oil, which is employed as a useful emmenagogue and anthelmintic.

Antidotes.—Evacuate the stomach. Opiates, perhaps. Early bloodletting when gastro-intestinal inflammation sets in.

19. PHYTOLACCA DECANDRIA. Poke Root. (See *Cathartics*, No. 47.)

Dose. Of Root, gr. j. to grs. vj., three or four times a day. A tincture of the berries is also employed.

This is the only useful place which the Poke Root can occupy as an internal agent. (See *Index.*)

20. OLEUM TEREBINTHINÆ. Oil of Turpentine. (See *Index.*)

Dose. ʒ j. to ʒ ij.

This agent has lost nearly as much of its repute in the treatment of chronic rheumatism, as in puerperal fever, common fever, chronic dysentery, epilepsy, dropsy, and neuralgia. As an external applicatiou, it is often beneficial; especially when combined with ammonia, tincture of opium, and tincture of camphor, in equal parts or other suitable proportions. (See *Index.*)

BECOMING OBSOLETE.

21. AJUGA CHAMÆPITYS. Ground Pine. 22. CALOTROPIS GIGANTEA. Mudar. 23. MAGNOLIA GLAUCA, AND OTHER SPECIES. Magnolias of the United States. 24. RHODODENDRON CRYSANTHUM. Rhododendron. 25. TEUCRIUM CHAMÆDRYS. Wall Germander. 26. ARSENIC. 27. COCHLEARIA OFFICINALIS. Horseradish.

SUBDIVISION V.

Adapted to intermittent fever and intermittent inflammation.

In the order of their value.

The following remedies require the previous reduction of much constitutional excitement, or of local inflammation, or of venous congestions, either by bloodletting, or cathartics, or emetics, or antimonials. They are otherwise morbific; or, if they interrupt constitutional fever, some local disease may remain and become the exciting cause of another attack of the general malady.

Bark and its preparations are also frequently administered in excess; for, although large doses may arrest the fever abruptly, they are very apt to establish some local disease. I have rarely administered more than one grain of the sulphate of quinia at a dose, once in two to four hours; and so of the rest. An eighth to a quarter of a grain is generally as much of the sulphate as should be given at a dose in intermittent inflammation, or where febrile paroxysms run into each other, and then only after free depletion. Antimonials should be now generally administered along with the bark.

All the agents of this group act in virtue of febrifuge, not of tonic properties, though most of them happen to possess the latter. (See *Institutes*, p. 430–433, § 675; p. 553, § 870, *aa*; p. 597–607, § 892, *c–r*; p. 609, § 692¼, *c–d*. Also, *Medical and Physiological Commentaries*, Vol. II., p. 521–546.)

All the substances, with the exception of arsenic, may be administered once in two or three hours, in quotidi-

ans, and once in three or four hours, in tertians, during the intermission.

Cinchona. Several species of Cinchona, yielding alkaloids of febrifuge virtues, present themselves as the sources from which the best remedies in the present group are derived.

The following are the principal sources of Peruvian Bark, although as late as 1836, Dughesne mentions about ninety species. Some three-fourths of these, however, are worthless, and have been distributed into eight or more genera.

Pereira's analysis of the barks is very critical, and by far the best. They are to be distinguished mostly by their external appearance. A tabular view will suffice for general purposes. Thus:

I. Genuine Cinchonas with Brown Epidermis.

Divided into Pale or Gray, Yellow, and Red Barks.

Class 1. *Pale or Gray Barks.*

(*a.*) Crown Bark of Loxa. Cinchona Condaminea.

(*b.*) Huamalies or Rusty Bark. C. Purpurea.

(*c.*) Gray or Silver Bark. C. Micrantha.

(*d.*) Ash Cinchona. C. Ovata.

Class 2. *Yellow Bark.*

Royal Yellow, or Calisaya Bark. Species undetermined.

Class 3. *Red Bark.*

Red Cinchona. Species undetermined.

II. Cinchonas with Whitish (Yellowish) and Micaceous Epidermis.

Class 1. *Pale Bark with a Whitish Epidermis.*

White Loxa Bark. Cinchona Ovalifolia.

Class 2. *Yellow Barks.*

(*a.*) Carthagena Hard Bark. Cinchona Cordifolia.

(*b.*) Carthagena Fibrous Bark. Species doubtful.

(*c.*) Cusco Bark. Species undetermined.

(*d.*) Orange-colored Bark of Santa Fé. C. Lancifolia.

Class 3. *Red Barks with a Whitish Epidermis.*

(*a.*) Mutis' Red Bark of Santa Fé. Candle Bark. (*Rare.*) C. Magnifolia.

Has few Cryptogamia, and only a whitish exterior.

(*b.*) A Red Bark with White micaceous exterior, but rare.

Several Barks, commonly called Cinchonas, but containing no Cinchona alkaloids, have appeared in market. The principal of these are five species of Exostemma, known as the "False Cinchonas."

The Cinchona Barks are also divided into royal yellow bark, two varieties; red bark, several varieties; gray bark, four species; white Loxa bark; yellow Carthagena hard bark; red bark of Santa Fé.

Carried into Europe, 1640. Plant ascertained by Condamine, 1737. Confined to Peru, New Grenada, and Bolivia; growing upon the Andes, commonly at least 4,000 feet above the sea. Trees and shrubs. Bark collected from September to November. The principal officinal barks are three—the *Yellow Calisaya bark*, the *pale bark of Loxa*, and the *red bark*. Each contains *quinia* and *cinchonia*, but in different proportions; the *yellow bark* having most quinia, the *pale*, most cinchonia, and the *red* abounding in both. The analyses, however, by different observers, are very discrepant. *Kinic acid* and *cinchona-tannin* (*tannic acid*), are also

obtained from each, or the acids, in combination with the two alkaline proximates, forming *kinates* and *tannates*. *Quinia* is whitish and flocculent; *cinchonia* white and crystaline. Dr. Duncan, jr., obtained the *cinchonia* in 1803, but it was not till 1820 that the two alkaloids were fully ascertained by Pelletier and Caventou. A *volatile oil* is also yielded by the barks, upon which depends their *aroma* and peculiar *odor*. Their astringency is due to small quantities of *Tannin*, which occurs in the best kinds of cinchonas.

A third alkaloid, called *Aricina*, agreeing considerably in its virtues with the other two, has been obtained from the Cusco Bark.

Comp. Of Aricina. Carbon, 70.59. Hydrogen, 7.06. Nitrogen, 8.23. Oxygen, 14.12=100.

All the vegetable substances of this group may be much improved by small additions of any one of the preparations of quinia. An economy may be thus sometimes properly observed. Many of the minor substances may be also usefully combined.

In their aspect, also, of Tonics, either the alkaloids or an infusion of bark may be often advantageously combined with other infusions of that group of remedies.

1. Quiniæ Disulphas. Disulphate of Quinine. Sulphate of Quinine.

Comp. Sulph. Acid, 9.17. Quinine, 74.31. Water, 16.52 = 100.

℞. Disulph. Quin., grs. xvj.; Water, ℥ ij.; Sulph. Acid, 4 to 10 drops; M.—Syrup, wine, or alcohol, may be substituted for the water. The acid serves only to increase the solubility of the Disulphate by saturation.—*Dose*, ℥ j. once in two to six hours; in ordinary intermittents.

2. Cinchoniæ Disulphas. Disulphate of Cinchonine. Sulphate of Cinchonine.

Comp. Sulphuric Acid, 10.42. Cinchonia, 80.20. Water, 9.38=100.

℞. Disulph. Cin., grs. xvj ; Water, ʒ ij. ; M.—*Dose*, ʒ j., once in two to six hours.—℞. Disulph., grs. xx.; Alcohol, ʒ ss. ; M.—*Dose*, 20 drops.

3. Quinia. Quinine.

Comp. Carbon, 74.40. Hydrogen, 7.61. Nitrogen, 8.11. Oxygen, 9.88=100.

℞. Quinia, grs. xx.; Alcohol, ʒ ss. ; M.—*Dose*, 20 to 30 drops.

4. Cinchonia. Cinchonine.

Comp. Carbon, Hydrogen, Nitrogen, Oxygen.

Soluble in alcohol, but less so than quinia.—*Dose*, the same.

The Alkaloids, Quinia, Cinchonia, and Aricina, are supposed to be oxides of a common base, which has been called *Quinogen;* Cinchonia being a *monoxide*, Quinia a *binoxide*, and Aricina a *teroxide*. If this be true we are thus presented with a good illustration of the dependence of what are termed proximate principles upon chemical transformations, of the exact combinations which may be artificially effected, and that they have no real existence as such in the natural compound from which they are elaborated.

5. Quiniæ Murias. Muriate of Quinine.

Dose. Gr. j. in water.

6. Quiniæ Phosphas. Phosphate of Quinine.

℞. Q. P., grs. xvj. ; Syrup. Simp., ʒ j.; M.—*Dose*, ʒ ss. ℞. Q. P., grs. xx.; Alcohol, ʒ ss.; M.—*Dose*, twenty-five to thirty drops.

7. Quiniæ Ferrocyanas. Ferrocyanide of Quinine.

℞. Q. F., grs. x.; Alcohol, ℥ ss.; M.—*Dose*, fifteen to forty drops.

8. Quiniæ Tannas. Tannate of Quinine.

℞. Q. T., grs. xx.; Extract of Liquorice, ℈ ij.; M.—Divid. into pil. No. xx.—*Dose*, one.

9. Cinchoniæ Tannas. Tannate of Cinchonia.

Dose. Same as 8.

10. Quiniæ Acetas. Acetate of Quinine.

Dose. One gr. in water.

11. Quiniæ Citras. Citrate of Quinine.

℞. Q. C., grs. xx.; Alcohol, ℥ ss.; M.—*Dose*, twenty to thirty drops.

12. Quiniæ Nitras. Nitrate of Quinine.

Formula and dose same as 11.

13. Quiniæ Kinas. Kinate of Quinine.

℞. Q. K., grs. xvj.; Distilled Water, ℥ ij.—*Dose*, ℥ j.

14. Cinchoniæ Kinas. Kinate of Cinchonia.

Formula and dose same as No. 11.

15. Quiniæ Valerianas. Valerianate of Quinine.

Dose. Grs. j. to ij.

16. Zinci Valerianas. Valerianate of Zinc.

Dose. Grs. j. to ij.

17. Quiniæ Sulphas, cum Acido Carbonico. Sulphate of Quinine, with Carbonic Acid Gas.

℞. Sulphate of Quinia, grs. xvj.; Tartaric Acid, grs. lx.; Bicarbonate of Soda, grs. lxxv.; Sugar, ℥ j.; Water, ℥ xxxij.; M.—Preserve in a closely corked bottle.—*Dose*, ℥ j. to ℥ ij.

This is probably a more useful compound than its place here would denote. It has been found, also, particularly useful in the low, advanced stages of Typhus Fever, in low states of convalescence from other diseases, and in some forms of indigestion. It is well worthy an extensive trial, as likely to moderate the use of quinine in excessive doses.

18. Quiniæ Lactas. Lactate of Quinine.
Dose. Gr. j. in water.

19. Quiniæ et Ferri Citras. Citrate of Quinine and Iron.
Dose. Grs. ij. in water.

20. Quiniæ Arsenas. Arsenite of Quinine.
Dose. Gr. $\frac{1}{12}$ to $\frac{1}{6}$.

21. Cinchonæ Officinalis Cortex. Peruvian Bark.
Dose, of Powder, ℈ ss. to ℈ j.

Sometimes succeeds when the foregoing proximate transformations fail; but in the treatment of fever one or more of those should be employed first; or the powder, or infusion, or decoction, may be combined with them in various proportions.

(*a.*) *Decoction.* ℞. Coarsely Powdered Bark, ℥ j.; Water, ℔ j.; M.—Boil ten minutes; strain.—*Dose*, ℥ j. to ℥ ij.

(*b.*) *Infusion.* ℞. Bark bruised, or in fine powder,

℥ iss.; Boiling Water, ℔ j.; M.—Macerate six hours; strain.—*Dose*, ℥ j. to ℥ ij. Milder than *a*.

Mr. Battley's concentrated infusion of bark in cold distilled water is said to be often preferable to the Alkaloids.

22. Extractum Cinchonæ. Watery Extract of Cinchona.

Like decoction.—*Dose*, grs. v. to grs. xx.

23. Tinctura Cinchonæ. Tincture of Cinchona. *Dose*, ʒ j. to ℥ ss., usually combined.

Comb. ℞. Tinct. Cinchon.; Infusion of Cinchon.; M.—℞. Tinct. Cinchon.; Infusion of Quassia, or of Colombo (Tinct. Rhei); M.—℞. Tinct. Cinchon.; Sulph. Quinine; M.

This, and the next following should occupy a much lower rank, but are placed here from their relation to the Cinchona bark.

24. Tinctura Cinchonæ Composita. Compound Tincture of Cinchona.

Principally adapted as a tonic, and may be usefully combined with such agents as are indicated for the simple tincture.

Dose. ʒ j. to ℥ ss.

In the treatment of acute disease, the foregoing tinctures are sometimes advantageously employed in the advanced stages of typhus fever; to which, indeed, their use should be mostly limited. (See *Institutes*, p. 579–583, § 890½.)

25. Acidum Arseniosum. Arsenious Acid. White Oxide of Arsenic.

Comp. Arsenic, 76. Oxygen, 24=100. Another proportion of Oxygen forms Arsenic Acid.

Metallic Arsenic, and the Oxides are not often found native. They are seen in Hartz and Bohemia; but are mostly obtained from other ores, with which the metal is often extensively combined.

℞. Acid Arsenious. gr.j.; Water, ʒj.; M.—*Dose*, twenty drops, cautiously increased to sixty, two or three times a day.

Arsenic has no tonic virtue. Its use should be occasionally intermitted, or it may prove slowly deleterious, though the imputed effects are oftener due to disease than to the arsenic. (See *Institutes*, p. 607–612, § 892¼.)

Antidotes. Emetic doses of the Sulphate of Zinc; warm water; the stomach pump; farinaceous fluids; milk in small quantities and often. Early, also, frequent and large doses of the Hydrated Sesquioxide of Iron. If inflammation ensue, recourse must be had to copious venesection.

26. Liquor Potassæ Arsenitis. Fowler's Mineral Solution. Solution of Arsenite of Potash.

Comp. In this preparation, Arsenious Acid and Carbonate of Potash are boiled together, and the carbonic acid disengaged by the formation of Arsenite of Potash. Tincture of Lavender is added to impart a color to the fluid. Four grains of arsenious acid exist in *each ounce* of the solution, and, therefore, *sixty minims*, or one drachm, contain *half a grain* of the acid.

Dose. Five drops, cautiously increased to sixteen, two or three times a day.

27. Sodæ Arseniatis Liquor. Solution of the Arseniate of Soda. Pearson's Arsenical Solution.

Similar in its action to the Arsenite of Potash, and in the same dose.

28. Ammoniæ Arsenias. Arseniate of Ammonia.

℞. Ammon. Arseniat., gr. j.; Water, ℥ j.; M.—*Dose*, twenty drops, cautiously increased to sixty, two or three times a day.

Effects the same as the preceding solutions.

The *Arsenites* and *Arseniates* are not less poisonous than the *Arsenious Acid*, and are probably less successful as a febrifuge; having sometimes failed where the acid has readily succeeded. The distinction between them, however, is in all respects but small.

Much has been said of the pernicious effects of arsenic when continued for a long time in its medicinal doses, and from its external application. The consequences of the disease itself appear to have been often overlooked in the attention which is given to the supposed absorption of arsenic into the circulation. This substance, and tartarized antimony, and mercury, continue to receive from the humoral pathologists the interpretation of their *modus operandi* which has so long rendered physiology an inconsistent science, and which has divested pathology and therapeutics of their relations to the natural laws of the system. It is true that the most exaggerated statements have been made of their supposed presence in all parts of the body. But, how far these statements have been made with a view to the interests of science, will appear from the investigations by MM. Danger and Flandin of the general facts relative to arsenic and antimony, and of the commissioners appointed by the French Academy to report upon the more limited question relative to the imputed existence of arsenic in the bones.

Simple Arsenic, and its compounds with Iodine and Mercury, are extensively applicable to chronic cutaneous affections, &c. (See *Index*.)

29. Salicin. Derived from many species of *Salix* and *Populus*.

Comp. Carbon, 55.13. Hydrogen, 6.19. Oxygen, 38.68=100.

Possesses valuable febrifuge and tonic virtues analogous to those of quinia.

Dose, grs. v. to x. in powder or aqueous solution.

30. Salix Alba. Willow. Also, S. Russelliana. S. Capræa, S. Fragilis, S. Pentandria, S. Purpurea, S. Nigra. *The bark.*

Diœcia, Diandria.

Hab. Europe; United States.—*Shrubs and trees.*

Dose, ʒ ss. to ʒ j. Also, in decoction.

31. Magnolia Glauca. Magnolia. Beaver Tree. White Bay. Magnolia Acuminata. Cucumber Tree. Magnolia Tripetala. Umbrella Tree. *The bark of stem and root.*

Polyandria, Polygynia.

Hab. United States.—*Trees.*

Dose, of powder, ʒ ss. to ʒ ij. Also, an infusion. Repeated four or five times a day.

Their virtues febrifuge, tonic, and aromatic. The four or five other species belonging to the United States possess the same virtues. A crystalizable substance, similar to *Liriodendrin*, has been obtained from the *M. grandiflora*.

32. Ferri Ferro-Sesquicyanidum. Ferro-Sesquicyanide of Iron. Cyanuret of Iron. Prussian Blue.

Comp. Iron, 45.5. Cyanogen, 54.5=100.

Dose. Grs. v. to ℈j.

Though probably a useful febrifuge and mild tonic, it is mostly employed in the manufacture of bicyanide of mercury. It is stated in the books to be admissible during the paroxysms as well as in the intermissions of fever; but this can be scarcely true of any agent possessing tonic virtues. (See *Institutes*, p. 430–432, § 675; p. 597, § 892, *c.*)

33. Cornus Florida. Dogwood. — 34. Cornus Circinata. Round-leaved Dogwood. — 35. Cornus Sericea. Blue-berried Dogwood. *The bark.*

Pentandria, Monogynia.

Hab. United States.—*Shrubs or small trees.*

Dose, of either in powder, ℈j. to ʒj. An infusion or decoction is preferable to the powder.

Possess tonic as well as febrifuge virtues.

36. Tela Aranearum. Cobweb.

Dose. Grs. v. to x. in pills, and, like most of the remedies of this group, to be repeated once in three or four hours, during the intermission of fever.

Extolled by Robert Jackson, in his work on Fever as excelling cinchona and arsenic. Has not been extensively tried. Appears to be a simple febrifuge. Its apparent astringency in arresting superficial hemorrhage is a mechanical phenomenon; and for leech bites it is one of the best applications.

37. Piper Nigrum. Black Pepper. *The resinous substance, Piperin*

Triandria. Trigynia.

Hab. East Indies.—*Herbaceous.*

Dose. Grs. ij. to vj., in pills, once in two to four hours.

Piperin is highly commended by some in the treatment of intermittents, but it is actively stimulant.

The Alcoholic Extract of Black Pepper will probably be found more useful than Piperin, since it embraces that substance, the resin, and the two oils, each of which is more or less a febrifuge.

Black Pepper is also employed in doses of five to twenty grains; and the *Piper Longum*, Long Pepper, possesses analogous virtues.

38. AGATHOTES CHIRAYTA. *The herb and root.*

Pentandria, Digynia.

Hab. Mountains of Nepal.—*Herbaceous.*

Dose, of Powder, ℈j. to ʒ ss. Also Infusion and Extract.

Closely allied in virtues to *Gentiana lutea.*

39. GALIPEA OFFICINALIS. G. CUSPARIA. Formerly *Bonplandia Trifoliata.* Angustura Bark. *The bark.*

Diandria, Monogynia.

Hab. South America.—*Trees.*

Dose. Of Powder, grs. x. to ʒ ss. Also, an *Infusion* and *Tincture.*

The bark of these trees has been often adulterated with that of the poisonous Strychnos Nux Vomica, and which, in consequence, has acquired the name of *False Angustura Bark.*

40. Liriodendron Tulipifera. Tulip Tree. White Wood. *The bark of root.*

Polyandria, Polygynia.

Hab. United States.—*Large Tree.*

Dose. Of Powder, ʒ ss. to ʒ ij. Also, *Decoction*, *Infusion*, and *Tincture.*

Possesses, also, tonic and stimulant virtues. Yields *Liriodendrin*, a substance consisting of a resin and a volatile oil; but has not been employed.

41. Croton Eleuteria. Cascarilla. The Seaside Balsam or Sweet Wood. *The bark.*

Moncœcia, Monadelphia.

Hab. Jamaica; the Bahamas.—*Arborescent.*

Dose. Of Powder, grs. xv. to ʒ ss. Also, an *Infusion.*

An aromatic tonic with the virtues of a febrifuge. The aroma, like that of the Peruvian Bark, qualifies it for certain irritable states of the stomach; and, although proposed as a substitute for cinchona, it is found to be mainly useful in dyspeptic affections, when the tincture is often combined with an infusion.

42. Narcotina. Narcotine. Has no *narcotic* virtue.

Dose undetermined; has been given by Magendie in doses of one grain, by Roots in a scruple, and by Bally to the extent of 129 grains, in solid form.

Has been mostly employed in India as a substitute for quinia.

43. Aristolochia Serpentaria. Virginia Snake-Root. *The root.*

Gynandria, Hexandria.

Hab. United States.—*Herbaceous.*

Dose. Of Powder, grs. x. to ʒ ss. An *Infusion* is preferable.

An active aromatic stimulant, and in large doses irritates the gastro-intestinal mucous membrane, occasioning nausea, or vomiting and purging. Sydenham says that a scruple of the root in three ounces of wine was a cheap remedy for tertians among the poor. But its useful effects are mostly limited to dyspeptic affections, and then as an adjunct to other tonics.

44. Pinckneya Pubens. Pinckneya. *The bark.*

Pentandria, Monogynia.

Hab. United States.—*Tree.*

Dose. Of Powder, Decoction, and Infusion, the same as of Cinchona.

45. Acidum Carbonicum. Carbonic Acid Gas.

Comp. Carbon, 27.27. Oxygen, 72.73 = 100.

Administered in water just before a paroxysm. (See No. 17.)

46. Phloridzina. Phloridzin. Yielded by the bark of the Apple, Cherry, Pear, and Plum Trees.

Dose. Grs. v. to xv.

Possesses the virtues of a tonic.

47. Diospyros Virginiana. Persimmon. *The bark.*

Diœcia, Octandria.

Hab. United States.—*Tree.*

Employed in the form of *decoction*. Tonic and astringent.

48. SABBATIA ANGULARIS. American Centaury. *The herb in bloom.*

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ʒ ss. to ʒ j. Also, an *Infusion*, *Extract*, and *Tincture*.

Mostly useful as a tonic in dyspeptic affections.

49. ERYTHRÆA CENTAURIUM. European Centaury. *The flowering heads and leaves.*

Pentandria, Monogynia.

Hab. Europe.—*Herbaceous.*

Employed mostly as a tonic in dyspeptic affections.—*Dose*, of the Powder, ℈ j. to ʒ j. Also, an *Infusion*.

The bitter Extractive, *Centaurin*, combined with hydrochloric acid, has been much commended as a febrifuge.

50. CERASUS SEROTINA. Formerly *Prunus Virginiana*. Wild Cherry. *The bark of branches and of root.*

Icosandria, Monogynia.

Hab. United States.—*Large Tree.*

Dose, of Powder, ʒ ss. to ʒ j. Also, a cold infusion.

Hydrocyanic acid is generated by hot and cold infusions, and is retained by the latter. Tonic and sedative. Reduces the frequency of the pulse and often calms irritation. Appropriate, especially, to the dyspeptic

and intermittent affections of the nervous temperament, and of scrofulous subjects.

51. Populus Tremuloides. Poplar. Also, other species. *The bark and leaves.*

Diœcia, Octandria.

Hab. United States.—*Trees.*

Dose. Same as of No. 30. The bark yields *salacin* and *populin.*

52. Ilex Aquifolium. European Holly. Ilex Opaca. American Holly. *The leaves and inner bark.*

Tetrandria, Tetragynia.

Dose, of Powder, ʒ ss. to ʒ j.

The proximate, *Ilicine*, has been much commended in France for intermittents; but overrated. Its *dose*, grs. vj. to xxv., in form of pills. Ten or twelve of the berries are purgative and often emetic.

53. Æsculus Hippocastanum. Horse-chestnut. *The bark.*

Heptandria, Monogynia.

Hab. Asia.—*Tree.*

Dose, of Powder, Decoction, and Infusion, in same manner as of Cinchona.

54. Swietenia Febrifuga. Febrifuge Mahogany Tree. *The bark.*

Decandria, Monogynia.

Hab. East Indies.—*Tree.*

Dose, of Powder, ʒ ss. to ʒ j. Also, a *Decoction* and *Tincture.*

Has been in extensive use among the Army Surgeons in the East Indies as a substitute for Cinchona.

55. Alnus Serrulata. American Alder. Alnus Glutinosa. European Alder. *The bark.*

Monœcia, Tetrandria.

Dose, of Powder, ʒ ss. to ʒ j

56. Zinci Sulphas. Sulphate of Zinc.

Dose. Gr. j. to grs. iv. (See *Index.*)

57. Eupatorium Perfoliatum. Thoroughwort. (See *Cathartics*, No 29.)

MOSTLY OBSOLETE.

Quercus Alba. White Oak Bark. Quercus Tinctoria. Black Oak Bark. Quercus Robur. Common British Oak. Cimicifuga Racemosa. Black Snake-root. Prinos Verticillatus. Black Alder. Teucrium Chamædrys. Germander. Cupri Sulphas. Sulphate of Copper. Ammonio-Cupro-Sulphas. Ammoniated Copper. Bismuthi Trisnitras. Trisnitrate of Bismuth. Opium. Anthemis Nobilis. Chamomile. Cocculus Palmatus. Colombo. Quassia Amara and Q. Excelsa. Quassia. Gentiana Lutea. Gentian. Simaruba Amara. Simaruba. Menyanthes Trifoliata. Buckbean. Alumen. Alum. Potentilla Tormentilla. Tormentil. Pterocarpus Erinaceous. Kino. Geum Urbanum. Avens. Polygonum Bistorta. Bistort. Punica Granatum. Pomegranate. Artemisia Absynthium. Wormwood. Ferruginous Preparations. Benzoin Odoriferum (*Laurus Benzoin.*) Spice Wood.

Scutellaria Galericulata and S. Integrifolia. Scullcap. Thuya Occidentalis. Arbor Vitæ. Curcuma Zedoaria. Zedoary. Adansonia Digitata. Monkey-Fruit Tree. Apium Petroselinum. Parsley. Castanea Pumila. Chinquapin. Betula Alba. Birch. Plantago Major. Greater Plantain. Narcissus Pseudo-Narcissus. Daffodil. Cnicus Benedictus. Blessed Thistle. Chelidonium Majus. Celandine. Sedum Acre. Stone Crop. Eryngium Maritimum. Sea Holly. (See *Institutes*, p. 677–679, § 904, *d.*)

SUBDIVISION VI.

Alteratives adapted to obstinate and chronic cutaneous diseases, carcinoma, elephantiasis, &c., illustrating farther the therapeutical effects of certain remedial agents. In the order of their value.

1. Hydrargyri Bichloridum cum Iodinio. Corrosive Sublimate with Iodine.

Applicable to lepra, psoriasis, ptyriasis, eczema, impetigo, scabies, venereal eruptions, icthyosis, &c.

See p. 126, No. 3, for *Dose*, &c.

2. Hydrargyri et Arsenici Iodidum. Iodide of Mercury and Arsenic.

See p. 121, No. 13, for *Dose*, &c.

Adapted to the same affections as No. 1.

3. Hydrargyri Biniodidum. Biniodide of Mercury.

Applicable to the same affections as No. 1.

See p. 120, No. 10, for *Dose*, &c.

4. Acidum Arseniosum. Arsenious Acid.

See p. 147, No. 25, for *Dose*, &c.

Applicable to psoriasis, lepra, impetigo, eczema, ichthyosis, venereal eruptions, lupus, elephantiasis, carcinoma, &c.

The *Asiatic Pills*, employed in the East for the cure of elephantiasis and syphilis are composed of Arsenious Acid, grs. xiv.; Black Pepper, ʒ ij ℈; Mucilage of Gum, q. s., divided into 200 pills. Each pill contains about $\frac{1}{14}$ of a grain of Arsenious Acid.

5. Liquor Potassæ Arsenitis. Solution of Arsenite of Potash. Fowler's Solution of Arsenic.

See p. 147, for *Dose*, &c.

6. Ammoniæ Arsenias. Arseniate of Ammonia. Sodæ Arseniatis Liquor. Solution of the Arseniate of Soda.

Applicable to the same cases as No. 4.

See p. 148, Nos. 27 and 28, for *Dose*, &c.

7. Arsenici Iodidum. Iodide of Arsenic.

Comp. Iodinium, 1¼ eq.=187.5. Arsenicum, 1 eq.=38.

℞. Arsenic. iodid., gr. ij.; Water, distilled, ʒ j.; M. —*Dose*, twenty drops, gradually increased to sixty, twice or thrice a day.

8. Iodinium. Iodine. Also,

The other iodureted preparations at p. 104–110.

In the same cases as No. 1, and in phagedenic and other intractable ulcers.

9. Hydrargyri Bichloridum. Corrosive Sublimate.

See p. 94, No. 6, for *Dose*, &c.

10. Hydrargyri Bicyanidum. Bicyanide of Mercury.

See p. 95, No. 7, for *Dose*, &c.

11. Pilulæ Hydrargyri Chloridi Compositæ. Plummer's Pill. Compound Calomel Pill.

Comp. Calomel, Oxysulphuret of Antimony, each 3 ij.; Guaiacum, 3 iv.; Treacle, 3 ij.; M.

Dose. Grs. v. to grs. x.

12. Smilax Sarsaparilla. Sarsaparilla.

See p. 113, No. 20, for *Dose*, &c.

May be employed in all the cases to which this entire group is applicable.

13. Aquæ Minerales cum Acido-Hydro-Sulphurico. Sulphurous Waters.

See p. 134, No. 11.

Applicable to the affections indicated under No. 1.

14. Solanum Dulcamara. Bittersweet.

See p. 136, No. 14, for *Dose*, &c.—In same cases as No. 1.

15. Guaiacum officinale. Guaiacum.

See p. 130, No. 4, for *Dose*, &c.

In venereal affections.

16. Potassii Sulphuretum. Sulphuret of Potassium.

In the same affections as No. 1.

A violent narcotico-acrid poison, in large doses. Safe in small doses.

℞. Pot. Sulp., grs. xxiv.; distilled Water, ℥ j,; M.—*Dose*, 3 j., gradually increased, twice a day. Or in pills.

Incomp. Acids, chlorides, and metallic salts.

Antidotes. Chloride of soda, or chloride of lime, in solution.

17. CHIMAPHILA UMBELLATA. Pipsissewa.

See p. 117, No. 31, for *Dose*, &c.—In eruptive affections.

18. SULPHUR SUBLIMATUM. Sulphur.

See p. 60, No. 28, for *Dose*, &c.—In chronic cutaneous diseases.

19. RUMEX. Dock.

Dose, of strong decoction, ℥ j., twice or thrice a day. See p. 65, No. 40.—In same cases as No. 18.

20. CANTHARIS VESICATORIA. Cantharides.

In psoriasis, lepra, eczema.—*Dose*, of Tincture, 15 drops, twice a day, gradually increased, but suspended if strangury take place. (See *Index*.)

21. ACIDUM NITRICUM. Nitric Acid.

Impetigo, and other obstinate cutaneous diseases.

Dose. 10 to 15 drops, three times a day. (See *Index*.)

22. PETROLEUM.

In psoriasis, lepra, impetigo.—*Dose*, ʒ j., gradually increased. (See *Anthelmintics*.)

23. CONIUM MACULATUM. Cicuta.

See p. 117, No. 32, for *Dose*, &c.

In carcinomatous affections. Probably affords relief by simply allaying irritability. (See *Institutes*, p. 587, § 891, *i*.)

24. ULMUS CAMPESTRIS. Small-leaved Elm. *The inner bark.*

Pentandria, Digynia.

In cutaneous eruptions. Much overrated by some.

Dose, of strong decoction, ℥ ij. to ℥ vj., three or four times a day.

25. Stillingia Sylvatica. Queen's Root. *The root.*

Monœcia, Monadelphia.

Hab. United States.—*Herbaceous.*

A decoction of the root. Cathartic.—As Nos. 1 and 12.

26. Pix Nigra. Black Pitch.

Dose. Grs. x. to ʒ ss., in pills.

Icthyosis, and other obstinate skin diseases.

27. Fumaria Officinalis. Fumitory. *The leaves.*

Diadelphia, Hexandria.

Hab. Europe. Naturalized.—*Herbaceous.*

Dose, of expressed juice, ℥ j. to ℥ ij., two or three times a day. Also, the *Extract.*—In same cases as No. 17.

28. Anemone Pulsatilla. Pulsatilla. *The leaves.*

Polyandria, Polygynia.

Hab. Europe.—*Herbaceous.*

Dose, of Extract, grs. ij. to iv., gradually increased to xv. or xx.—In the same cases as No. 19.

29. Antimonii Sesquisulphuretum. (*Antimonii Sulphuretum præparatum.*) Sesquisulphuret of Antimony.

Dose. Grs. x. to ʒ ss.—In lepra, scabies, scrofula, &c.

30. Hydrargyri Sulphuretum cum Sulphure. Sulphuret of Mercury with Sulphur.

See p. 96, No. 9, for *Dose*, &c.

31. Inula Helenium. Elecampane. *The root.*

Syngenesia, Polygamia Æqualis.

Hab. Europe.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ ij. *Decoction*, ℞. the Root, ℥ ss.; Water, ℔ j. Boil, strain.—*Dose*, ℥ j. to ℥ ij.

An aromatic tonic, going out of use in all its former applications to disease, especially as an expectorant.

ORDER V.

Alteratives adapted to Pulmonic Inflammation, including the Expectorants proper.

GROUPS.

1. Non-stimulating. Loss of blood, antimony, ipecacuanha, American ipecacuanha, butterfly-weed.
2. Stimulating. Squill, seneka, gum ammoniac, opoponax, naphthaline, button snake-root, balsam of Tolu, balsam of Peru, benzoin, storax, liquidambar, balm of Gilead, garlic, hedge garlic, hedge mustard.
3. Stimulating and narcotic. Blood-root.
4. Sedative and narcotic. Indian tobacco.
5. Stimulating and antispasmodic. Asafœtida, galbanum.

In the order of their value.

The expectorants may be usefully and variously combined. All the substances may be administered every two to any other number of hours.

1. Loss of Blood, General and Local.

Adapted to all the active and chronic forms of pulmonic inflammation, of every tissue. (See *Institutes of Medicine*, p. 641, § 892½, *i*; p. 65, § 143, *c*; p. 67, § 150; p. 553, § 870, *aa*.)

2. Potassæ Antimonio-Tartras. Tartarized Antimony.

See p. 97, No. 13, for *Dose*, &c.

Adapted to active inflammations of the pulmonary mucous tissue.

3. Cephaelis Ipecacuanha. Ipecacuanha.

See p. 100, No. 18, for *Dose*, &c.

Adapted to active inflammations of the pulmonary mucous tissue, and to many of a chronic nature.

4. Scilla Maritima. Squill.

Adapted only to chronic forms of catarrh, and only when a stimulating expectorant is required.—*Dose*, of Powder, 1 grain, gradually increased, three or four times a day.—*Dose*, of Syrup, and of Oxymel of Squill, each ʒ j. to ʒ ij.—*Dose*, of Vinegar of Squill, ʒ ss. to ʒ iss.—*Dose*, of Tincture, 10 drops to ℈ ij. (See p. 81, No. 5. Also, *Institutes*, p. 638, § 892½, *f*.)

5. Gillenia Trifoliata. American Ipecacuanha. *Bark of root.*

Icosandria, Pentagynia.

Also, *other analogous agents* under Emetics, No. 1.

Dose, of Gillenia (bark of root), grs. ij. to iv., once in 3 or 4 hours.

Adapted to active inflammation; but an inferior non-stimulating alterative.

6. Sanguinaria Canadensis. Blood-root.

A stimulating, rather narcotic expectorant. Not suited to active inflammation. Much overrated.—*Dose*, gr. j. to grs. v. (See p. 103. Also, *Institutes*, as above.)

7. Asclepias Tuberosa. Butterfly-weed. Pleurisy-root. *The root.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

Dose. Of Powder, grs. v. to x.—*Decoction* of Root, ʒ j.; in water, ℔ j.—*Dose*, ʒ j. to ij., repeated often.

Here, also, may be arranged the Asclepias Syriaca, which is *expectorant* and *anodyne;* and the Asclepias Incarnata, which is *expectorant*, *cathartic*, and *emetic.*

These agents are adapted to active forms of muco-pulmonic inflammation, and the *A. tuberosa* is much employed in some parts of the United States; but they are all greatly inferior to Ipecacuanha.

8. Polygala Senega. Seneka. *The root.*

Diadelphia, Octandria.

Hab. United States.—*Herbaceous.*

A stimulating expectorant. Emetic and cathartic in large doses. Suited only to low and chronic forms of inflammation.—*Dose*, of Powder, grs. x. to xx. Also decoction; ℞. Seneka, ʒ j.; Water, ℔ ij.; boil to ℔ j.—*Dose*, ʒ j. to ʒ ij. (See *Institutes*, as above.)

9. Dorema Ammoniacum. Gum Ammoniacum. *The gum-resin.*

Pentandria, Digynia.

Hab. Persia.—*Herbaceous.*

A stimulating expectorant, and employed in chronic catarrh, where expectoration is deficient; as with squill, seneka, and blood-root.—*Dose*, grs. x. to xx., in pill or emulsion. The emulsion is best, to which 2 or 4, and 15 may be usefully added.

10. Opoponax Chironium. Opoponax. *The gum-resin.*

Pentandria, Monogynia.

Hab. Southern Europe.—*Herbaceous.*

Employed as Ammoniacum, which it resembles in its effects.

11. Ferula Asafœtida. Asafœtida. Also, Ferula Persica. *The gum-resin.*

Pentandria, Digynia.

Hab. Persia.—*Herbaceous.*

A stimulating expectorant, adapted to old wheezing catarrhs, rarely to whooping-cough.—*Dose*, grs. v. to x. (See *Index.*)

12. Lobelia Inflata. Indian Tobacco.

Adapted to asthmatic catarrh.

See p. 84, No. 13, for *Dose*, &c.

13. Galbanum Officinale. Galbanum. *The gum-resin.*

Pentandria, Digynia.

Hab. Probably, Persia and Arabia.

Adapted to same conditions as asafœtida and ammoni-

acum. In pills or emulsion.—*Dose*, grs. x. to ʒ ss.—*Dose*, of Tincture, ʒ ss. to ʒ iij.

13½. NAPHTHALINE.

Stimulating. Overrated by many.—℞. Naph., grs. xv.; Boiling Alcohol, ʒ ss.; Simple Syrup, ℥ iv.; M.—*Dose*, ℥ ss., once an hour to 3 or 4 hours.

14. ERYNGIUM AQUATICUM. Button Snake-root. *The root.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

℞. Root, ℥ j.; Boiling Water, ℔ j.; M.—Strain.—*Dose*, of Decoction, ℥ j. to ℥ ij. Emetic in large doses.

Also, ERYNGIUM MARITIMUM.

15. MYROSPERMUM TOLUIFERUM. Balsam of Tolu Tree. *The resinous balsam.*

Decandria, Monogynia.

Hab. Mountains of Tolu, Turbaco, &c.—*Tree.*

A stimulating expectorant. The syrup forms a useful and agreeable addition to the emulsions of ammoniacum and galbanum, or to other expectorants.

Dose, of Balsam, grs. x. to grs. xxv., in form of emulsion.—*Dose*, of Syrup, ʒ j. to ℥ ss.

16. MYROSPERMUM PERUIFERUM. Balsam of Peru Tree. Quinquino. *The resinous balsam.*

Decandria, Monogynia.

Hab. Peru, Mexico, &c.—*Tree.*

A stimulating expectorant. Adapted to chronic and old asthmatic catarrhs; but, like all other stimulating

expectorants, only in the absence of all general excitement.—*Dose*, ʒ ss. to ʒ j., with mucilage and sugar.

17. Styrax Benzoin. The Benjamin Tree. *The resinous balsam.*

Decandria, Monogynia.

Hab. Borneo; Sumatra; Java; Siam.—*Tree.*

A stimulating expectorant. Suited only to old indolent catarrhs. Rarely employed uncombined.—*Dose*, of Powder, grs. x. to ʒ ss.

(*a.*) *Compound Tincture of Benzoin.*—*Dose*, ʒ ss. to ʒ ij., with mucilage and sugar.

(*b.*) *Benzoic Acid.* Rarely employed.—*Dose*, grs. x. to xv., with mucilage.

18. Styrax Officinale. Officinal Storax. *The resinous balsam.*

Decandria, Monogynia.

Hab. Greece; Levant; Syria.—*Small tree.*

Adapted as Benzoin.—*Dose*, in pills, grs. x. to xxv.

19. Allium Sativum. Garlic. *The bulb.*

Hexandria, Monogynia.

Hab. Europe.—*Herbaceous.*

A large genus, and closely allied in virtues. Moderately stimulating. Employed in chronic catarrh, and old dropsies. Overrated.—*Dose*, of Bulb, ʒ ss. to ʒ j.—*Dose*, of Juice, ʒ ss.

20. Amyris Gileadensis. Balsam of Gilead Tree. *Balm* of the Old Testament. *The resinous balsam.*

Octandria, Monogynia.

Hab. Arabia.—*Tree.*

Its virtues like those of the balsam of Tolu.

Dose. ℈ j. to ʒ j. May be combined with Ammoniacum, &c.

21. LIQUIDAMBAR STYRACIFLUA. Sweet Gum. *The balsamic juice.*

Monœcia, Polyandria.

Hab. United States —*Tree.*

Analogous to storax.

22. ALLIARIA OFFICINALIS. (*Erysimum Alliaria.*) Hedge Garlic. *The herb and seeds.*

Tetradynamia, Siliquosa.

Hab. Europe.—*Herbaceous.*

Analogous to Garlic.

23. INULA HELENIUM. Elecampane. *The root.*

Syngenesia, Superflua.

Hab. Europe. Introduced.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ j. Also, a decoction.

Employed, also, in dyspepsy as a tonic.

24. TUSSILAGO FARFARA. Coltsfoot. *The leaves.*

Syngenesia, Superflua.

Hab. United States; Europe.—*Herbaceous.*

Dose. ʒ ss. to ʒ ij. A decoction is preferable in doses ad libitum.

25. HEPATICA TRILOBA. Liverwort. *The plant.*

Polyandria, Polygynia.

Hab. United States.—*Herbaceous.*

Dose, ad libitum.

26. Cetraria Islandica. Iceland Moss. *The plant.*

Cryptogamia, Algæ.

Hab. Hills of Europe and America.—*Herbaceous.*

Useful only as a delicate article of food and mild tonic. (See *Institutes*, p. 543, § 855, 856.)

27. Glycyrrhiza Glabra. Liquorice. *The root.*

Diadelphia, Decandria.

Hab. South of Europe.—*Woody.*

Dose, of Powder, ʒ ss. to ʒ j. Mostly employed in form of Extract, or of Decoction.

28. Antennaria (*Gnaphalium*) Margaritacea. A. Plantaginea. A. Dioica. Sweet-scented Life everlasting. *The plant.*

Syngenesia, Superflua.

Hab. United States.—*Herbaceous.*

Dose, of Infusion, ad libitum.

29. Borago Officinalis. Borage. *The leaves and flowers.*

Pentandria, Monogynia.

Hab. Europe.—*Herbaceous.*

An Infusion, ad libitum.

30. Anchusa Italica. Alkanet. *The leaves and flowers.*

Pentandria, Monogynia.

Hab. South of Europe.—*Herbaceous.*

An Infusion, ad libitum.

31. Verbascum Thapsus. Mullein. *The leaves.*
Pentandria, Monogynia.
Hab. United States.—*Herbaceous.*
Dose, of Decoction, ad libitum.

32. Sisymbrium Officinale. Hedge Mustard. *The juice or seeds.*
Tetradynamia, Siliquosa.
Hab. United States.—*Herbaceous.*

33. Symphitum Officinale. Comfrey. *The root.*
Pentandria, Monogynia.
Hab. Europe.—*Herbaceous.*
Dose, ad libitum.

34. Adiantum Capillus-Veneris, and A. Pedatum. Maiden Hair. *The leaves.*
Cryptogamia Filices.
A syrup of, much employed by the Profession in France.

ORDER VI.

SEDATIVES,

In the order of their value.

Sedatives are those remedies whose general tendency is to diminish action in a direct manner, though in some instances they may at first produce more or less

excitement, which is followed by diminished action as an ultimate result of the remedy. These opposite effects, however, are not common, nor is the excitement ever strongly pronounced unless the sedative prove morbific. In the extensive class of stimulants and tonics we are presented with agents which illustrate the common attributes of the sedatives, since it is the direct and equally uniform tendency of the former to increase vascular action in a direct manner. As examples of the two classes, bloodletting, antimonials, hydrocyanic acid, and cold, may be reckoned as standards of comparison for Sedatives, and alcoholic liquors, spices, mints, the vegetable and mineral tonics, animal food, and heat, as representing the virtues of Stimulants.

There are many things, however, which may increase vascular action, and induce inflammation, which operate in virtue of some irritation they exert, but whose action is very different from that of stimulants. Indeed, the most powerful sedatives, such as bloodletting and hydrocyanic acid, may become irritants in excessive amount, and induce inflammation; but they can never act as stimulants in the proper acceptation of this class of agents; but in virtue of morbific influences of an irritant nature.

It appears, therefore, that sedatives are liable to the same qualifications as the groups of other remedies; being only sedative when they are rightly administered. This qualification is more strongly manifested in morbid than in healthy states of the body. There must be a pathological condition which shall be in relation to the peculiar virtues which are denominated sedative, or no sedative effects may arise from the action of the remedy, and even an opposite result may be the consequence.

If a patient, in a very irritable state of the system, but not suffering any local inflammation, be bled very largely, violent general excitement, and local inflammations, may ensue. We may administer a hundred drops of laudanum every fifteen or twenty minutes to one affected with spasm of the stomach, and speedily calm the whole tumult of the system, and without an unpleasant result or any subsequent excitement of the local or general circulation; but, if the same quantity be given in health, and especially if repeated in the foregoing manner, cerebral congestion will spring up as a consequence, and that may give rise to general arterial excitement. It will be easy to multiply these examples, and they show us more and more distinctly the restricted sense in which all therapeutical agents should be regarded, and enable us to understand that they must be considered in their relations to disease, and not as to the manner in which they may affect the healthy system. They should also be considered according to their just adaptations to disease, both in respect to the suitableness of their remedial virtues and the appropriate doses. The various sedatives will be far from being suited to very many conditions where some of them may be in the highest degree salutary. Take two of the most powerful. Loss of blood, for instance, will often save life where opium would be destructive; and vice versa, opium will save the subject of gastric spasm induced by drinking cold water when bloodletting might destroy him. Even in some conditions of inflammation, remedies which are commonly stimulant and tonic will prove sedative when bloodletting is at least useless. Such is the case in intermittent inflammation, after suitable depletion; since the Peruvian bark may then succeed,

when loss of blood, antimonials, &c., have ceased to be curative. This consideration brings up the importance of looking well at the pathological distinctions among closely allied diseases, inasmuch as Peruvian bark, and many other agents of active tonic virtues, are directly sedative in suitable states of the system in intermittent fevers, while they aggravate all other fevers at the same early stages; and it is only the intermittent form of inflammation, and those venous congestions, also, which have peculiar miasmata for their remote causes, in which bark would not also prove stimulant. So far, therefore, the foregoing tonics and stimulants belong to the class of sedatives. Nevertheless, it should be also recollected that it is the febrifuge, not the tonic or stimulant virtue of these agents, which does the service in intermittents; and the former is so completely in relation with the special pathological conditions that it transcends or counteracts the morbific action of the latter.

In my arrangement I have given rather a different import to the group of sedatives than is common; having placed them as a special order of antiphlogistics, and such as are of the most direct and positive nature in subduing general arterial excitement, though some of them may not be equally suited to the relief of local excitement. Thus, the narcotics, when justly applied, reduce the irritability of the whole system, and moderate general excitement; but they have no great tendency to assuage local inflammations, but, on the contrary, their tendency is more frequently to increase them. In the arrangement, therefore, of the sedatives according to the restricted sense in which I have employed the term, I have estimated their value in conformity with their greatest usefulness in allaying morbid irritability

and sensibility, in their appropriate relations to certain conditions of disease.

We may next proceed to regard sedatives under five subdivisions; namely, *Sedatives proper*, *Narcotics*, *Cold*, *Alteratives capable of Nauseating*, and *Nauseants*.

The first subdivision, or *Sedatives Proper*, comprises Loss of Blood, Hydrocyanic Acid, Cyanide of Potassium, Cyanide of Zinc, Ferrocyanide of Zinc, Ferrocyanide of Potassium, Cherry Laurel, Bitter Almonds, Hydrosulphate of Ammonia, Foxglove, Tobacco, Indian Tobacco.

The second subdivision, or *Narcotics*, embraces Opium and its preparations in the order of their arrangement, Henbane, Conium, Belladonna, Hops, Lactucarium, Stramonium, Aconite.

The third subdivision includes only *Cold*.

The fourth subdivision, or *Alteratives capable of exciting Nausea*, comprises the Antimonials, and to which Ipecacuanha might be added.

The fifth subdivision, or the *Nauseants*, refers to such agents as are sedative only when they produce nausea. There are many of this description, but none of them are of much use in medicine as nauseants, but, on the contrary, are apt to produce an injurious irritation of the intestinal mucous membrane when carried to the extent of nausea. They are, therefore, not included in the arrangement.

Now there are certain strong analogies among all the foregoing subdivisions, yet each differs from the others in some very prominent characteristics. Indeed, there are no two of the remedies, however allied as sedatives, which do not present some strong peculiarities. Take,

for example, the first two of the first subdivision, or the sedatives proper—loss of blood and hydrocyanic acid. These are the most immediate and powerful sedatives, yet each has its own peculiar mode of reducing irritability and vascular action; nor do they modify irritability and vascular action alike. Each, however, as with all the other sedatives, depresses irritability and action, and this is the only strong point of resemblance. The special differences consist in the different modes in which each sedative *alters* irritability and action in their *kind*. This important principle of change in *kind* is distinctly seen by a more extended comparison of the effects of sedatives, as loss of blood with opium. The former so modifies irritability and vascular action that it may almost instantly subvert a violent inflammation; but opium will do no such thing, and though it reduce irritability and moderate the violence of action during its direct effect, each will have become exasperated after that direct effect is over. The difference consists in the different modifications in *kind* which either remedy produces in the organic properties and actions. It is a neglect or an ignorance of this philosophy, and too often a contempt of all inquiry into the *modus operandi* of remedies, which leads to a vast amount of mal-practice, and, in respect to the agents now before us, which has prompted the substitution, in otherwise enlightened quarters, of opium, digitalis, tobacco, aconite—aye, even stimulants and tonics, for loss of blood, and often, too, where this remedy is indispensable.

Besides what has been now said of the more prominent distinctions among sedatives, there are others less distinctly marked among such of the agents as are most nearly allied, as the narcotics. These have been indi-

cated in the *Institutes of Medicine*, under the subjects of *Narcotics*, *Vital Habit*, &c.

The operation of hydrocyanic acid, or the cyanide of potassium may be taken as a comparative example of what is meant, in a general sense, by sedative influence. A drop of the concentrated acid will completely kill a rabbit in less than a second of time. Lightning also abolishes the principle of life on the instant. Bleeding an animal to death has the same effect. Now, in all these cases the causes act by depressing the vital properties. In the case of the hydrocyanic acid, and all the compounds of cyanogen, lightning, &c., the agents are of a direct nature, while in that of loss of blood the cause is indirect; since the properties of life are destroyed in this case by withdrawing from them their necessary stimulus. The same principles obtain, respectively, in all degrees short of death. Either agent, as one of its effects, reduces the properties and actions of life in various degrees, when applied in certain quantities, and in the ratio of these quantities, and during their direct operation. But they must be applied in certain quantities, or these effects will fail; and, in respect to many of the sedatives, there must be present, as I have already said, certain pathological conditions, or their virtues as sedatives will not be displayed. This is especially true of narcotics, and of antimonials when administered short of their nauseating effect.

It is commonly said that "sedatives exert their effect upon the nervous system;" but this is far from being the case with loss of blood and nauseants, and only in a restricted sense as it regards those agents which have the greatest relation to the nervous system. The nervous power is certainly involved throughout; but this is also

true of all other agents whose effect reaches beyond the direct seat of their operation. All exert their primary action upon the parts to which they are applied; and when the nervous power is brought into operation, it is, in all the cases, by a transmission of the remedial influence to the nervous centres, and a consequent determination of the nervous power either upon the organic constitution of the brain or of other parts. If the action be exclusively local, it is then limited to the part itself, and the nervous power has no more participation in the effects than in the action of the same agents upon plants. If the action extend to organs situated more or less remotely from the seat of the direct operation of the agent, it is then propagated by means of the nervous power; this power, in all the cases, taking the place of the agent itself in respect to the influences produced upon distant parts. The nervous power, in each instance, is developed and modified in its nature according to the peculiar virtues of each agent. The rule is of universal application in respect to all vital stimuli, all sedatives, and all other agents, nor can a phenomenon of remote sympathy be explained by any other philosophy, while ours has the advantage of being directly demonstrable, through a complex anatomical system which is obviously designed for this very purpose. Here we have something tangible in the anatomical design, and in the variety of experiments which may be brought to the direct proof of our philosophy, and in the infinitely diversified experiments which Nature is perpetually carrying on in every existing animal. By this anatomical structure, consisting of brain and nerves, and most especially of that wonderful contrivance, the sympathetic or ganglionic nerve, and by our own experiments as well as by those which are naturally in unceas-

ing progress, we overthrow all the physical, chemical, and humoral hypotheses of life and disease, rescue our science from a low degradation, and give it a rank in Design, in magnificence, in intellectual grandeur, far surpassing any other science which Nature has instituted.

But, do not some of the sedatives affect particularly the nervous system, its central parts especially, just as other agents affect particularly other parts, as cantharides the bladder, ergot the womb, &c.? Certainly; and this is especially true of the narcotics, but not true of loss of blood, or of the antimonials, or nauseants. In excessive doses the main fury of the narcotics is expended upon the organic constitution of the brain, and venous congestion of that organ is one of the invariable results. But this is effected through a very different process from what has been hitherto supposed. The result is partly due to the determination of the nervous power, in a modified condition, upon the organic constitution of the brain and spinal cord, but equally so upon that of the heart, the stomach, etc. The intensity of the general effects upon the system at large will also depend more upon the determination of the nervous power upon important organs, remote from the brain, than upon the amount of influence exerted by the nervous power upon the organic condition of the brain and spinal cord. The determination may be so sudden and violent, as in the case of hydrocyanic acid, that it shall destroy the life of the heart, the lungs, &c., without leaving a trace of its influence upon the brain; or, as with opium, the remote effects may depend much upon the morbid change which the agent may establish in the nervous centres. But when opium operates in its ordinary medicinal doses, there is no such morbific action exerted upon any part

of the nervous system. The narcotic then rouses and modifies the nervous power in degrees of intensity which are not morbific, and in the same general way as all other remedial agents, but in a way, also, peculiar to the virtues of the narcotic. It is this special modification of the nervous power, and the determination of the power upon various parts, which lessens and otherwise modifies the irritability, sensibility, and, of consequence, the organic actions, of all parts of the body.

Cold is generally local in its operation so long as it is confined to a limited portion of the surface of the body, and then it operates alone upon the organic constitution of the part, as seen in its effects upon superficial inflammations. But there are remarkable exceptions to this, as when a current of air striking the neck or chest occasions rheumatism, pneumonia, &c., or when exposure of the feet to cold arrests menstruation. In these cases the nervous power is brought into action, and is the immediate cause of the morbid effects. At other times, when cold operates with great intensity upon the whole surface of the body, it occasions venous congestion of the brain. The philosophy is the same as when hydrocyanic acid produces cerebral congestion.

I have placed antimonials in a subdivision by themselves, though many would probably arrange them with the nauseants. But the former produce very powerful sedative effects without exciting nausea, as seen in the manner in which inflammations yield to their quiet operation. But the principles concerned are exactly the same in all the cases. We have, however, a variety in the details of effects throughout the whole, even in respect to each individual agent, and according to its dose, the frequency of its administration, the precise patho-

logical condition, the nature of the organ affected, and many other modifying contingencies. As it regards antimonials, also, their sedative influences involve a very important modification of the common principle of action, by which they are rendered of the highest value in the cure of diseases. When they subvert inflammations and fevers in their small alterative doses, the sedative effect is owing to a radical change which they establish in the organic properties and actions. This exemplifies, also, what I would be understood to mean by changes in *kind*. If, however, only a single dose be administered, but so as to produce nausea, there may be a full temporary reduction of the general excitement, but it may return in its former violence as soon as the nausea shall have disappeared. Here no radical change had been effected by the sedative, as in the former case, though the depressing influence was powerfully exerted. Let the nausea, however, be more protracted and proceed to the extent of vomiting, and it may completely overthrow a fever, or an inflammation of the lungs. In this case the antimony exerts its effects more profoundly, so that Nature is able to seize upon her recuperative process.

Finally, the group of sedatives is designed mainly to bring into connection a number of remedies which have certain important analogies, that they may be considered comparatively; with a view to enlarging our knowledge of the relationship of remedial agents, their points of difference, their modes of operating, &c. This group, however, is open to great and important qualifications, and is more an artificial one than almost any other. Not but what the agents which it embraces generally exert the influences which I have described, and have a certain

coincidence in their effects, yet many of them are greatly separated from each other in their absolute therapeutical virtues, as bloodletting and tartarized antimony from the narcotics, &c. Again, this group is too exclusive for the requisitions of facts and philosophy; and yet had it been more comprehensive it would have been liable to other and perhaps to greater objections. (See, in connection, *Institutes of Medicine*, p. 107–111, § 226–233¾; p. 323–335, § 500–511; p. 344, 345, § 516, *d*, No. 6; p. 481, § 743; p. 547–550, § 863, *d*; p. 583–590, § 891; p. 662-664, § 895–900; p. 666–671, § 902, *b*–903; p. 703–711, § 940–952; p. 715–722, § 960. Also, *Medical and Physiological Commentaries*, article, *Cold, a cause of Congestion*, vol. 2, p. 590–602.)

The botanical, chemical, and other incidental characteristics of the Sedatives will be found in connection with the several agents in those groups where they occupy their principal rank as remedies.

1. Sanguinis Missio. Loss of Blood.

2. Antimonii Potassio-Tartras. Tartrate of Potash and Antimony. Tartarized Antimony. Also, other Preparations of Antimony. (See *Index*.)

3. Opium, and all its Preparations in the order of arrangement. (See *Class 4th*.)

4. Hyosciamus Niger, and H. Albus. Henbane. The former naturalized. *The leaves and seeds.* Not constipating, rather laxative.

(*a*.) *Extract of Hyosciamus.*—*Dose*, grs. ij., repeated, or gradually increased, once in 4 to 12 hours.

(*b.*) *Tincture of Hyosciamus.*—*Dose*, ℈ j. to ʒ ij.

(*c.*) *Leaves of Hyosciamus.*—*Dose*, grs. v. to x.

5. Conium Maculatum. Cicuta.

See p. 117, No. 32, for *Dose*, &c.

For gastric pain, carcinoma, spasm of gall-duct from passage of gall-stone, &c.

6. Acidum Hydrocyanicum. Hydrocyanic Acid.

Comp. Carbon, 44.45. Nitrogen, 51.85. Hydrogen, 3.70=100.

℞. Acid. Hydrocyan. Medicinal, ʒ ss.; distilled Water, ℥ viij.; M.—*Dose*, ʒ ij., gradually increased to ʒ iv. or more, twice or thrice a day.

The *Medicinal Acid* is Gay Lussac's, diluted with 8.5 times its weight of water.

Employed in pulmonary phthisis, whooping-cough, hysteria, neuralgia, &c. Greatly overrated; but placed here in compliance with its reputation. The mixture should be shaken and kept in the dark.

Antidotes. The following is considered the most efficient antidote.—℞. Sulphate of Iron, grs. x.; Water, ℥ j.; Tincture of the Muriate of Iron, ʒ j., mix in a phial. In another phial, Carbonate of Potash, grs. xx.; Water, ℥ j. to ℥ ij.—When given, mix the whole. Also, dilute solutions of Chlorine, or of Chlorides of Soda and Lime.

7. Potassii Cyanidum. Cyanuret of Potassium. Cyanide of Potassium.

See p. 136, No. 15, for *Dose*, &c.

Overrated, but, like the hydrocyanic acid, directly and powerfully sedative.

8. Zinci Cyanidum. Cyanide of Zinc.

Employed in epilepsy, hysteria, chorea, cramp of stomach, &c.—*Dose*, gr. ¼ to grs. ij., in pills or powder, twice or thrice a day.

9. Zinci Ferrocyanidum. Ferrocyanide of Zinc.

Dose. Gr. j. to grs. iv., twice or thrice a day.

Same cases as No. 8.

10. Cold. Ice, Cold Water, Frigorific Mixtures.

Internally and externally. Allay inflammatory and febrile excitement. These come under the usual denomination of *refrigerants*, a term of the humoral school. Vegetable acids, &c., go under the same group, and the *name* has led to a very injurious use of these substances in fevers and inflammations. Do they reduce the temperature of the body? Certainly not; but exalt it by increasing disease.

11. Atropa Belladonna. Deadly Nightshade.

See *Senso-Paralysants*, No. 3, for *Dose*, &c.

In neuralgia, internally and externally.

12. Digitalis Purpurea. Foxglove. Europe. *The leaves.*

Directly sedative to the general circulation, as to lessening the frequency, but comparatively little the force of the heart. Sometimes, however, it accelerates the circulation. Narcotic. Employed in phthisis, inflammations, fevers, dropsy, aneurism, and other affections of the heart and great vessels. Greatly overrated. Cumulative, suddenly manifesting violent effects.—*Dose*, of Leaves, gr. j., gradually increased till the pulse is reduced

in frequency, or the head or stomach affected.—*Dose*, of Tincture, 20 drops, twice or thrice a day, cautiously increased. (See *Institutes of Medicine*, p. 366–368, § 556–558.)

13. Humulus Lupulus. Hops. Europe and America. *The strobiles and lupulin.*

Allays morbid sensibility and irritability, and for this reason, though manifesting also the effect of a tonic, I have placed it under this group. (See *Narcotics* and *Tonics.*)

℞. Hops, ℥ ss.; Boiling Water, ℔ j.; M. Strain.—*Dose*, ℥ j. to ℥ ij., three or four times a day.—*Dose*, of Lupulin, grs. v. to xii., in pills.—*Dose*, of Tincture, ʒ j. to ʒ iv. In rheumatic pains, wakefulness, dyspepsy of irritable habits, &c.

14. Datura Stramonium. Thorn Apple.
In neuralgia.
See *Senso-Paralysants*, No. 5. for *Dose*, &c.

15. Aconitum Napellus. Monkshood.
In neuralgic affections.
See p. 134, No. 12, for *Dose*, &c.

16. Lactuca Sativa. Common Lettuce. *The inspissated juice, Lactucarium.*

Simply anodyne, and, like hyosciamus, void of the unpleasant effects of opium.—*Dose*, grs. iij. to vj.

17. Ammoniæ Hydrosulphas. Hydrosulphate of Ammonia.

Comp. Hydrosulphuric Acid, 50. Ammonia, 50=100.

Powerfully sedative, lessening greatly the action of the heart and arteries. Sudorific. In large doses produces vomiting, giddiness, &c. Given in gout and diabetes. Overrated.—*Dose*, of Liquor Ammon. Hydrosulph., five or six drops in a gill of water, three or four times a day.

Antidotes. Chlorine, and chlorides of lime and soda; stomach pump.

18. Cerasus Lauro-Cerasus. Cherry Laurel. Asia Minor. Now common.

Like the hydrocyanic acid, which is the active principle, it is a powerful sedative, and applicable to the same cases.—*Dose*, of the Aqua Lauro-Cerasi, ʒ ss. to ʒ j. (See *Index*.)

19. Amygdalus Communis. (V. Amara.) Bitter Almonds. Syria; Barbary. Cultivated.

Similar to cherry laurel, and applicable to the same cases.—*Dose*, of powder, grs. ij. to vj.—*Dose*, of the volatile oil, a quarter of a drop to one drop, in mucilage.

20. Potassii Ferrocyanidum. Ferrocyanide of Potassium.

Dose. ℈ j. to ʒ j. Probably of little effect.

21. Lobelia Inflata. Indian Tobacco.

For *Dose*, &c., see p. 84, No. 13.

22. Nicotiana Tabacum. Tobacco.

See p. 88, No. 26.

ORDER VII.

DIURETICS,

In the order of their value.

These substances are mostly employed in dropsical affections, though 1, 2, 5, 7, 8, 9, 26, are often used to increase the secretion of urine under other circumstances. They are arranged according to this particular effect, but especially as it takes place in dropsical affections. They are incomparably less curative of dropsy than bloodletting, leeching, cathartics, vesication, mercurials, &c., especially in the early stages; and should, therefore, be only employed in subordination to those remedies. The pathology of dropsy is inflammation of the serous or cellular tissues, and generally symptomatic of inflammation, or venous congestion, or organic disease, of some important organ. With the exception of squill, juniper berries, iodine, eupatorium, cahinca, buchu, pipsissewa, angustura bark, bromide of potash, horse-radish, mustard, the substances of this group are not stimulating, and are compatible with inflammatory and febrile excitements, though not useful for those conditions. (See *Institutes of Medicine*, p. 630–633, § 892¾.)

1. Potassæ Acetas. Acetate of Potash. Diuretic Salt.

Comp. Potash, 48.5. Acetic Acid (dry), 51.5 = 100.

Dose. ℈j. to ʒ iss.

Commonly associated with other diuretics. In doses of two or three drachms it proves purgative. Deliquescent.

Incomp. Sulphates of soda and magnesia, mineral acids, bitartrate of potash.

Comp. ℞. Acet. Potass., Infusion of Juniper Berries, Squill; M.—℞. Acet. Potass., Decoction of Broom; M.

2. Sodæ Acetas. Acetate of Soda.

Comp. Soda, 22.94. Acetic Acid, 36.95. Water, 40.11=100.

Dose, ℈j. to ʒ iss.

Very similar in effects to the acetate of potash, and is not deliquescent. It is the officinal source of acetic acid.

Incomp. The same as in No. 1.

3. Cytisus Scoparius. Common Broom. Formerly *Spartium Scoparium*. *The tops and seeds.*

Diadelphia, Decandria.

Hab. Europe.—*Herbaceous.*

Dose, of Seeds, grs. x. to xv. Decoction, ℞. Broom-tops, ℥ j.; Water, ℔ iss. Boil to ℔ j.; strain.—*Dose*, ʒ j. to ℥ ij., four or five times daily.

Broom is often laxative in the usual diuretic doses, and purgative and emetic in larger. It is more remedial than its limited use would imply, but is not known to extend its effects beyond dropsical conditions.

Comb. ℞. Broom-tops, Juniper Berries, of each ℥ ss.; Water, ℔ iss. Boil to ℔ j. and strain.—*Dose*, ℥ j. to ℥ ij.—℞. Broom-tops and Juniper-tops, of each ℥ ss.; Bitartrate of Potash, ʒ iiss.; Water, ℔ iss. Boil to ℔ j. and strain. Diuretic and laxative.—*Dose*, ℥ j. to ℥ij.—℞. Decoction of Broom-tops, Acetate of Potash (Infusion of Juniper berries); M.

4. Scilla Maritima. Squill. *The bulb.*

See p. 163, No. 4, for *Dose*, &c. The dose should be rather larger than when employed as an expectorant.

The advantages of squill, in dropsical affections, on account of its stimulant virtue, are mostly limited to cases of anasarca in its chronic stages, and in the absence of vascular excitement. Calomel or iodine may be usefully associated in cases attended by chronic enlargements of the liver or spleen; and this is equally true of iodine and preparations of mercury, when other diuretics are administered in complicated cases of ascites, hydrothorax, &c. (See *Institutes*, p. 617, § 892½, *k*; p. 635–638, § 892⅘.)

Comb. ℞. Syrup of Squill, ℥ j.; Tartarized Antimony, gr. j.; M.—*Dose*, ʒ ss.—℞. Infusions of Squill, Juniper berries or tops, Broom-tops (Acetate of Potash); M.

5. Juniperis Communis. Common Juniper. *The berries, tops, and oil.*

Diœcia, Monadelphia.

Hab. Europe. Naturalized in the U. S.—*Shrub.*

The berries are mostly in use, and in an infusion. ℞. the Berries or Tops, ℥ j.; Boiling Water, ℔ j. Macerate and strain.—*Dose*, ℥ ij. to ℥ iv., three or four times daily.

Dose of *Oil*, one to six drops.

Comb. ℞. Infusion of Fruit or Tops, Acetate of Potash; M.—℞. Infusion of Juniper, Bitartrate of Potash; M.—℞. Juniper, Squill, Bitart. Potash, and Broom; M.—℞. Juniper, Acetate of Potash, Broom, and Squill; M.—℞. Juniper, Acetate of Potash, Broom, Siberian Diuretic; M.

6. Potassæ Bitartras. Bitartrate of Potash. Cream of Tartar.

Dose. ℈ j. to ʒ j.—See p. 56, No. 25.

Comb. See No. 5. Also, as a hydragogue cathartic, Bitart. Potash, ʒ j. to ʒ ij.; Jalap, grs. xx.; M.—See Tartrate of Potash, p. 44, No. 11.

7. Ballota Lanata. Siberian Diuretic. *The palmated leaves.*

Hab. Siberia.

℞. The Leaves, ℥ j. to ℥ ij.; Water, ℔ iss.; Boil to ℔ j.—*Dose*, ℥ ij. to ℥ iv., 3 or 4 times daily.

Actively diuretic, aromatic. Much employed on the European Continent.

Comb. See No. 5.

8. Spiritus Ætheris Nitrici. Spirit of Nitric Ether. Sweet Spirit of Nitre.

Comp. Hyponitrous Ether, 20.9. Rectified Spirit, 79.1=100.

Dose. ʒ j. to ʒ iij.

Particularly useful in cases of strangury; and in mild forms of anasarca may be combined with Squill, or Acetate of Potash, or Nitrate of Potash, &c. Has a pernicious reputation in the treatment of fever.

9. Potassæ Nitras. Nitrate of Potash. Saltpetre. Nitre exists in soils, and is obtained from the Cissampelos Pareira, Geum Urbanum, &c.

Comp. Nitric Acid, 52.9. Potash, 47.1=100.

Dose. Grs. x. to xxx.

Mostly employed, as a diuretic, to assuage the ardor urinæ of gleet, along with mucilage; but No. 8 is better. Has a mischievous reputation as a remedy in fevers, by

inducing the neglect of efficient treatment. Its use in these affections, when directed by principle, is suggested by a supposed deranged state of the blood, as it is also in the treatment of the malignant Cholera, and Scurvy.

The fumes, by burning, in a room, thick porous paper immersed in a saturated solution of nitre, have been lately recommended for Asthma.

10. Potassii Bromidum. Bromide of Potash.

See p. 111, No. 15, for *Dose*, &c.

In some of the numerous cases of dropsy dependent upon organic affections of the spleen and liver, this agent has the double advantage of being generally diuretic while it also addresses itself to the organic lesions. (See *Institutes*, p. 617, § 892½, *k*.)

11. Barosma (or Diosma) Crenata. Buchu. *The leaves.*

Pentandria, Monogynia.

Hab. Africa.—*Shrub.*

Dose, of Powder, ℈ j. to ʒ ss.; *Infusion.*—℞. the Leaves, ℥ ss.; Boiling Water, ℥ viij.; M. Macerate; strain.—*Dose*, ℥ j. to ℥ ij.

(*a.*) *Tincture of Buchu.*—*Dose*, ʒ ss. to ʒ j.

Employed as a stimulant diuretic, and in chronic inflammation of the bladder.

12. Colchicum Autumnale. Meadow Saffron. *The cormus and seeds.*

See p. 129, No. 3, for *Dose*, &c.

13. Iodinium. Iodine.

See p. 104, No. 1, for *Dose*, &c.

This has acquired its reputation in dropsical affections from its power in subverting those organic lesions which so often lead to, and maintain the effusions. (See *Institutes*, p. 617, § 892½, *k*, &c.)

14. CANTHARIS VESICATORIA. Spanish Fly.

Dose, of Tincture, 10 drops, two or three times a day, gradually increased, and if necessary, till slight strangury is produced. (See *Index*.)

15. OLEUM TEREBINTHINÆ. Oil of Turpentine.

Dose, 5 or 6 drops to ʒ j. (See *Index*.)

16. GALIPEA OFFICINALIS (*Bonplandia Trifoliata*). Angustura Bark.

An infusion of the bark, in a state of fermentation, is highly recommended by Dr. Hancock, in ascites, &c.

See p. 151, No. 39, for *Dose*, &c.

17. APOCYNUM CANNABINUM. Indian Hemp.

See p. 69, No. 48, for *Dose*, &c.

18. CHIMAPHILA UMBELLATA. Pipsissewa. Wintergreen.

See p. 117, No. 31, for *Dose*, &c.

19. ASCLEPIAS TUBEROSA. Butterfly-weed. Pleurisy-root.

See p. 164, No. 7, for *Dose*, &c.

20. NICOTIANA TABACUM. Tobacco.

Dose, of Wine of Tobacco, 10 to 30 drops. (See p. 88, No. 26.)

21. Digitalis Purpurea. Foxglove. *The leaves.*

Didynamia, Angiospermia.

Hab. Europe.—*Herbaceous.*

Dose, of Powder, gr. ss. to gr. iss., once in five or six hours.—*Dose*, of Tincture, 15 drops, gradually increased to 50 drops, or more.

Has had a great, but unmerited reputation in dropsical affections.

22. Eupatorium Purpureum. Mohawk Tassel. *The leaves.*

Syngenesia, Æqualis.

℞. the Leaves, ℥ j.; Boiling Water, ℔ j. Macerate and strain.—*Dose*, ℥ j. to ℥ ij., 3 or 4 times daily.

23. Erigeron Heterophyllum. E. Strigosum. E. Canadense. E. Philadelphicum. Fleabane. Scavious.

Syngenesia, Superflua.

Hab. United States.—*Herbaceous.*

A strong infusion of the plants.—*Dose*, of Extract, grs. v. to x.

Commended especially in the dysury of children.

24. Cochlearia Armoracia. Horse-radish. *The root.*

A Decoction. See p. 86, No. 21.

25. Sinapis Nigra. S. Alba. Black and White Mustard. *The seeds.*

Tetradynamia, Siliquosa.

Hab. Europe.—*Herbaceous.*

An infusion of the powdered seeds.

26. Liquor Ammoniæ Acetatis. Acetate of Ammonia.

Comp. Acetic Acid, 38.931. Ammonia, 12.977. Water, 48.092 =100.

Dose. ʒ ss. to ʒ iij.

Comb. May be combined with Nitric Ether, or like the Acetate of Potash.

Has an unmerited reputation in the treatment of fever, and is often detrimental from an excess of Sesquicarbonate of Ammonia.

27. Aralia Hispida. Dwarf Elder. *The root.*

Pentandria, Pentagynia.

Hab. United States.

Decoction. ℞. the Root ʒ j.; Boiling Water, ℔ j. Boil; strain.—*Dose*, ʒ ij. to ʒ iv.

MORE OR LESS OBSOLETE.

28. Medeola Virginica. Wild Cucumber. 29. Asparagus Officinalis. Asparagus. 30. Physalis Viscosa, and P. Alkakengi. Winter Cherry. 31. Parietaria Officinalis. Wall Pellitory. 32. Acacia Vera. Gum Arabic. 33. Ulmus Fulva. Slippery Elm. 34. Apium Petroselinum. Parsley. 35. Sesamum Indicum. Benne. 36. Viola. Violet; several species. 37. Daucus Carota. Carrot. 38. Genista Tinctoria. Dyer's Broom. 39. Borago Officinalis. Borage. 40. Anacardium Occidentale. Cashew Nut. 41. Lycopodium Clavatum. Club Moss. 42. Cardamine Pratensis. Cuckoo Flower. 43. Tilia Americana, and T. Europæa. Linden. 44. Thlaspi Arvense. Penny Cress. 45.

Portulacca Oleracea. Garden Purslane. 46. Althæa Officinalis. Marsh Mallow. 47. Malva Sylvestris, and M. Rotundifolia. Mallows. 48. Eryngium Maritimum. Sea Holly. 49. Cucumis Melo. Muskmelon seeds. 50. Triticum Repens. Couch Grass. 51. Lappa Major. Burdock. 52. Ruscus Aculeatus. Butcher's Broom.

ORDER VIII.

CUTANEOUS AND OTHER LOCAL APPLICATIONS.

SUBDIVISIONS.

1. Vesicants.
2. Rubefacients.
3. Suppurants.
4. Escharotics, with alterative virtues.
5. Potential Cauterants.
6. Actual Cauterants.
7. Alteratives.
8. Sedatives.
9. Astringents.
10. Simple Substances.

Injections.

1. Enemas.
2. Uterine.
3. Vaginal.
4. Urethral.
5. For abscesses, encysted tumors, &c.

GARGLES, etc.

COLLYRIA.

SUBDIVISION OF CUTANEOUS ALTERATIVES.

I. Constitutional Alteratives.

II. Local Alteratives.

(*a.*) Adapted to cutaneous diseases.

(*b.*) Adapted to scrofulous and other indolent tumors, chronic enlargement of joints, etc.

(*c.*) Adapted to rheumatic inflammation.

(*d.*) Adapted to neuralgia and neuralgic rheumatism.

(*e.*) Adapted to certain conditions of erysipelas, and some other cutaneous inflammations of specific character.

(*f.*) Adapted to sprains, etc.

(*g.*) Adapted to piles.

(*h.*) Adapted to burns and scalds.

(*i.*) Adapted to phagedenic and tuberculous, indolent venereal, scrofulous, and other unhealthy ulcers.

SUBDIVISION I.

VESICANTS,

In the order of their value.

1. CANTHARIS VESICATORIA. Spanish Fly. Blistering Beetle.

Hab. Europe.

Specific character.—Bright glossy brass-green or bluish, glabrous; beneath more glossy, with a few hairs. *Breast* densely pubescent, finely punctured. *Head and thorax* with a longitudinal channel, large, subcordate. *Elytra* with two slightly raised lines. *Tarsi* violaceous. *Antennæ* black, with the basal joints brassy.

Length 6 to 11 lines. *Breadth* 1 to 2 lines. *Odor* nauseous.

Wings ample, membranous, veined, transparent, pale brown. *Legs* stout.

The *Nervous System* consists of a cerebro-spinal axis, and of a double sympathetic nerve. The *Vascular System* is composed of a *simple pulsatory dorsal vessel.* The *Respiratory system* consists of ten pair of stigmata, which open into the tracheæ. The *Digestive System* consists of the *mouth*, *pharynx*, a long muscular *œsophagus*, ending in an elongated fusiform *stomach* which terminates in the *small intestine*, having a *valve* interposed, followed by an expanded *cœcum* which ends in a very short narrow *rectum.* The *Biliary System* consists of six very long, filiform, convoluted *tubes*, which terminate anteriorly at the stomach, near the pylorus, and posteriorly at the intestine near the cœcum. The *Sexual System* has been well described by Audouin.

The active and odorous principles exist, mostly, in the sexual organs, especially the ovaries; and the soft have more of the active matter than the hard parts, and the posterior more than the anterior portion of the body. (See *Institutes of Medicine*, p. 642–660, § 893.)

(*a.*) *Emplastrum Cantharidis.* Blistering Plaster.
(*b.*) *Acetum Cantharidis.* Vinegar of Cantharides.
(*c.*) *Tinctura Cantharidis.* Tincture of Cantharides.
(*d.*) *Ceratum Cantharidis.* Cerate of Cantharides.

2. CANTHARIS VITTATA. Potato Fly. Same preparations as of the Spanish Fly.

Several other valuable species, and ten other genera possess analogous properties.

3. LOTIO AMMONIATA MITIS. Mild Ammoniated Lotion.

℞. Strong Liquor of Ammonia, ℥ j.; Spirit of Rosemary, ℥ vj.; Spirit of Camphor, ℥ ij.; M.

4. LOTIO AMMONIATA FORTIS. Strong Ammoniated Lotion.

℞. Strong Liquor of Ammonia, ʒ x. ; Spirit of Rosemary, ʒ iv. ; Spirit of Camphor, ʒ ij. ; M.

5. Maruta (*Anthemis*) Cotula. May Weed. Wild Chamomile.—*The plant.*

Syngenesia, Superflua.

Hab. Europe. Naturalized.—*Herbaceous.*

Bruise the Plant, and apply in the form of a poultice. The vesicated surface is said to heal readily.

6. Boiling Water

7. Daphne Mezereon. *The bark and alcoholic extract.*

See p. 71, No. 55.

8. Anthemis Pyrethrum. *The recent root.*

9. Dirca Palustris. Leather Wood. *The bark.*

Octandria, Monogynia.

10. Ranunculus Bulbosus. R. Acris. R. Arvensis. R. Flammula. R. Repens. Crowfoot. Buttercup. *The plant.*

Sometimes violent, and at other times inert.

See p. 80, No. 4.

11. Euphorbia Corollata. Large Flowering Spurge.

See p. 85, No. 15.

12. Plumbago Zeylonica, and P. Rosea. Blister Leaf. *The leaves.*

Pentandria, Monogynia.

13. Cratæva Gynandra. Blister Plant. *Bark of root.*

Dodecandria, Monogynia.

Hab. Jamaica.

14. Several species of *Capparis*, *Polanisia*, and *Cleome*.

SUBDIVISION II.

RUBEFACIENTS,

In the order of their value.

1. Sinapis Nigra. Black Mustard. *Cataplasm of the pulverized seeds.* Also, *Oil of.* (See p. 86, No. 30.)

Professor Charles Caldwell states that, in cases of congestive fever, where cathartics have failed of operating, sinapisms, applied over the spine, "invariably produced the desired effect, if used in time, and those who were treated without them, as certainly died." Vesicants would probably be equally, if not more useful; and doubtless bloodletting was employed in these cases, antecedently either to the cathartics or the external remedies.

(*a.*) *Oleum Sinapis.* Oil of Mustard. A powerful irritant, in paralysis, old rheumatism, neuralgia, &c.

2. Sinapis Alba. White Mustard. As 1.
See p. 68, No. 46½.

3. Cochlearia Armoracia. Horse-radish. *The root.*

Grate fine and mix with vinegar. (See p. 86, No. 21.)

4. Lotio Ammoniata mitis. Mild Ammoniated Lotion.

See p. 196, No. 3.

5. Linimentum Ammoniæ. Liniment of Ammonia. ℞. Water of Ammonia, ℥ ss. to ℥ ij.; Olive Oil, ℥ j.; M.

6. Tinctura Cantharidis. Tincture of Cantharides.

Short of Vesication. Employed in mild forms of inflammation affecting parts beneath the surface, and for chilblains.

7. Unguentum Ammoniæ. Ointment of Ammonia.

8. Aqua Ammoniæ. Water of Ammonia.

9. Capsicum Annuum. Capsicum. Cayenne Pepper.

10. Oleum Terebinthinæ. Oil of Turpentine.

11. Oleum Cajuputi. Cajuput Oil. Also, other Stimulating Essential Oils.

12. Petroleum. A Liniment of. (See *Index.*)

13. Ruta Graveolens. Rue. (See *Index.*)

SUBDIVISION III.

SUPPURANTS,

In the order of their value.

1. Setaceum. A Seton.

2. Unguentum Potassæ Antimonio-Tartratis. Ointment of Tartarized Antimony.

℞. Tartrat. Antimon., ʒ j.; Simple Ointment, ℥ j.; M.—Rub on the skin once or twice a day.

3. Ceratum Cantharidis. Cerate of Cantharides. See p. 196, No. 1.

4. Croton Tiglium. Croton Oil.

Rub on the skin two to eight drops, once or twice a day; or, when the skin is delicate, dilute with olive oil or lard.

℞. Croton Oil, 6 to 10 drops; Simple Ointment, ʒ j.; M.—In croup, and loss of voice, rub along the trachea. (See p. 53, No. 19.)

5. Juniperus Sabina. Savine.

An ointment of the leaves, applied to vesicated surfaces, &c.

℞. the Leaves, bruised, ℥ ij.; Wax, ℥ j.; Lard, ℥ iv. Melt; mix the leaves; press through linen.

6. Acida Mineralia. Mineral Acids.

7. Iris Florentina. Florentine Iris.

Irritating. Made into issue peas. (See p. 72, No. 57.)

SUBDIVISION IV.

ESCHAROTICS, WITH ALTERATIVE VIRTUES,

In the order of their value.

1. Argenti Nitras. Nitrate of Silver. Lunar Caustic

Possesses remarkable alterative virtues, as an external agent, in various forms of disease. Manifests its most valuable uses in modifying the state of ill-conditioned ulcers, being applicable to almost all the varieties, arresting their destructive progress, and promoting healthy granulation. Best application to sloughing or ulcerated throat in cynanche scarlatina, to fissured, ulcerated, or excoriated nipples, &c., and to syphilitic sores. The *purest* and *solid* caustic should be applied. (See *Index*.)

2. Cupri Sulphas. Sulphate of Copper.

Very valuable. A saturated solution, applied by camel's hair brush. See p. 83, No. 9.

3. Antimonii Sesqui-Chloridum. Butter of Antimony.

Applied to exuberant ulcers, with pencil.

4. Unguentum Cupri Subacetatis. Ointment of Subacetate of Copper.

5. Zinci Chloridum. Butter of Zinc. Chloride of Zinc.

℞. Chloride of Zinc, 1 drachm to 1, 2, 3, or 4 drachms of flour made into a paste with water. Applied to hard fungous ulcers.

6. Alumen Exsiccatum. *Potassæ Alumino-Sulphas Exsiccatus. Alumen Ustum.* Dried Alum.

A mild escharotic. Applied to exuberant spongy granulations.

7. Sanguinaria Canadensis. Blood-root.

Powder applied to fungous surfaces. See p. 82, No. 7.

8. Anacardium Occidentale. Cashew Nut. Juice of nut-shell.

To ulcers, warts, ringworms.

9. Acida Mineralia. Mineral Acids.

10. Acidum Aceticum. Acetic Acid.

Warts, &c.

11. Chelidonium Majus. Celandine. The Juice.

Warts; fungous flesh; indolent ulcers.

SUBDIVISION V.

POTENTIAL CAUTERANTS,

In the order of their value.

1. Potassa. Caustic Potash.

Comp. Potassium, 83.34. Oxygen, 16.66 = 100.

2. Nitras Argenti. Nitrate of Silver.

See *Index*.

3. Potassa cum Calce. Potassa with Lime.

℞. Potassa and newly-slacked lime, equal parts; keep the paste in a well-stopped bottle.

4. Antimonii Sesquichloridum. Butter of Antimony.

See p. 201, No. 3.

5. Zinci Chloridum. Chloride of Zinc.

See p. 201, No. 5.

6. Acidum Nitricum. Nitric Acid.
See *Index.*

7. Acidum Sulphuricum. Sulphuric Acid.
See *Index.*

8. Ferri Arsenias. Arseniate of Iron.
℞. Arseniate of Iron, ʒ ss.; Phosphate of Iron, ʒ ij.; Simple Ointment, ʒ vj.; M. Applied to cancerous ulcers, spread on lint.

9. Arsenici Iodidum. Iodide of Arsenic.
℞. Iodide of Arsenic, grs. ij. to iv.; Simple Ointment, ℥ j.; M.
In corroding, tuberculous ulcers, &c.

10. Acidum Arseniosum. Arsenious Acid.
A cerate is used, composed of Arsenious Acid, grs. ij. to xx. and Simple Ointment, ℥ j.
Applied to cancerous tumors and ulcers, and particularly, also, to onychia maligna.

The humoral pathology has led to a very unnecessary apprehension of evil from the external use of arsenic, while the great mass of facts are in favor of its safety, unless applied to recent wounds. Highly recommended by Blackadder and Hennen for hospital gangrene, in the form of the arsenite of potash diluted with an equal quantity of water.

SUBDIVISION VI.

ACTUAL CAUTERANTS,

In the order of their value.

1. Ferrum Candens. White-hot Iron.

2. Artemisiæ Chinensis Moxa. A. Indica. A. Vulgaris. Moxa. Prepared from the down of leaves.

3. Cotton Moxa. Cotton of the common gossypium, prepared with the nitrate or chlorate of potash.

4. Robinet's Moxa. Cotton rolled around the pith of sunflower, and enveloped in muslin.

5. Sunflower Moxa. The simple pith of the Helianthus annuus.

6. Boletus Igniarius. Agaric of the Oak. Spunk. Agaric Moxa.

7. Lime Moxa. Put quicklime half an inch deep in a tubular piece of card, apply it to the skin, and drop in water. In two minutes the temperature will rise to 500 degrees Fahrenheit.

Moxas are employed in paralysis, painful affections of nerves, muscles, or fibrous tissues, diseased joints and spinal affections, organic diseases of internal viscera.

Inferior to setons and issues.

SUBDIVISION VII.

ALTERATIVES.

The remedies embraced in the preceding subdivisions are alteratives; but the term is here appropriated to such agents as operate without any prominent local result.

I. CONSTITUTIONAL ALTERATIVES,

In the order of their value.

The agents of this group may affect distant parts

through the medium of the skin, by remote sympathy, or their action may be sensibly confined to the skin.

1. Unguentum Hydrargyri. Blue Mercurial Ointment.

See p. 94, No. 5.

2. Unguentum Hydrargyri Iodidi. Ointment of Iodide of Mercury.

℞. Iodide of Mercury, grs. xxx.; Simple Ointment, ʒ ss.; M. Scrofulous and syphilitic ulcers, lupus, indolent tumors, sycosis, psoriasis, and other chronic cutaneous diseases. (See p. 119, No. 6.)

3. Unguentum Hydrargyri Biniodidi. Ointment of Biniodide of Mercury.

℞. Biniodide of Mercury, grs. v. to xxx.; Simple Ointment, ʒ j.; M. To same as No. 2.

See p. 120, No. 10.

4. Unguentum Hydrargyri Bicyanidi. Ointment of Bicyanide of Mercury.

℞. Bicyanide of Mercury, grs. v. to xx.; Simple Ointment, ʒ j.; M. To same as No. 2.

See p. 119, No. 8.

5. Acidi Nitro-Hydrochlor. Balneum. Nitro-Muriatic Acid Bath.

℞. Acid, ʒ iv. to vj.; Water, ℔ xvj. to xxiv.; M. In syphilis and hepatic affections. Applied to the feet, or the body sponged.

6. Potassii Iodidi Iodureti Balneum. Bath of Iodureted Iodide of Potassium.

℞. Iodine, ʒ ij. to ʒ iv.; Iodide of Potassium, ℥ ss. to ℥ j.; Water, gallons l. to lxxv.; M. In scrofula.

See p. 108, No. 3.

7. Unguentum Veratriæ. Ointment of Veratria.

℞. Verat., ℈ j. to ℈ ij.; Simple Ointment, ℥ j.; M. Rheumatism, gout, neuralgia. Also a tincture of Asagræa. (See p. 132, No. 6.)

8. Strychnia. Strychnia.

In paralysis. Sprinkle a blistered surface once or twice a day with a quarter of a grain, gradually increased to one grain. The pure strychnia, or the sulphate, is the best, or *brucia* may be used in six to ten times the quantity. (See *Index.*)

9. Tinctura Nucis Vomicæ. Tincture of Nux Vomica.

In paralysis. (See *Index.*)

10. Electricity and Galvanism.

In paralysis.

II. LOCAL AND LIMITED ALTERATIVES.

The operation of this group is limited to the parts to which the agents are applied, either by their intrinsic virtues, or by the regulation of art, or they are designed to affect parts situated below the surface, by contiguous sympathy. (See *Institutes of Medicine*, p. 321, § 497; p. 645–649, § 893.)

(*a.*) ADAPTED TO CUTANEOUS DISEASES.

In the order of their value.

1. UNGUENTUM NITRATIS HYDRARGYRI. Citrine Ointment.

Scabies, psoriasis, herpes, impetigo, lepra, eczema, porrigo, tinea, crusta lactea, &c.

2. SOLUTIO NITRATIS HYDRARGYRI. Solution of Nitrate of Mercury.

℞. Mercury, ʒ j.; Nitric Acid, ʒ iss.; M. Add Water, ℥ ij. to ℥ xij.

In the same affections as No. 1.

3. UNGUENTUM HYDRARGYRI AMMONIO-CHLORIDI. Ointment of White Precipitate of Mercury and Ammonia.

℞. Ammoniated Mercury, grs. x. to ʒ ss.; Stramonium Oint., or Simple Oint., ℥ j.; M. In various eruptive affections, and poisoning by the Rhus. The Stramonium is much preferable to the simple ointment, as it protects the part against the irritation of the mercury, by moderating irritability. The proportion of white precipitate should be carefully adapted to the irritable condition of the surface. (See *Institutes*, p. 567, § 889, *k;* p. 587, § 891, *i;* p. 561, § 888, *b.*)

4. UNGUENTUM SUBMURIATIS HYDRARGYRI. Ointment of the Submuriate of Mercury.

℞. Calomel, ʒ j.; Simple Ointment, ℥ j.; M. Herpes, porrigo, impetigo, lepra, psoriasis, etc.

5. Unguentum Iodidi Sulphuris. Ointment of the Iodide of Sulphur.

℞. Iodide of Sulphur, grs. x to grs. xxv.; Simple Ointment, ℥ j.; M. Tinea capitis, squamous, papular, tuberculous, and pustular diseases, as porrigo, acne, prurigo, tetter, lepra, psoriasis, lupus, etc.

6. Acidi Sulphurici Unguentum. Ointment of Sulphuric Acid.

Psora, porrigo, syphilitic ulcers, etc.

7. Unguentum Sulphuris Compositum. Compound Sulphur Ointment.

In same affections as No. 4.

8. Unguentum Sulphuris. Sulphur Ointment.

Psora, etc.

Though 7 and 8 are less used than some of the following, this is their relative value.

9. Potassii Sulphureti Solutio. Solution of Sulphuret of Potassium.

℞. S. P., ℥ iv.; Water, 30 gallons; M. *Bath*, for psora, lepra, prurigo, psoriasis, pityriasis, eczema, etc.

Lotions may be stronger, as S. P., ℥ ss.; Water, ℔ ij.; M.

Ointment. ℞. S. P., ʒ ss.; Simple Ointment, ℥ j.; M.

10. Unguentum Hydrargyri Iodidi. Ointment of Iodide of Mercury.

(See p. 205, No. 2.) Various obstinate cutaneous diseases, as under Nos. 4 and 5.

10½. Unguentum Hydrargyri Biniodidi. Ointment of Biniodide of Mercury.

See p. 205, No. 3. In the same affections as No. 10. Also, a Solution of.

11. Unguentum Veratri Viridis. Ointment of Poke-root. See p. 133, No. 7.

℞. V. V., ʒ ij.; Simple Ointment, ℥ j.; M.

In psora, tinea capitis, &c.

12. Nitras Argenti. Nitrate of Silver.

Applied, in solid form, in porrigo affecting the heads of children, and psoriasis, &c. Also, solutions of varied strength in impetigo, and some other cutaneous eruptions. (See *Index*.)

13. Ointment of White Hellebore.

℞. Powdered Root, ʒ ij.; Simple Ointment, ℥ j.; M.

Psora, etc. (See p. 66, No. 44.)

14. Ointment of Nitrous Acid. Same cases as 6.

15. Ointment of Nitric Acid. Same cases as 6.

16. Ointment of Nitro-Muriatic Acid. Same cases as 6.

17. Ung. Hydrargyri Nitrico-oxydi. Ointment of Red Precipitate of Mercury.

℞. Nit. Oxyd. of Mercury, ʒ ss.; Simple Ointment, ʒ ij. to ℥ j.; M.

Porrigo, psora, indolent ulcers, ophthalmia tarsi, chronic conjuctivitis, &c.

18. Ung. Hydrargyri Mitius. Mild Mercurial Ointment.

Various diseases. As 4 and 6.

19. Unguentum Iodinii. Ointment of Iodine.

℞. Iodine, grs. x. to ʒ j.; Simp. Oint., ℥ j.; M.

Also, ℞. Potass. Iodide, ʒ j. to ʒ j.; Simple Ointment, ℥ j.

In same affections as Nos. 4, 5, 9.

Also, *Tincture of Iodine.*

20. Unguentum Ammoniæ Iodidi. Ointment of the Iodide of Ammonia.

℞. Iodide of Ammon., ʒ j. to ʒ j.; Simple Ointment, ℥ j.; M.

As in 5 and 10.

21. Unguentum Potassii Bromidi. Ointment of Bromide of Potassium.

℞. Bromide of Potassium, ʒ j. to ʒ ij.; Simple Ointment, ℥ j.; M.

In same as 4, 5, and 9.

22. Hydrargyri Bichloridi Solutio. Solution of Corrosive Sublimate.

℞. Corrosive Sublimate, grs. j. to ij.; distilled Water, ℥ j.; M.

In same as 5 and 6.

23. Calcis Hypochloris Solutio. Solution of Hypochlorite of Lime, or Chloride of Lime.

Comp. Of best quality Chlorine, 32.73. Lime, 50.91. Water, 16.36 = 100. *Variable.*

℞. Chloride of Lime, ℈ j. to ℥ iv.; Water, ℔ j.; M.

The strength to be regulated by the disease, &c.

In tinea capitis, scabies, psora, prurigo, pityriasis, herpes, burns and scalds, foul ulcers of every kind, fœtid discharges from the ear and other parts, coryza, ozœna, purulent ophthalmia, punctured maturated pustules of small-pox to prevent pitting, gangrene, foul vaginal discharges, &c.

Extensively used as a disinfecting agent, and to destroy offensive odors. In the arts, it is the principal means for bleaching.

24. Sodæ Hypochloris Liquor. Liquor of the Hypochlorite of Soda; or Chloride of Soda; or Chlorinated Soda.

Comp. Hypochlorite of Soda, Chloride of Sodium, and Bicarbonate of Soda.

℞. Liquor of Chloride of Soda, ʒ j. to ℥ j.; Water, ℥ i.; M. As a *Lotion.* (See *Index.*)

In same affections as No. 23.

Also, *Cataplasm* of equal parts of the *Liquor* and Water combined with linseed meal.

The Hypochlorite of Soda is preferred by many to the Hypochlorite of Lime. The difference is small, while the latter is more readily procured. Like the latter, it is largely employed as an antiseptic and disinfectant. "When these substances are in contact with organic matter, it is supposed that the Hypochlorite gives out oxygen, and is converted into a metallic chloride; the oxygen being the effective disinfecting and antiseptic agent; or it may act by abstracting hydrogen. When, however, the solution of the chloride (hypochlorite), is exposed to the air, carbonic acid is at-

tracted by the lime, and hypochlorous acid set free, which immediately reacts on any organic matter present. Their most obvious effect is that of destroying the unpleasant odor of putrid matter." They are valuable agents in the foregoing affections, but offer very few advantages as internal remedies, though the humoral pathology has led to their extensive use in "putrid fevers," &c., and to a corresponding mortality from a neglect of the appropriate means.

25. Acidum Sulphurosum. Sulphurous Acid Gas.
Fumigations of, in scabies, lepra, chronic eczema, psoriasis, pityriasis, impetigo, &c.

26. Sapo Mollis. Soft Soap.
In scabies.

27. Unguentum Bismuthi Trisnitratis. Ointment of Trisnitrate of Bismuth.
℞. Bismuth, ʒ j.; Simple Ointment, ℥ ss.; M.
In same cases as 5 and 6.

28. Barii Chloridi Lotio. Lotion of the Chloride of Barium.
℞. Chloride of Barium, ʒ ss.; Distilled Water, ℥ j.; M.
In herpes, psoriasis, &c.

29. Unguentum Manganesii Binoxydi. Ointment of Binoxide of Manganese.
℞. Binoxide of Manganese, ʒ j. to ʒ ij.; Simple Ointment, ℥ j.; M.
In scabies and porrigo. Employed, also, internally, with doubtful success.
Comp. Of the Binoxide. Manganese, 63.5. Oxygen, 36.5 = 100.

Employed in Chemistry and Pharmacy for the production of Oxygen, Chlorine, and Iodine; by the bleacher for Chlorine; by the glassmaker to discharge the color imparted by iron, or to impart an amethystine hue to glass; by the potter as a coloring principle for earthenware.

30. Unguentum Phytolaccæ Decandriæ. Ointment of Poke Weed.

In tinea capitis, psora, herpes, impetigo, &c. (See p. 69, No. 47.)

31. Unguentum Kalmiæ Latifoliæ. Ointment of Mountain Laurel.

In same cases as No. 30.

32. Unguentum Picis Nigræ. Black Pitch Ointment.

In same cases as No. 30.

33. Petroleum.

A liniment of, in psoriasis, lepra, impetigo, lupus, &c. (See *Index*.)

34. Hydrargyri et Arsenici Iodidi Solutio. Lotion of the Hydriodate of Arsenic and Mercury.

℞. Hydriodate, &c., grs. j. to iv.; Water, ℥ j.; M.

In psoriasis and other obstinate cutaneous eruptions.

Also, Iodide of Arsenic. (See *Index*.)

35. Oleum Jecoris Aselli. Cod's Liver oil.

Also, Oleum Jecoris Raiæ. Skate's Liver oil.

Commended by the Germans as an external and internal remedy for chronic cutaneous diseases, eczema, rhagades, chapped hands, excoriations, &c. (See p. 110.)

36. Fuligo. Soot.

In herpes, psora, tinea capitis, pruritus vulvæ, porrigo, sore nipples, &c.

℞. Soot, ℥ j.; Water, ℥ viij. Boil; strain.—℞. Soot, ʒ ijss.; White of Egg, No. 1; M.—℞. Soot, ʒ j.; Simp. Oint., ʒ ij. to ʒ iv.; M.—℞. Soot, ʒ iij.; Zinc Sulph. ʒ j.; Simp. Oint., ℥ j.; M.—℞. Soot, ʒ iij.; Sulphur, ʒ vj.; Cinchona, ʒ vj.; Simp. Oint., ℥ j.; M.

37. Unguentum Creasoti. Creasote Ointment.

℞. Creasote, ʒ j.; Simple Ointment, ℥ j.; M.

In ringworm, porrigo, herpes, impetigo.

38. Unguentum Anemones Pratensis. Ointment of Meadow Anemone.

In same cases as No. 30.

39. Unguentum Anemones Pulsatillæ. Ointment of Pulsatilla.

In same cases as No. 30.

40. Unguentum Anamirtæ Cocculi. Ointment of Cocculus Indicus.

℞. Powder of Seeds, ʒ j.; Simple Ointment, ℥ j.; M.

In same cases as No. 30.

41. Liquor Acetatis Ammoniæ. Liquor of Acetate of Ammonia.

In same cases as No. 30. (See *Index.*)

42. Unguentum Cupri Subacetatis. Ointment of Subacetate of Copper.

Comp. of the Subacetate. Oxide of Copper, 43.24. Acetic Acid, 27.57. Water, 29.19=100.

Obstinate ringworms, foul ulcers of ophthalmia tarsi, corns, burns and scalds, &c.

43. Acidum Hydrocyanicum. Hydrocyanic Acid.

℞. Acid Hydrocyanic Medicinal, ʒ ij.; distilled Water, ℥ viij.; M. To allay irritation, and itching of psoriasis, impetigo, prurigo, &c. Acetate of Lead may be added. (See p. 182, No. 6.)

44. Potassii Cyanidi Solutio. Solution of Cyanide of Potassium.

℞. Cyan. Potas. grs. vj.; Water, ℥ iij.; M.

In same cases as No. 43.

45. Sodæ Hypochloris Liquor. Liquor of Chlorinated Soda. Also, Calcis Hypochloris Solutio. Solution of Chloride of Lime. (See p. 211, Nos. 23 and 24.)

In same cases as No. 30.

46. Aqua Chlorinii. Chlorine Water.

In same cases as No. 30. More or less diluted with water, or not.

Employed internally, in Europe, in many diseases, as scarlet fever, erysipelas, hydrophobia, the exanthemata, intermittents, phthisis, inflammation of the liver, and so on.

47. Ung. Carbonis Sesqui-Iodidi. Ointment of the Sesqui-Iodide of Carbon.

℞. Iodide of Carb., ʒ ss.; Simple Ointment, ʒ vj.; M.

In lepra, porrigo, strumous glands, &c.

48. Vinegar of Blood-Root.

In obstinate cutaneous affections. (See p. 82, No. 7.)

49. Rumex Crispus, R. Obtusifolius, &c. Dock. An Ointment of the Root.

Psora, and other cutaneous eruptions. In popular use. (See *Index*.)

50. Juniperus Sabina. Savine Juniper.

The powder of leaves, or decoction, or fresh juice, in psora, tinea capitis, warts, &c. (See *Index*.)

51. Linimentum Terebinthinæ. Turpentine Liniment.

Kentish's celebrated liniment for scalds and burns. Applicable to indolent cutaneous eruptions.

See p. 138, No. 20.

52. Ung. Clematidis Virginicæ. Ointment of Virgin's Bower.

In same cases as No. 30.

Analogous to the Clematis, and Anemone, are the *Actæa Spicata*, and *A. Alba*. They are employed in the form of ointment for the cure of the itch. All are acrid.

53. Ung. Boswelliæ Serratæ. Ointment of Olibanum.

In same cases as No. 30. (See *Index*.)

54. Ung. Nicotianæ Tabaci.

Tinea capitis, irritable ulcers. (See p. 88, No. 26.)

(*b.*) ADAPTED TO SCROFULOUS AND OTHER INDOLENT TUMORS, CHRONIC ENLARGEMENTS OF JOINTS, ETC.

In the order of their value.

1. UNGUENTUM IODINII. Ointment of Iodine.

℞. Iodine, ℈ j.; Simple Ointment, ℥ j.; M. Also a plaster may be prepared from iodine, by uniting it with the common materials.

2. UNG. POTASSII IODIDI CUM IODINIO. Ointment of Ioduretted Iodide of Potassium.

℞. Iodine, grs. xv.; Potass. Iodide, ʒ ss.; Simple Ointment, ℥ j.; M. Also a plaster.

3. UNG. POTASSII IODIDI. Ointment of Iodide of Potassium.

℞. Potass. Iodid., ʒ ss. to ʒ j.; Simp. Oint., ℥ j.; M. Also a plaster.

4. UNGUENTUM POTASSII BROMIDI. Ointment of Bromide of Potassium.

℞. Potass. Bromide, ℈ j. to ʒ j.; Simp. Oint., ℥ j.; M. Free brome may be added. Also a plaster.

5. UNGUENTUM PLUMBI IODIDI. Ointment of Iodide of Lead.

℞. Iodide of Lead, ʒ j.; Simp. Oint., ℥ j.; M Also a plaster.

6. UNGUENTUM ZINCI IODIDI. Ointment of Iodide of Zinc.

℞. Iodide of Zinc, ʒ j.; Simp. Oint., ℥ j.; M. Also, a plaster.

7. Unguentum Sulphuris Iodidi. Ointment of Iodide of Sulphur.

℞. Iodide of Sulphur, ℈ j. to ʒ ss.; Simp. Oint., ℥ j.; M.

8. Unguentum Ammoniæ Iodidi. Ointment of Iodide of Ammonia.

℞. Iodide of Ammonia, ℈ j. to ʒ j.; Simp. Ointment, ℥ j.; M.

9. Emplastrum Gummi Ammoniaci. Gum Ammoniac Plaster.

Rub the gum with vinegar.

10. Emplastrum Hydrargyri. Mercurial Plaster.

11. Unguentum Hydrargyri Compositum. Compound Mercurial Ointment.

12. Emplastrum Galbani, and Galbani Compositum. Plaster Galbanum, simple and compound.

See p. 165, No. 13.

13. Emplastrum Olibani. Plaster of Olibanum.

14. Solution of Chloride of Sodium, Sea Water, Mineral Waters, &c.

(*c.*) ADAPTED TO RHEUMATIC INFLAMMATIONS.

In the order of their value.

With the exception of the first three, the following remedies are suited only to chronic rheumatism, or to moderated states of the active form.

1. Leeches. 2. Blisters. 3. Emollient Poultices.

4. Aqua Ammoniæ. Compounded with essential oils, camphor, laudanum, or with expressed oils. Also *rubefacient*, p. 196, No. 3.

℞. Water of Ammonia, Tincture of Opium, Oil of Turpentine, Tincture of Camphor, equal parts ; M.

5. Ung. et Tinctura Veratriæ. Ointment and Tincture of Veratria.

℞. Veratria, ʒ ss. ; Olive Oil, ʒ j. ; Simp. Ointment, ℥ j. ; M.—℞. Veratria, ʒ ss. ; Alcohol, ℥ j. ; M.

6. Tinctura Asagrææ Officinalis. Tincture of Sabadilla.

See p,132, No. 6.

7. Ung. et Solutio Delphiniæ. Ointment and Solution of Delphinia.

See p.133 , No. 8.

℞. Delphinia, grs. xx. to ʒ ss. ; Olive Oil, ʒ j. ; Simp. Oint., ℥ j. ; M.—℞. Delphin., ℈ j. ; Alcohol, ℥ ij. ; M.

8. Acidum Sulphurosum. Sulphurous Acid Gas. Fumigations of.

9. Linimentum Camphoratum. Camphorated Liniment.

10. Oleum Terebinthinæ. Oil of Turpentine.

See 4, and *Index*.

11. Aconitum Napellus. Monkshood.

Greatly esteemed by many as an internal as well as external remedy, even in the active stages of acute

rheumatism. It is probable, however, that it has succeeded mostly in cases of neuralgic rheumatism, where it takes the first rank in the next following subdivision. (See *Index.*)

12. SULPHURIS CARBURETUM. Carburet of Sulphur.

Comb. ℞. Carb. Sulphur, Oil of Turpentine, Tinct. Camphor, (Tinct. Opium); M.

Also internally, ℞. Carb. Sulphur, ʒ j.; Alcohol, ℥ ss.; M.—*Dose*, 4 drops, once in two to four hours.

13. ACUPUNCTURATION. 14. ELECTRO-ACUPUNCTURATION.

15. OLEUM MELALEUCÆ CAJUPUTI. Cajuput Oil. Other essential oils; oil of mustard especially.

16. PETROLEUM. A liniment of.

Also, in paralysis, chilblains, and obstinate cutaneous diseases.

(*d.*) ADAPTED TO NEURALGIA AND NEURALGIC RHEUMATISM.

In the order of their value.

1. ACONITUM NAPELLUS. Aconite. Monkshood. *The leaves and root.*

Polyandria, Trigynia.

Hab. Europe.—*Herbaceous.*

The alkaloid, *Aconitina*, the *Alcoholic Extract*, and a *Tincture* of the plant are employed, and they are most useful in the order now stated.

℞. Aconitina, grs. xv.; Olive Oil, ℥ j.; Simple Oint-

ment, ℥ j.; M.—℞. Aconitina, grs. v.; Alcohol, ℥ j.; M.—℞. Root of Aconite (recently dried), ℥ ij.; Alcohol, ℥ iij.; M.—℞. Alcoholic Extract of Aconite, ʒ j.; Simple Ointment, ʒ ij. to ʒ iv.; M. Rubbed with the finger upon the affected part. (See *Index.*)

The *A. Paniculatum*, *A. Uncinatum*, and *A. Ferox*, are also employed.

Produces numbness and tingling when applied to the tongue. Poisonous. Apt to be spurious. Not useful when active inflammation is present, either in neuralgia or rheumatism, but otherwise very efficient.

2. Ointment and Tincture of Delphinia.

See p. 133, No. 8, and Class 4, Order 5.

℞. Delphinia, ʒ ss.; Simple Ointment, ℥ j.; M.—℞. Delphinia, ℈ j.; Alcohol, ℥ ij.; M.

3. Ointment and Tincture of Veratria and Sabadilla.

See p. 219, No. 5

4. Atropa Belladonna. Belladonna.

℞. Ext. Belladon., ʒ j.; Resinous Plaster, ʒ ij.; M.—℞. Ext. Belladon., ʒ j. to ʒ ij.; Simple Ointment, ℥ j.; M. Also the tincture. (See *Index.*)

Employed, also, in rheumatic ophthalmia, iritis, &c., in combination with mercurial ointment. Should be rubbed upon the part every two or three hours.

5. Conium Maculatum. Cicuta.

Preparations like No. 4. (See *Index.*)

6. Datura Stramonium. Stramonium.

Preparations like No. 4. (See *Index.*)

7. Potassii Cyanidum. Cyanide of Potassium.

See p. 136, No. 15.

℞. Cyanide of Potass., grs. ij. to x.; Simple Oint., ʒ j.; M.—℞. Cyanide of Potass., grs. j. to viij.; distilled Water, ʒ j.; M.

Applied, also, to the head in cephalalgia, and to white swellings of the joints.

8. Creasoton. Creasote.

9. Opium. 10. Extract of Hyosciamus. 11. Valerianate of Zinc. 12. Oil of Turpentine.

(*e.*) ADAPTED TO CERTAIN CONDITIONS OF ERYSIPELAS, SPREADING AND SLOUGHING ULCERS, &c.

In the order of their value.

1. Leeches.

Adapted to erysipelas in all its conditions. May be applied to the inflamed surface.

2. Argenti Nitras. Nitrate of Silver.

See p. 200, No. 1. Erysipelas, ulcers, &c.

The solid caustic applied around the circumference of the inflamed surface, in erysipelas; or, in bad cases, a lotion to the surface of grs. v., water, ʒ j.

3. Emplastrum Cantharidis. Plaster of Spanish Flies.

Applied around the circumference of the part inflamed, or, in other cases of erysipelas, to the surface itself. For *modus operandi*, see *Institutes of Medicine*, p. 652, § 893, *l.*

4. Gossypium Herbaceum. Common Cotton.
See p. 225, No. 1.

(*f.*) ADAPTED TO SPRAINS, CONTUSIONS, &c.

In the order of their value.

1. Leeches. 2. Warm Fomentations with Poultices, or Water.

The fomentations are often much improved by the addition of decoctions of hyosciamus leaves, poppy heads, hops, &c. Hot fomentations and poultices afford singular relief to sprains, contusions, lacerated wounds, compound fractures, &c., and are the most important means in *conservative surgery.* (See *Institutes of Medicine*, p. 681–683, § 905, *b;* p. 543, § 855, 856.)

3. Ammoniæ Murias. Sal Ammoniac.

℞. Ammon. Mur., ʒ j. to ʒ ss.; Vinegar, ℔ j.; M. Adapted to recent sprains, and the inflamed breasts of childbed women. Fomentation warm.

4. Chloride of Sodium.
Same as No. 3, but inferior. See p. 59, No. 27.

5. Emplastrum Ammoniacum.
See p. 218, No. 9. Old sprains.

6. Local Shower Bath.
Old sprains.

7. Various Stimulating Fomentations, Lotions, and Ointments.

(*g.*) ADAPTED TO PILES.

In the order of their value.

1. LEECHES.
Applied near the tumors.

2. UNGUENTUM STRAMONII. Stramonium Ointment.

3. WARM POULTICES OF BREAD AND MILK, OR LINSEED, WITH LEAVES OF STRAMONIUM INCORPORATED.

4. UNG. CONII MACULATI. Ointment of Cicuta.
Also, Cataplasm of Leaves.

5. OTHER LOCAL NARCOTIC SEDATIVES.
See *Subdivision* VIII.

6. NITRATE OF SILVER.
A strong solution applied to the tumors, when the protrusion is large.

7. YELLOW SOAP.
A strong solution, applied freely.

8. UNG. ANTIRRHINI LINARIÆ. Ointment of Toad Flax. Also, Cataplasm of Leaves.

9. UNG. ET DECOCTIO GALLÆ. Ointment and strong Decoction of Nut-galls.
The latter, applied by compress, upon cotton wool, is best.

10. UNG. IMPATIENTIS FULVÆ. Ointment of Balsam Weed. Also, *I. pallida*, *I. balsamea*.

11. Ung. Phytolaccæ Decandriæ. Ointment of American Poke-weed. (See p. 213, No. 30.)

12. Ung. Scrophulariæ Nodosæ. Ointment of Leaves of Scrophularia.

(*h.*) ADAPTED TO BURNS AND SCALDS.

The opposite modes pursued in the treatment of burns and scalds supply good illustrations of pathological and therapeutical principles. (See *Institutes of Medicine*, p. 486–489, § 752–756; p. 652, § 893, *l*; p. 417–419, § 650–652; p. 681–682, § 905, *b*.)

1. Gossypium Herbaceum. Common Cotton. *The Wool.*

Monadelphia, Polyandria.

Hab. Asia.—*Herbaceous.*

Comp. Chemically the same as ordinary woody fibre.

The virtues of this agent are well established, and appear to be more than of a mechanical nature. A thick mass should be applied, and bound as firmly upon the part as the nature of the case will admit. It will be often expedient, also, to suffer the first application to remain till the part is fully restored. The Author has also employed it, in the same way, with the happiest effect in cases of poisoning by the Rhus vernix and R. toxicodendron. It has relieved immediately the pain and itching, and deep ulcerations have healed rapidly under its continued application. He was led, originally, to try its effect in a very bad case, in his own person, where the hands and arms were severely inflamed, swollen, and ulcerated. The relief from suffering was immediate, and the dressing was not removed till resto-

ration had become complete. In this case, an ointment of Stramonium and Ammoniuret of Mercury afforded considerable relief, at first, and a dilute tincture of Iodine still greater. But on increasing the strength of the latter, the affection was greatly aggravated.

2. Calcis Linimentum. Liniment of Lime.

℞. Lime Water and Olive Oil, or Linseed Oil, equal parts; M.

3. Unguentum Stramonii. Stramonium Ointment. (See *Index.*)

4. Ung. Typhæ Latifoliæ. Ointment of Reed-mace.

The ament should be thickly blended with lard, or with stramonium ointment. This was accidentally suggested to the Author, and requires farther observation.

5. Calcis Hypochloris Solutio. Solution of Chloride of Lime. Also, Sodæ Hypochloris Liquor. Liquor of Hypochloriet of Soda.

The fluids should be of medium strength. (See p. 211, Nos. 23 and 24.) Cover an abraded part, first, with lint spread with simple ointment. Over this place large dossils of charpie impregnated with either salt, and change them once daily at least.

6. Terebinthinæ Linimentum. Turpentine Liniment. Kentish's Liniment.

℞. Resin Cerate, ℥ j.; Oil of Turpentine, ℥ ss. Melt the former and add the latter.

7. Ung. Cupri Subacetatis. Ointment of Subacetate of Copper. See p. 201, No. 4.

(*i.*) ADAPTED TO PHAGEDENIC, TUBERCULOUS, INDOLENT VENEREAL, SCROFULOUS, AND OTHER UNHEALTHY ULCERS.

In the order of their value.

1. NITRAS ARGENTI. Nitrate of Silver.
All the ulcers. (See *Index.*)

2. UNGUENTUM IODINII. Iodine Ointment.
Scrofulous ulcers. (See p. 217, No. 1.)

3. UNG. POTASSII IODIDI CUM IODINIO. Ointment of Ioduretted Iodide of Potassium.
Scrofulous ulcers, &c. (See p. 217, No. 2.)

4. Lugol's "Rubefacient Solution" of Iodine. ℞. Iodine, ʒ j.; Potass. Iodide, ʒ ij.; Water, ℥ iss.; M. Active Scrofulous Ulcers, &c. ℞. Iodine, ℥ ss.; Potass. Iodide, ʒ j.; Water, ℥ j.; M. A caustic solution.

5. UNG. HYDRARGYRI IODIDI. Ointment of Iodide of Mercury.
Scrofula, lues, &c. (See p. 205, No. 2.)

6. UNG. HYDRARGYRI FORTIUS, ET MITIUS. Strong and mild Mercurial Ointment.
See p. 94, No. 5.

6½. UNG. HYDRARGYRI NITRICO-OXYDI. Ointment of Red Precipitate. Also, UNG. HYDRARG. BINOXYDI.

7. UNG. ARSENICI IODIDI. Ointment of Iodide of Arsenic.

℞. Iodide of Arsenic, grs. iij.; Simple Ointment, ℥ j.; M.

8. Acidi Arseniosi Solutio. Solution of Arsenic. See p. 203, No. 10.

9. Ung. Hydrargyri Biniodidi. Ointment of Biniodide of Mercury. (See p. 205, No. 3.)

10. Ung. Hydrargyri Bicyanidi. Ointment of Bicyanide of Mercury. (See p. 205, No. 4.)

11. Hydrargyri Chloridi et Calcis Lotio. Black Wash.

℞. Calomel, ʒ ss.; Lime Water, ℥ viij.; M. Venereal ulcers.

12. Hydrargyri Bichloridi et Calcis Lotio. Phagedenic Yellow Wash.

℞. Corrosive Sublimate, grs. ij.; Lime Water, ℥ j.; M. Phagedenic, venereal, and scrofulous ulcers.

13. Sulphuris Iodidi Vapor. Fumes of Ioduret of Sulphur.

To the same affections as No. 12.

14. Cupri Sulphas. Sulphate of Copper. Solid or in solution.

15. Acidum Nitricum. Nitric Acid.

To all the ulcers.

16. Liquor Cupri Ammonio-Sulphatis. Liquor of Ammonio-Sulphate of Copper.

℞. Ammoniated Copper, grs. xv.; Water, ℥ v.; M.
To the same cases as No. 30.

17. Carbonis Terchloridum. Terchloride of Carbon.

℞. Terchlor. Carb., ʒ j. to ʒ ij.; Water, ℥ xvj.; M.
Applied by moistened linen rags to carcinomatous, and sloughing ulcers, gangrena senilis, &c.
Has been given internally.
Also, Yeast and Charcoal Cataplasms.

18. Cupri Subacetatis Linimentum. Liniment of Subacetate of Copper.
See p. 214, No. 42.

19. Aqua Chlorinii. Chlorine Water. In offensive and indolent ulcers, cancrum oris, apthæ, diluted with 1 to 8 parts of Water.

20. Hydrargyri Bichloridum. Corrosive Sublimate.

℞. Corrosive Sublimate, grs. v. to x.; Water, ℥ j.; M.
Various ulcers, especially venereal.
Also, ℞. Corrosive Sublimate, ℈ j.; Sulphate of Zinc, ℈ j.; M. Ulcer of Onychia Maligna, &c.

21. Liquor Sodæ Chlorinatæ. Liquor of Chloride of Soda.
Concentrated, or diluted with four or eight parts of water. Foul ulcers and sore nipples.
Also, Solution of Chloride of Lime.
See p. 211, No. 24.

22. Balsamum Myrospermi Peruiferi. Balsam of Peru.

Alone, or in form of ointment. Any of the indolent ulcers. (See p. 166, No. 16.)

23. Liquor Aluminis Compositus. Compound Solution of Alum.

℞. Alum, Sulph. Zinc, of each, ʒ ij. ; Water, ℥ xij. ; M. Strain.

As a wash for indolent ulcers, and for chilblains.

24. Unguentum Catechu. Ointment of Catechu.

℞. Catechu, ʒ iv. ; Alum, ʒ j. ; Simp. Oint., ℥ ij. ; M.

25. Rheum Palmatum. Rhubarb.

Powder of Root, sprinkled on the surface of ulcers nearly disposed to heal.

Also, Gentiana Lutea, and Cinchona, applied in the same manner and for a like purpose.

26. Juniperus Sabina. Savine.

The powdered leaves, or decoction, to indolent or gangrenous ulcers, or caries. (See *Index.*)

27. Ruta Graveolens. Rue.

The plant, in gangrene and foul ulcers. (See *Index.*)

28. Unguentum Fuliginis. Ointment of Soot.

℞. Soot, ℥ j. ; Simp. Oint., ℥ j. ; M. Or add *Ext. of Hyosciam. or Belladonna,* ʒ ss. Foul ulcers, cancers, tinea, &c. (See p. 214, No. 36.)

29. Salix Alba, *and other species.* Willow.

A decoction of the bark to foul and indolent ulcers. See p. 149, No. 30.

30. Monesia. The bark of an unknown tree of South America.

℞. Monesia, ʒ j. ; Simple Ointment, ℥ j. ; M.

Applied to ill-conditioned ulcers, bed-sores, &c.

31. Calcis Bichloridum. Bichloride of Lime.

℞. Bichlor. Lime, grs. ij. ; Proof Spirit, ℥ j. ; M. For bed-sores. Apply 2 or 3 times a day. Generates a dense coating. (See *Sub.* VIII., No. 16.)

32. Hypericum Perforatum. St. John's Wort. *The flowers and leaves.*

Applied to indolent ulcers and tumors in the form of an ointment. (See *Anthelmintics*, No. 38.)

Under the subdivision of *Simple Remedies* are two agents which are often of great importance in the treatment of ulcers ; namely, the Adhesive Plaster, in connection with pressure exerted by bandages, and Warm Poultices. The former is particularly applicable to almost all conditions of ulcers that are not of a specific nature, and the latter to all that are much inflamed or irritable.

SUBDIVISION VIII.

LOCAL SEDATIVES,

In the order of their value.

(See Sedatives, p. 170.)

1. Warm Bath. Emollient Poultices. Warm Fomentations.

(See *Institutes of Medicine*, p. 681–683, § 905, *b* ; p. 589, § 891, *p*.)

2. Plumbi Acetas. Acetate of Lead.

℞. Acetate of Lead, grs. j. to v.; Distilled Water, ℥ j.; M.—℞. Acetate of Lead, grs. vj. to xij.; Simple Ointment, ℥ j.; M. (See *Astringents.*)

3. Plumbi Diacetatis Solutio. Solution of Diacetate of Lead. Goulard's Extract.

℞. Diacetate ʒ iss.; Distilled Water, ℥ xvj.; M.—℞. Diacetate, ʒ ij.; Simple Ointment, ℥ j.; M.

4. Datura Stramonium. Thorn Apple.

An Ointment, Cataplasm of Leaves, and Plaster of Extract. (See *Index.*)

5. Aconitum Napellus. Wolfsbane. Monkshood
See p. 220, No. 1.

6. Atropa Belladonna. Deadly Nightshade.

Extract, Cataplasm of Leaves, and Ointment. (See *Index.*)

℞. Ext. Belladonna, grs. xxiv.; Simple Ointment, ʒj.; M. In *Phymosis* and *Paraphymosis*, *Strangulated Hernias*, *&c.*

7. Conium Maculatum. Poison Hemlock. Cicuta.

The Extract, Cataplasm of Leaves, and Ointment. (See *Index.*)

8. Ung. Zinci Carbonatis Præparati. Ointment of Carbonate of Zinc. Ung. Zinci Oxydi. Ointment of Oxide of Zinc. Ung. Oxydi Zinci Impuri. Ointment of impure Oxide of Zinc.

9. Potassii Cyanidum. Cyanide of Potassium.
See p. 136, No. 15.

10. Morphia, and its salts.
Solution and Ointment. (See *Index.*)

11. Acidum Hydrocyanicum. Hydrocyanic Acid.
See p. 182, No. 6.

12. Opium. Various preparations of.
Also, *Decoction of Poppy Heads*, as a fomentation.

13. Hyosciamus Niger. Henbane.
The Extract, and Ointment and Cataplasm of Leaves. (See *Index.*)

14. Humulus Lupulus. Hops.
An Ointment of *Lupulin*, and Fomentations of the Flowers. (See *Index.*)

15. Linimentum Calcis. Liniment of Lime.
See p. 226, No. 2.

16. Plumbi Tannas. Tannate of Lead.
℞. Oak Bark, ℥ j.; Water, ℥ viij. Boil to ℥ v. Strain. Add Acetate of Lead while a precipitate falls. Filter and dry the precipitate to the consistence of a thin ointment. For Bed-sores. (See p. 231, No. 30 and 31.)

SUBDIVISION IX.

LOCAL ASTRINGENTS,

In the order of their value.

See *Institutes of Medicine*, p. 570–578, § 890, relative to the uses and *modus operandi* of Astringents.

1. Quercus Infectoria. The Gall, or Dyer's Oak.

Monœcia, Polyandria.

Hab. Asia Minor.—*Tree.*

The Nutgall, which is the part employed, is produced by the female *Cynips Gallæ Tinctoriæ*, who perforates and deposits her eggs in the sides and ends of the branches and shoots of the tree, and thus gives rise to the excrescence.

Comp. Tannin, 26. Gallic Acid, 6.2. Mucilage, &c., 2.4. Carbonate of Lime and Saline Matter, 2.4. Lignin, 63 = 100.

Ointment and strong Infusion for piles; Gargle for relaxed uvula, etc.; Injection in gleet and leucorrhœa; Wash in flabby ulcers, prolapsus ani and vaginæ, etc.

2. Liquor Aluminis Compositus. Compound Solution of Alum.

℞. Alum, ʒ ss.; Zinc Sulph., ʒ ss.; Water, ℥ iij.; M. Strain. Stimulant to foul ulcers, gleet, leucorrhœa, etc.

3. Cupri Sulph. Compos. Solutio. Solution of Compound Sulphate of Copper.

℞. Copper Sulph., ʒ ss.; Alum, ʒ ss.; Water, ʒ vss.; Acid Sulphuric, ℈ j.; M. To arrest superficial hemorrhage.

4. Aluminæ et Potassæ Sulphas. Sulphate of Alumina and Potash. Common Alum.

In powder and solution.

Prolapsus ani and uteri; hemorrhoids; superficial hemorrhages; leech-bites; uterine hemorrhage, used externally and internally; epistaxis; purulent ophthalmia; gleet; leucorrhœa; apthæ, and other ulcerations of the mouth, &c.

5. Artanthe Elongata. (*Piper Angustifolium.*) Matico. *The leaf*, applied to a bleeding part.

Cobweb might follow here; but its operation is probably mechanical only, which may be true, also, of the Matico. The same may be also affirmed of Spunk, which would otherwise have a place here. (See *Internal Astringents*, No. 23.)

6. Creasoton. Creasote.
See p. 214, No. 37, Hemorrhage.

7. Zinci Sulphas. Sulphate of Zinc.
Hemorrhage, leucorrhœa, gonorrhœa, ophthalmia.

8. Cupri Sulphas. Sulphate of Copper.
Hemorrhage, ophthalmia.
Solid or in solution.

9. Argenti Nitras. Nitrate of Silver.
Solid, or in solution of 2 grs. or more to ʒ j. of distilled water. In same cases as 7. (See *Index.*)

10. Heuchera Americana. American Sanicle. Alum Root. *The root.*
Powder and Decoction. Hemorrhage. (See *Index.*)

11. Potentilla Tormentilla. Tormentil.
Powder and Decoction. Hemorrhage. (See *Index.*)

12. Quercus Alba. White Oak. Quercus Tinctoria. Black Oak. *The bark.*

Decoction. Injection in Leucorrhœa, Gargle, etc. Also, Quercus Robur, Geranium Maculatum, Geum Urbanum, Geum Rivale, Krameria Triandria, Statice

Caroliniana, Polygonum Bistorta, Rubus Villosus, Comptonia Asplenifolia. (See *Internal Astringents.*)

13. Ice.

Hemorrhage, especially uterine (after parturition), applied to walls of uterus. This substance illustrates something of the principle upon which the reputed astringents operate. But the *modus operandi* becomes more obvious when cold restrains uterine hemorrhage, epistaxis, &c., as applied to the abdomen, neck, &c., or suddenly arrests menstruation when applied to the feet. (See *Institutes*, p. 695, § 924.)

I have applied this remedy in several cases of alarming uterine hemorrhage, supervening upon parturition, with immediate effect, and without an unpleasant symptom. A lump of ice of the size of a turkey's egg has been introduced within the cavity of the uterus, and carried gently around its parietes. Doubtless, the slight mechanical irritation contributes to the effect, by inducing contraction of the organ.

14. Aqua Binelli. Binelli's Balsam Water.

Once celebrated for arresting hemorrhage from divided arteries. Its effects shown to be due to cold and pressure. The same may be affirmed of the *Brochieri* Water.

SUBDIVISION X.

SIMPLE APPLICATIONS,

In the order of their value.

1. Warm Poultices and Warm Fomentations.

Lacerated wounds, compound fractures, various ulcers, abdominal pain and irritation, inflamed tumors, irritable blistered and excoriated surfaces, ear-ache, &c.

2. Unguentum Simplex. Simple Ointment.

Dressing for blisters, scalds, &c.

3. Emplastrum Resinosum. Resinous Plaster. Adhesive Plaster.

Especially useful in the treatment of ulcers, where, in connection with the tight bandage, it operates mostly by pressure.

4. Spermaceti.

Obtained from the *Physeter Macrocephalus*. Great Headed Cachalot.

Formed into cerate. Same uses as No. 2.

5. Olea Europæa. European Olive. *Expressed oil of the fruit.*

Diandria, Monogynia.

Hab. Europe.—*Tree.*

Mostly compounded with Wax, Water of Ammonia, Lime Water, &c.

6. Adeps Bovis Tauri. Beef Suet.

Same uses as No. 2, sometimes better.

7. Adeps Ovis Arietis. Mutton Suet.
Same uses as No. 2, sometimes better.

8. Cera. Bee's Wax.
A secretion from the ventral scales of bees, being a true product by the animal. A component part of many ointments.

9. Unguentum Resinosum. Resinous Ointment.
Same uses as No. 2. Also, to ulcers, wounds, etc. Rather stimulant.

10. Adeps Suis. Hog's Lard.
Mostly employed as No. 4.

11. Oleum Lini Usitatissimi. Flaxseed Oil.
Mostly used in combination with lime water, as a dressing for scalds and burns.

12. Cataplasma Carbonis Ligni. Charcoal Cataplasm.
Foul ulcers, gangrene.

13. Emplastrum Oxydi Plumbi Semivitrei. Litharge Plaster.

14. Myrica Cerifera. Myrtle Wax.
Dicœcia, Tetrandria.
Hab. United States.—*Shrub.*
Obtained from the berries by boiling. A fatty substance.
The berries boiled, wax exudes.

15. Ceroxylon Andicola. Wax Palm of the Andes. Wax, from the rings of the Plant.
Monœcia, Polyandria.

16. Silk Handkerchief.
Dressing for blisters.

17. Acacia Vera. (*Mimosa Nilotica.*) Egyptian Thorn. *The gum.*
Polygamia, Monœcia,
Hab. Egypt; Arabia.—*Tree.*

INJECTIONS.

SUBDIVISION I.

ENEMAS,

In the order of their value.

Enemas should always be slowly introduced. The best syringe is a *pipe and bladder*. The quantity varies from half a pint to two pints, one pint being generally ample. More than two or three pints is liable to distend the intestine injuriously. In a majority of cases simple warm water is sufficient. Where irritants are added, a strict reference must be had to the existing irritability of the intestine, both as to the nature and the quantity of the irritant. The common addition of molasses, lard, etc., is of little, if of any use. Enemas are among the best means for removing habitual constipation; a process which involves an interesting philosophy. (See *Institutes*, p. 323, § 498, *g;* p. 366, § 556, *b;* and *references* there.)

1. Simple Warm Water.

This, to take effect, must commonly be administered in the quantity of one or two pints.

2. Aqueous Solutions of Chloride of Sodium, or Sulphate of Soda, or Sulphate of Magnesia.

3. Solution of Castile Soap in Water.

The brown soap is very active.

4. Opiate Enema.

℞. Decoction of Starch, ℥ iv.; Tinc. Opium, drops xxx.; M.—℞. Decoc. or Water, ℥ iv.; Sulph. Morphine, gr. ¼ to ½; M.

The tincture of *Hyosciamus* may be often advantageously substituted for the opiates where anodyne or soporific effects are alone wanted; but to allay intestinal irritability, or to restrain evacuations, the opiate is the appropriate means.

5. Enema of Aloes.

℞. Aloes, ʒ ij.; Carb. Potash, grs. xv.; Water, ℥ viij. to x.; M. For ascarides, etc.

6. Enema of Castor Oil.

For ascarides.

7. Oil of Turpentine Enema. ℞. Oil of Turpentine, ʒ vj.; Yolk of Egg. Rub together and add Water, ℥ xvj. For ascarides, colic, obstinate constipation, tympanites.

8. Enema of Colocynth.

℞. Ext. Colocynth Comp., ʒ ij.; Soft Soap, ℥ j.;

Water, ℥ xvj.; M. Powerful. In obstinate constipation, paralysis, etc.

9. Fœtid Enema.

℞. Add to Enema 1, 2, 3, or 4, Tincture of Asafœtida, ʒ ij. Used in hysteria, flatulent colic, convulsions of children, etc.

10. Solution of Hypochlorite (*Chloride*) of Lime. See p. 210, No. 23.

℞. Chloride of Lime, grs. v. to x.; Water, ℥ ij.; M. To correct the fœtor.

Also, Hypochlorite (*Chloride*) of Soda. See p. 211, No. 24.

SUBDIVISION II.

UTERINE INJECTIONS, ETC.,

In the order of their value.

1. Cold Water, or Ice.

In uterine hemorrhage after childbirth. See *Local Astringents*, p. 236, No. 13.

2. Decoction of Oak Bark, and Analogous Agents.

Hemorrhage, discharges arising from retained placenta, and as a preventive of hemorrhage in such cases, prolapsus uteri, etc.

3. Ointment of Iodine.

℞. Iodine, grs. xv.; Simp. Ointment, ℥ j.; M.—℞. Iodine, grs. xv.; Potass. Iodide, ʒ ij.; Simp. Ointment, ℥ iss.; M. Half a drachm of either rubbed for

10 or 15 minutes, by means of the finger, or sponge, or camel's hair pencil, upon the cervix uteri, in its indurated states; with the internal use of iodine.

4. Hypochlorite of Soda or of Lime.

In fœtid discharges. See p. 211, No. 24.

SUBDIVISION III.

VAGINAL INJECTIONS,

In the order of their value.

1. Solution of Nitrate of Silver.

℞. Nitrate of Silver, grs. ij. to iv.; Distilled Water, ʒ j.; M. For leucorrhœa, best remedy.

2. Solution of Acetate of Lead.

℞. Acet. of Lead, grs. ij.; Distilled Water, ʒ j. M. Gonorrhœa.

Comb. Acetate of Lead, grs. xvj.; Sulph. Zinc., grs. x.; M. Filtrate. This preparation is better than the next following, and is adapted to either sex.

3. Solution of Acetate of Zinc.

Comp. of the Acetate. Oxide of Zinc, 26.00. Acetic Acid, 33.10. Water, 40.90=100.

℞. Acet. Zinc, grs. ij.; Distilled Water, ʒ j.; M. For gonorrhœa.

4. Decoction of Oak Bark.

℞. Black or White Oak Bark, ʒ ss.; Water, ʒ xvj. Boil; strain. Leucorrhœa.

5. Infusion of Kino, and other simple Astringents.

Hemorrhage, leucorrhœa, gleets, etc.

6. Solution of Sulphate of Zinc.

℞. Sulph. Zinc, grs. ij.; Water, Distilled, ℥ j.; M. Gleets, etc. (See No. 2.)

7. Solution of Chloride of Soda.

℞. Liquor of Chlorinated Soda, ♏ ss. to ʒ j.; Water, ℥ ij.; M. In fœtid discharges. (See p. 211, No. 24.)

Also, Solution of Chloride of Lime. (See p. 210, No. 23.)

8. Solution of Cupro-Sulphate of Ammonia.

Leucorrhœa. (See *Index.*)

9. Decoction of Poppy Heads, or Infusion of Opium.

In cancerous and other painful affections of the uterus.

SUBDIVISION IV.

URETHRAL INJECTIONS, ETC.,

In the order of their value.

1. Solution of Acetate of Lead. As 2 of *Sub.* 3.

Gonorrhœa, after abatement of inflammation.

2. Solution of Acetate of Zinc. As 3 of *Sub.* 3.

Gonorrhœa, after abatement of inflammation.

3. Solution of Nitrate of Silver.

℞. Nitrate of Silver, grs. iij.; Distilled Water; M.

In the early or later stages of gonorrhœa. It appears

not, however, to sustain its first reputation where the symptoms are very acute.

There is nothing so important in the treatment of gonorrhœa, affecting the male subject, as abstinence not only from spirituous liquors, but from all stimulating food. Rest is also important, and more so in hot than in cold weather. A cathartic, low diet, and rest, will commonly surmount the disease very speedily. Injections are then rarely wanted.

4. Solution of Sulphate of Zinc. As 6 of *Sub.* 3. Gleets.

5. Olive Oil. In active inflammation of urethra.

6. Bougie. Strictures, gleets, etc.

In the treatment of gleets, the bougie may be introduced in its simple state, or besmeared with appropriate ointments.

7. Solution of Sulphate of Copper. ℞. Sulph. Copper, gr. j. to grs. ij.; Water, ʒ j.; M. Gleets. (See *Index.*)

8. Solution of Bichloride of Mercury. ℞. Bichloride of Mercury, gr. ½; Water, ʒ j.; M. Gleets. (See *Index.*)

9. Solution of Cupro-Sulphate of Ammonia. In Gleets. (See *Index.*)

10. Mild Ointment of the Nitrate of Mercury. Applied on bougie, in Gleets. (See *Index.*)

11. Infusion of Kino. Old Gonorrhœa.

12. ℞. Sulphate of Iron, grs. iv. to x.; Water, ℥ j.; M. Gleets.

13. Infusions of any of the *local astringents* of No. 12, p. 235, are employed in gleet.

14. Hydrochloric Acid, drops viij. to xij.; Water, ℥ iv.; M.
Gonorrhœa, declining stages of.

SUBDIVISION V.

INJECTIONS FOR THE EAR, SINUSES, ABSCESSES, ENCYSTED TUMORS, HYDROCELE, ETC.,

In the order of usefulness.

1. Nitrate of Silver, grs. ij. to iv.; Distilled Water, ℥ j.; M.
Discharges from ear.

2. Sulphate of Copper, grs. ij. to iv.; Water, ℥ j.; M.
Ear, sinuses, abscesses, encysted tumors.

3. Bichloride of Mercury, grs. ij.; Water, ℥ j.; M.
Ear, sinuses, abscesses.

4. Iodine, grs. j. to iij.; Iodide of Potassium, ʒ ss.; Water, ℥ iv.; M. Also, *Iodide of Potassium*, grs. x. to xx.; Water, ℥ ij.; M.
Discharges from ear and nose.

5. Tincture of Iodine, ʒ j. to ʒ ij. Water, ℥ j.; M.
Hydrocele. Inject from ʒ j. to ℥ ss., according to the size of the hydrocele. Also encysted tumors.

6. Liquor of Hypochlorite of Soda, and Solution of Hypochlorite of Lime. (See p. 210, Nos. 23 and 24, and *Index*.)

Ear, sinuses, abscesses.

7. Iodine, ʒ j.; Iodide of Potassium, ʒ ij.; Water, ℥ j.; M.

Dropsy and abscesses of joints. First, draw off the same quantity of fluid from the joint as may be injected.

8. Tincture of myrrh. Diluted with water.

GARGLES,

And other applications to the mouth, throat, and trachea.

1. Nitrate of Silver. Solid.

All ulcers of the throat, mouth, and trachea.

See *Institutes*, p. 450, § 689, *l*.

2. Muriatic Acid. ℞. Acid Muriat., drops xx. to xl.; Water, ℥ iv.; Conserve of Rose, ʒ ij.; M. Filtrate. Gargle, and sore mouth from salivation.

3. Nitric Acid. Applied, concentrated or diluted, to ulcers of throat.

4. Liquor of Chloride of Soda. ℞. Liquor of Chlorinated Soda, ℥ ss.; Water, ℥ iv.; M. Sloughing ulcers, salivation, &c.

Also, *Chloride of Lime*. (See p. 210, Nos. 23 and 24.)

5. Solution of Sulphate of Copper. ℞. Sulph.

Copper, grs. j. to ij.; Water, ℥ j.; M. In ulcerated and apthous mouths. Also, in solid form. (See *Index.*)

6. Solution of Sulphate of Zinc. ℞. Zinc, Sulph., grs. ij.; Water, ℥ j.; M. In the apthous mouths of infants, without much inflammation. Put a few drops under the tongue. Very useful.

7. Solution of Alum. Unite with decoction of sage (salvia officinalis) and honey. Gargle.

8. Solution of Borax. Sodæ Biboras.
Same formula as No. 7.

9. Myrrh Gargle.
℞. Tinct. Myrrh, ♃ j. to ♃ ij.; Water, ℥ j.; M. In ulcers. (See *Index.*)

10. Corrosive Sublimate Gargle.
℞. Bichloride of Mercury, grs. ij.; Water, ℥ j.; M. Venereal ulcers. (See *Index.*)

11. Gargle of Bicyanide of Mercury.
℞. Bicyanide of Mercury, grs. ij. to grs. iij.; Water, ℥ iv.; M. Same cases as No 10.

12. Gargle of Sumach. (*Rhus Glabrum.*) Decoction of the berries and inner bark of the root; the bark being considered preferable.
Sore mouth from salivation, and in same cases as No. 14. Also, for the same purposes, a solution of *Acetas Plumbi.*

13. Pellitory of Spain. (*Anacyclus Pyrethrum.*) *The root.*

Chewed for neuralgia of face, palsy of tongue. A tincture for tooth-ache.

14. Catechu. (*Acacia Catechu.*)

Chewed in slight chronic inflammations, relaxed uvula, and slight ulcerations of mouth. Also, for the same purposes, gargles made of any one of the substances embraced in No. 12 of *Local Astringents.*

15. Pomegranate. (*Punica Granatum.*)

Decoction of the rind of fruit. In same cases as No. 14.

16. Ointment of Iodine.

℞. Iodine, grs. x.; Simp. Oint., ʒ ss.; M. Applied to indurated tonsils; or, the tincture, by camel's hair pencil.

17. Iodine Vapor.

Inhaled in phthisis and chronic bronchitis. Of doubtful effect.

℞. Iodine, grs. viij.; Iodide of Potass., grs. iij.; Alcohol, ʒ ss.; Water, ʒ vss. One to six drachms, with or without 40 drops of the Tincture of Conium, are inhaled from an apparatus at 120 degrees Fahrenheit.

COLLYRIA,

And other applications to the eyes.

1. ℞. Acetate of Lead, grs. j. to ij.; Distilled Water, ʒ j.; M. Active inflammation.

2. ℞. Acetate of Lead, grs. viij.; Sulph. Zinc, grs. v.; Distilled Water, ʒ iv.; M. Filtrate. As No. 1.

3. No. 1, with Infusion of Opium. As No. 1.

4. Nitrate of Silver. Solid and in solution.

℞. The Nitrate, grs. j. to ij.; Distilled Water, ℥ j.; M. In less active inflammation than 1, 2, and 3.—℞. The Nitrate, grs. ij. to xv.; Distilled Water, ℥ ss.; M. In purulent ophthalmia; ulcerated cornea. (See *Index.*)

5. Ointment of Nitrate of Mercury.

Indolent inflamed eyelids. Variously diluted with simple ointment.

6. Stramonium Ointment.

Active inflammation of lids.

7. ℞. Stramonium Oint., ℥ ss.; Ammoniated Mercury, grs. v. to x.; M. Indolent inflammation of lids.

8. Sulphate of Copper. Solid or solution.

℞. Sulph. Copper, gr. ½ to j.; Water, ℥ j.; M. In chronic ophthalmia, and purulent ophthalmia of infants. Much stronger for ulcerated cornea, and in a solid form for granulated eyelids.

9. ℞. Zinc Sulph., gr. ½ to grs. ij.; Water, ℥ j.; M. Chronic ophthalmia.

10. ℞. Iodine, gr. ½ to gr. j.; Potass. Iodide, grs. xx.; Water, ℥ iij.; M.—℞. Iodine, grs. vj.; Potass. Iodide, grs. xv.; Simp. Oint., ℥ j.; M. In strumous ophthalmia, ulcers, &c.

11. Lotion of Iodide of Zinc.

℞. Zinc Iodide, grs. ij. to iij.; Water, ℥ j.; M. In strumous ophthalmia, ulcers, fistulæ, &c.

12. Hydrocyanic Acid.

Ophthalmia, iritis, opacity of cornea, amaurosis, &c. Rub the diluted acid for a few minutes upon the forehead; or, apply the vapor of the concentrated acid to the eye for half a minute, avoiding the nose; or the vapor of equal parts of the oil of bitter almonds and water.

13. Solution of Chloride of Lime.

Ophthalmia. (See p. 210, No. 23.)

14. Wine of Opium.

In irritable and painful ophthalmia.

Also, a Decoction of Poppy Heads.

15. Lotion of the Chloride of Barytes.

In scrofulous ophthalmia, &c.

16. ℞. Biniodide of Mercury, grs. ij.; Simple Ointment, ℥ iij.; M. Opacity of Cornea.—℞. Biniodide of Mercury, gr. ¼ to grs. ij.; Simple Ointment, ʒ j.; M. In obstinate inflammation of tarsi.

17. Galvanism.

For cataract.

18. ℞. Sulphate of Iron, gr. j. to grs. ij.; Water, ʒ j.; M. Chronic ophthalmia.

19. Cupro-Sulphate of Ammonia.

℞. Ammoniat. Copper, gr. j.; Distilled Water, ʒ iij.; M. Opacity of Cornea. (See *Index*.)

20. Strychnia.

℞. Strychnia, gr. ½ to grs. ij.; Acid Acetic, ʒ ij.;

Water, ℥ ij. ; M. In amaurosis. One or two drops to the conjunctiva, three or four times a day.

21. Brucia.

℞. Brucia, grs. iv. to xvj. ; Acid Acetic, ℥ ij. ; Water, ℥ ij. ; M. Same as 20.

22. Aluminis Cataplasma. Alum Poultice.

The curd of milk coagulated by Alum. In chronic ophthalmia, and in cases of purulent ophthalmia unattended by irritable inflammation.

The *Liquor Aluminis Compositus*, diluted with water, is also employed, as a collyrium, in mild forms of conjunctival inflammation. (See p. 230, No. 23.)

ORDER IX.

LOW DIET, AND REGIMEN.

These are negative, but among the most efficient of remedial means. By abstinence from all solid, or other indigestible, and stimulating, food, in acute inflammatory and febrile diseases, direct exciting causes are withheld, and nature is thus afforded an opportunity for the exercise of her recuperative efforts. When this intention is properly carried out, it is astonishing how much nature accomplishes without farther aid from art. It constitutes nearly the whole system of French practice, which is chiefly the expectant plan. When associated, therefore,

with absolute practice, it may be readily seen how it is that the odds are so greatly in favor of the United States when compared with the mortality of Europe; since, where the dietetic plan does not obtain, either a stimulant treatment of inflammations and fever, or a system of feeding associated with a very cautious antiphlogistic treatment, marks this *age of the physical and chemical doctrines of life, of the mechanical hypothesis of inflammation and fever, and of the humoral pathology in its ancient acceptation.*

There is a principle implanted in all animals which enables them to bear a degree of abstinence in disease which would be destructive in health. It is the *natural cure of animals*, but belongs equally to man. It is a part of the same principle which enables us to bear bloodletting, cathartics, emetics, &c., advantageously in disease, when they would be otherwise fatal. The principle is implanted in the constitution of the properties of life, for the preservation of the animal kingdom, and is therefore wisely ordained to be latent in health, but developed in proportion to the exigencies of disease. It is only a part, however, of a universal system which is designed to carry out the great final purposes of Providence in relation to His works, and whose display, however unobserved, is forever before us. (See Observations upon the foregoing subject in *Medical Physiological Commentaries*, vol. 1, p. 691–698.)

Next in importance to absolute diet, as it respects the present order of remedies, in acute diseases of any severity, is rest in a recumbent posture; and next, is the absence of all unnecessary company.

SUBDIVISION I.

DIET,

During the Existence of Acute Inflammation, or Fever.

1. Bread Water.

2. Hordeum Distichon. Barley. *The seed.*
Triandria, Digynia.
Hab. Tartary.—*Herbaceous.*
A decoction of Pearl Barley.

3. Maranta Arundinacea. West Indian Arrow-Root. Fecula of the tubers.
Monandria, Monogynia.
Hab. West Indies.—*Herbaceous.*
Decoction of the fecula.

Curcuma Angustifolia. East Indian Arrow Root. Fecula of the tubers.
Monandria, Monogynia.
Hab. East Indies.—*Herbaceous.*
Decoction of the fecula.

4. Oryza Sativa. Rice.
Triandria, Digynia.
Hab. East Indies.—*Herbaceous.*
Decoction of the seeds.

5. Janipha (*Jatropha*) Manihot. The Cassava or Tapioca Plant. Fecula of the root.
Monœcia, Monadelphia.
Hab. Brazil.—*Shrubby.*
Decoction of the fecula—*tapioca.*
Juice of plant and root, acrid and poisonous.

6. Sagus Lævus. S. Farinifera. S. Rumphii. Saguerus Rumphii. Phœnix Farinifera. Caryota Urens. Zamia Integrifolia. Z. Media. Z. Angustifolia. Perhaps some species of Cycas. *Palms.* The fecula of the medullary matter of the stems. *Sago.*
Monœcia, Hexandria.
Hab. East Indies.—*Trees.*
Decoction of Sago.

7. Orchis Mascula. O. Latifolia, and other Species. Orchis. The fecula of the root. *Salep.*
Gynandria, Diandria.
Hab. Europe; East Indies.—*Herbaceous.*
Decoction of Salep.

8. Avena Sativa. The Common Oat. Farina of the seeds.
Triandria, Digynia.
Decoction of the ground seeds—strain.

9. Serum Lactis. Rennet Whey.

All jellies, lemonade, oranges, roasted apples, and what are commonly termed *refrigerants*, should be rigorously excluded from a sick room, as adding to the suffering and the dangers from disease.

SUBDIVISION II.

DIET,

After subsidence of the foregoing diseases.

The arrangement is intended to indicate the order in which the food should be taken, in a general sense,

during the progress of convalescence from the foregoing diseases, till full health becomes established. The whole of the series, excepting No. 1, is suited to the dyspeptic; all other food and luxuries being excluded.

1. Simple broth. 2. Juice of meat, chewed. 3. Stale wheat bread. 4. Rice boiled in water. 5. Fresh laid eggs. Butter. Cocoa. 6. Fresh, lean venison, mutton, beef, lamb, roasted or broiled. 7. Oysters, milk, turkeys, chickens, land birds. 8. Light, mealy potatoes. 9. Squash.

Finally, I would refer the inhabitants of all climates to the experimental facts related by Sir Benjamin Thompson (Count Rumford), relative to the advantages and comfort of wearing flannel next to the skin, as contained in the Philosophical Transactions of the Royal Society for 1787, p. 240.

"I am astonished," he says, "that the custom of wearing flannel next the skin should not have prevailed more universally. I am confident it would prevent a multitude of diseases; and I know of no greater luxury than the comfortable sensation which arises from wearing it, especially after one is a little accustomed to it. It is a mistaken notion, that it is too warm a clothing for summer. I have worn it in the hottest climates, and in all seasons of the year, and never found the least inconvenience from it. It is the warm bath of a perspiration confined by a linen shirt, wet with sweat, which renders the summer heats of southern climates insupportable; but flannel promotes perspiration, and favors its evaporation; and evaporation, as is well known, produces positive cold."

In Rumford's experiments, 1000 parts of sheep's wool weighed 1163; 1000 of silk, 1107; 1000 of linen, 1082; 1000 of cotton wool, 1089, after an exposure of seventy-two hours in a damp cellar.

The subjects embraced under this order of remedies might be incomplete, did I not advert to the importance of early exercise in the open air, after the subsidence of acute diseases, to recreation of mind and agreeable employment, and, in chronic affections, to change of climate.

Class II.—PERMANENT TONICS.

These remedies are essentially overrated, and what is often consigned to their supposed salutary virtues, can be accomplished only by antiphlogistic remedies, by diet, rest, or exercise.

This and the next following class of agents embrace the destructive weapons of the physical and stimulant schools of medicine.

How do tonics and stimulants operate? Certainly as alteratives, and directly upon the properties of life. They may therefore alter them injuriously as well as favorably; from which it is obvious that the changes must be for the worse, when those agents are employed where antiphlogistics are required.

The prominent distinction between tonics and stimulants is, that the former produce their influences more slowly, and generally more permanently and profoundly, than the latter, and excite the circulation less, or often only in an insensible manner. The most active of the diffusible stimulants, however, as alcoholic liquors, are more injuriously alterative (or morbific) than the tonics.

When are tonics and stimulants indicated? Only after prolonged disease; rarely when of an acute nature.

In chronic diseases, mainly for the purpose of improving some prostrate state of the stomach, and thus removing its morbid sympathetic influences, and simultaneously substituting others of a salubrious nature.

After prolonged fevers, especially the true typhus, the vegetable tonics, and stimulants, particularly the vinous, may be very important. But this is not apt to happen, if the early stages of these affections have been properly treated; and even then, the necessity of resorting to tonics is an inauspicious omen.

The ferruginous tonics are mostly adapted to chronic forms of disease; the vegetable substances to either chronic or acute.

The tonics and stimulants may be variously combined, and with each other, and the saline cathartics and rhubarb may be usefully added to the tonics, especially the vegetable, when the bowels are constipated. Antimonials may be combined when indicated by fever or inflammation.

The tonics may be repeated from twice to four times a day, in chronic disease, and more frequently in prostrated states consequent upon acute disease. (See *Institutes of Medicine*, p 579–583, § 890½.)

TONICS,

In the order of their relative therapeutic value.

1. CINCHONA.

Its various preparations. See p. 145, No. 21, for *Doses*, &c. May be employed in about the same doses as there indicated.

2. GENTIANA LUTEA. Yellow Gentian. *The root.*
Pentandria, Digynia.

Hab. Austria; Switzerland.—*Herbaceous.*

(*a.*) ℞. Gentian, ʒ ij.; Orange-peel, ʒ ij.; Boiling Water, ℥ xij.; M. Macerate; strain.—*Dose*, ℥ j. to ℥ ij.

(*b.*) *Tinctura Gentianæ Composita.* Compound Tincture of Gentian.—*Dose*, ʒ ss. to ʒ ij.

(*c.*) *Extractum Gentianæ.* Extract of Gentian.—*Dose*, grs. x. to ʒ ss.

(*d.*) *Gentianina.* Gentianin, *proximate.*—℞. Gentianin, grs. xvj.; Alcohol, ℥ j.; M.—*Dose*, ʒ ss. to ʒ ij., twice or thrice daily. Effects like the Tincture.

3. GENTIANA CATESBÆI. Blue Gentian. *The root.*
Pentandria, Digynia.

Hab. Southern States.—*Herbaceous.*

Very similar to No. 2. Formulæ and doses the same. Also, *several other Species.*

4. COCCULUS PALMATUS. Colombo. *The root.*
Diœcia, Hexandria.

Hab. Mozambique.—*Herbaceous.*

℞. Colombo, ʒ ij.; Boiling Water, ℥ viij. Macerate; strain.—*Dose*, ℥ j. to ℥ ij. May be associated with chalybeates, alkalies, or other vegetable tonics.

(*a.*) *Tincture of Colombo.*—*Dose*, ʒ j. to ʒ ij. May be added to bitter infusions, and to effervescing medicines, when given to check vomiting.

5. PICRÆNA EXCELSA (*Quassia Excelsa*). Quassia. *The wood.*
Decandria, Monogynia.

Hab. Jamaica and the Carribean Islands.—*Tree.*

℞. Quassia, ℈ j.; Boiling Water, ℥ viij. Macerate; strain.—*Dose*, ℥ j. to ℥ iij. May be combined as No. 4.

(*a.*) *Tincture of Quassia.*—*Dose*, ʒ ss. to ʒ ij.

(*b.*) *Compound Tincture of Quassia.*—*Dose*, ʒ ss. to ʒ ij.

Also, QUASSIA AMARA. Surinam Quassia.

Decandria, Monogynia.

A large shrub, rather rare, yields the best quassia, and is the original officinal species.

6. AGATHOTES CHIRAYTA. Chiretta.

See p. 151, No. 38, for *Dose*, &c.

7. POTASSÆ FERRO-TARTRAS. Tartrate of Potash and Iron.

Comp. Tartrate of Sesquioxide of Iron, 48.18. Tartrate of Potash, 51.82=100.

Dose. Grs. x. to ʒ ss., in solution or bolus.

Incomp. Vegetable astringents, strong acids, Lime Water, Acetate of Lead.

8. TINCTURA FERRI SESQUICHLORIDI. *Tinctura Ferri Muriatis.* Tincture of Muriate of Iron.

Comp. Iron, 34.15. Chlorine, 65.85=100.

Dose. Ten to thirty drops, gradually increased to ʒ j. or ʒ ij. (See *Astringents.*)

Incomp. Alkalies, earths, and alkaline carbonates, astringent vegetables.

9. FERRI OXYDUM NIGRUM. Black Oxide of Iron.

Comp. Iron, 72.5. Oxygen, 27.5=100.

Dose. Grs. v. to xx.

10. Ferri Sesquioxydum. Sesquioxide of Iron. Red or Peroxide of Iron.

Comp. Iron, 70.27. Oxygen, 29.73=100.

Commonly, but incorrectly, called the *Carbonate of Iron.*

As a tonic.—*Dose*, grs. x. to ℈ ij. Employed for tic-doloureux, and other neuralgic affections, in doses of ʒ ss. to ℥ ss.

Incomp. Acids and acidulous salts.

The *Hydrated Sesquioxide of Iron* is reputedly the best antidote for poisoning by arsenic.

11. Mistura Ferri Composita. Griffith's Myrrh Mixture.

℞. Myrrh, ʒ j.; Carb. Potash, ʒ ss.; Water, ℥ x.; Sulph. Iron, grs. xxv.; Spirit of Mint or of Nutmeg, ʒ ij. to ʒ iv.; Clarified Sugar, ʒ j.; M.—*Dose*, of Mixture, ℥ ss. to ℥ ij., three or four times a day. May be also made into pills.

A mixture of *incompatibles* in which a double decomposition takes place, and results in the formation of a useful compound.

In the foregoing preparation the *Iron* exists in the state of *Carbonate*, but which, by exposure to the air, is gradually converted to the *Sesquioxide of Iron.*

12. Ferri Phosphas. Phosphate of Iron.

Comp. A mixture of the phosphates of the two oxides of iron.

Dose. Grs. v. to x.

13. Ferri Sulphas. Sulphate of Iron. Vitriolated Iron.

Comp. Protoxide of Iron, 25.7. Sulphuric Acid, 28.9. Water, 45.4=100.

Dose. Grs. j. to v. in form of pills. Often irritating. Generally combined.

Comb. As in No. 11. Also, ℞. Sulph. Iron, ʒ ss.; Carb. Potash or Soda, ℈ ij.; Myrrh, ʒ ss. to ʒ j.; Asafœtida, ʒ ss.; Camphor, grs. x. to xx.; Ext. Gentian, ʒ ij.; M. Divide into 50 or 60 pills.—*Dose*, 2 or more, two or three times daily. Adapted to dyspeptic affections attendant on irregular menstruation, &c., or may be variously modified. (See *Institutes*, p. 628, 629, § 892⅔.)

Incomp. Alkalies, and alkaline carbonates, Salts of Calcium and Barium, Nitrate of Silver, Acetates of Lead, vegetable astringents.

14. Ferri Iodidum. Iodide of Iron.

Comp. Iron, 14. Iodine, 63.3. Water, 22.7=100.

Dose. Grs. iij., gradually increased to viij. or x., in tincture or aqueous solution.

Scrofula, chlorosis, amenorrhœa, &c. (See p. 108, No. 6. Also, *Institutes*, p. 617, § 892½, *l.*)

Incomp. Acids, alkalies and their carbonates, Lime Water, vegetable astringents.

15. Ferri Bromidum. Bromide of Iron.

Dose. Grs. ½ to ij. in pill. Same cases as No. 14.

Incomp. The same as No. 14.

16. Ferri Nitras. Nitrate of Iron. Pernitrate of Iron.

Employed in the form of a Liquor of Persesquinitrate of Iron; is astringent, and resembles a good deal the Tincture of Sesquichloride of Iron. Leucorrhœa, Chronic Diarrhœa, &c.

Dose. 10 to 30 drops, four or five times daily.

Incomp. The same as No. 13, with the exception of Nitrate of Silver.

17. Ferri Acetas. Acetate of Iron.

Dose. 10 to 25 drops, in water.

Also, Ferri Acetatis Tinctura. Tincture of Acetate of Iron.—*Dose,* ℈ j. to ʒ j.

Incomp. The same as No. 13. Keep it from the air.

18. Ammoniæ Ferro-Tartras. Ferro-Tartrate of Ammonia.

Dose. Grs. iv. to vj., in pill or solution.

Less liable to decomposition than most other compounds of iron in mixture with saline compounds, and infusions of vegetable tonics, and has, also, the advantage of great solubility in water.

19. Ferri Lactas. Lactate of Iron.

Dose. Grs. v. to x.

Incomp. The same as No 21.

20. Ammoniæ Ferro-Citras. Ferro-Citrate of Ammonia.

Dose. Grs. v. to x.

Incomp. Strong acids.

21. Ferri Ammonio-Chloridum. Ammonio-Chloride of Iron.

Dose. Grs. iv. to xii., in substance.

Incomp. Alkalies and their carbonates, Nitrate of Silver, vegetable astringents, Lime Water.

22. Balsamodendron Myrrha. Myrrh. *The gum-resin.*

Octandria, Monogynia.

Hab. Arabia Felix.—*Arborescent.*

Dose. Grs. v. to ʒ ss., in pill, powder, or emulsion. Is generally combined with other substances. (See Nos. 11 and 13.)

Also, Tincture of Myrrh.—*Dose*, ʒ ss. to ʒ j. Seldom used internally. (See p. 246, No. 8.)

23. Aristolochia Serpentaria. Virginian Snake-root.

Dose, of Powder, grs. x. to ʒ ss. Infusion best, and generally combined with bitter infusions. (See p. 152, No. 43.)

Also, Tincture of Serpentaria.—*Dose*, ʒ j. to ʒ ij. Is mostly added to tonic infusions.

24. Frasera Walteri. Wild Colombo. *The root.*

Tetrandria, Monogynia.

Hab. United States.

Dose, of Powder, ʒ ss. to ʒ j. Also, *Infusion.* ℞. Root, ℥ ss.; Boiling Water, ℥ viij.; Macerate; strain. —*Dose*, ℥ j. to ℥ ij.

25. Erythræa Centaurium. European Centaury.

Dose. ℈ j. to ʒ j. Also, *Infusion.* (See p. 154, No. 49.)

26. Cornus Florida. American Dogwood. Also, other species. (See p. 150, No. 33, for *Dose*, &c.)

27. Magnolia Glauca. Magnolia. Also, other species. (See p. 149, No. 31, for *Dose*, &c.)

28. Acidum Sulphuricum Aromaticum. Aromatic Sulphuric Acid.

Dose. 10 to 30 drops, in a wine-glass of water.

Incomp. Alkalies and Alkaline Carbonates and their Acetates, Oxides of Metals, Acetate of Lead, Chloride of Calcium, Nitrate of Silver.

29. Acidum Sulphuricum Dilutum. Diluted Sulphuric Acid.

Comp. of the Anhydrous Acid. Sulphur, 40.14. Oxygen, 59.86=100.

Dose. 10 to 20 drops in water, or bitter infusions, or tinctures.

Incomp. The same as No. 28.

Antidotes. Chalk, Soap, Calcined Magnesia, Whiting, Water.

30. Acidum Nitricum Dilutum. Diluted Nitric Acid.

Comp. Anhydrous Nitric Acid, 11.44. Water, 88.56=100.

Comp. of dry or Anhydrous Nitric Acid. Nitrogen, 25.9. Oxygen, 74.1=100.

Dose. 15 to 40 drops, in water.

Incomp. Alkalies, Oxides of Metals, Earths and their Carbonates and Sulphurets, Calomel, Diacetate of Lead, Sulphate of Iron, Muriatic Acid, Acetates of Potash and Soda, Alcohol, Combustible Substances.

Antidotes. The same as for poisoning by Sulphuric Acid.

31. Acidum Hydrochloricum Dilutum. Diluted Hydrochloric, or Muriatic Acid.

Comp. of Liquid Hydrochloric Acid. Hydrochloric Acid Gas, 33.95. Water, 66.05=100.

Dose, of the Dilute Acid, ʒ ss. to ʒ j., in water, or an Infusion of Roses.

Incomp. Alkalies, Oxides, most Earths and their Carbonates, Tartrate of Potash, Nitrate of Silver, Acetate of Lead, Tartarized Antimony.

Antidotes. The same as for poisoning by Sulphuric Acid.

32. CROTON ELEUTERIA. Cascarilla. Seaside Balsam or Sweet Wood. *The bark.*

Monœcia, Monadelphia.

Hab. Jamaica; Bahama Islands.

Dose, of Powder, grs. x. to ʒ ss. Infusion best. ℞. Casc., ℥ ss.; Boiling Water, ℥ viij. Macerate; strain.—*Dose*, ℥ j. to ℥ ij. The Tincture is generally added, or either is combined with other infusions.

(*a.*) *Tincture of Cascarilla.—Dose*, ʒ j. to ʒ ij.

33. GALIPEA OFFICINALIS. G. CUSPARIA. (*Bonplandia Trifoliata.*) Angustura Bark.

See p. 151, No. 39, for *Dose*, &c.

34. LIRIODENDRON TULIPIFERA. Tulip Tree. *Bark of the root.*

See p. 152, No. 40, for *Dose*, &c.

35. ANTHEMIS NOBILIS. Chamomile. *The flowers.*

Syngenesia, Superflua.

Hab. Europe.—*Herbaceous.*

Dose, of Powder, ʒ ss. to ʒ j. An infusion is best: prepared as No. 32.

36. CITRUS VULGARIS, OR C. AURANTIUM. Bitter Orange. *The rind of fruit.*

Polyadelphia, Polyandria.

Hab. China, India.—*Small tree.*

Dose, of Powder, ʒ ss. to ʒ j. Also, *Infusion*, as in No. 32. Generally combined with other bitter infusions.

(*a.*) *Syrup of Orange-Peel.*

(*b.*) *Tincture of Orange-Peel.*

The syrup and tincture are agreeable additions to bitter infusions.

37. SALIX ALBA. Willow. Also, other species. Also, SALICIN.

See p. 149, Nos. 29 and 30, for *Doses*, &c.

38. FERRUGINOUS AND IODURETTED MINERAL WATERS.

Saratoga, Tunbridge, Brighton, Harrowgate, Cheltenham, Belgian Spas, Islington Spa, Ballston and Bedford Springs. (See p. 57, No. 26, for other mineral waters.)

39. RHEUM PALMATUM. Rhubarb.

Dose. Grs. j. to v., once or twice daily. Generally combined with bitter infusions. (See p. 45, No. 12.)

(*a.*) *Tincture of Rhubarb.—Dose*, ʒ j. to ʒ j. Also combined as above.

See p. 101, No. 19. Also, *Institutes*, p. 571, § 890, *b.*

40. CANELLA ALBA. Wild Cinnamon. *The bark.*

Dodecandria, Monogynia.

Hab. West Indies; South America.—*Tree.*

Dose, of Powder, grs. x to ʒ ss. Also, *Infusion*, as in No. 32.

An Aromatic Tonic, and generally combined with the bitter infusions, and purgatives.

41. CERASUS SEROTINA (*Prunus Virginiana*). Wild Cherry Bark.

See p. 154, No. 50, for *Dose*, &c.

(*a.*) *Phloridzin.* See p. 153, No. 46, for *Dose*, &c.

42. DRYMIS WINTERI. Winter's Bark Tree. *The bark.*

Polyandria, Tetragynia.

Hab. South America.—*Tree.*

Stimulant Aromatic Tonic, resembling Canella Alba.

Dose, of Powder, ʒ ss. Also, *Decoction*, as in No. 32.

43. SABBATIA ANGULARIS. American Centaury.

See p. 154, No. 48, for *Dose*, &c.

44. POLYGALA RUBELLA. Bitter Polygala. *The plant.*

Diadelphia, Octandria.

Hab. United States.—*Herbaceous.*

An *Infusion* is employed; prepared as No. 32. Tonic, laxative, and diaphoretic. Like the *P. Amara* of Europe, and Menyanthes Trifoliata.

45. EUPATORIUM PERFOLIATUM. Thoroughwort. E. TEUCRIFOLIUM. Wild Horehound.

See p. 60, No. 29, for *Dose*, &c.

46. Simaruba Amara. Mountain Damson. *The bark of root.*

Decandria, Monogynia.

Hab. Jamaica; Guayana; Cayenne.—*Tree.*

Causes vomiting and purging in full doses. Tonic in small doses. An *Infusion* is employed. ℞. The Bark, bruised, ʒ iij.; Boiling Water, ℔ j. Macerate; strain.—*Dose*, ʒ j. to ʒ ij.

47. Chimaphila Umbellata. Wintergreen. Pipsissewa.

See p. 117, No. 31, for *Dose*, &c.

48. Humulus Lupulus. Hop.

See p. 184, No. 13, for *Dose*, &c.

Much of the apparent effect of a tonic which is attributed to hop is due to its sedative virtue, which, like lactucarium, and cicuta, allays morbid irritability of the stomach, and thus improves digestion. It is for this reason that lettuce agrees better with Dyspeptics than any other green vegetable. (See p. 118, No. 32.) Ipecacuanha, also, is said to be often a good tonic, because it improves the appetite and digestion. But, in these cases the improvement arises from the alterative virtues of ipecacuanha as an antiphlogistic. The stomach, in such instances, is affected with a low chronic state of inflammation, and the remedy operates by breaking up that condition of disease, when digestion is restored in consequence.

49. Xanthorhiza Apiifolia. Yellow Root. *The root and bark.*

Pentandria, Polygynia.

Hab. United States.—*Small shrub.*

Dose, of Powder, ʒ ss. to ℈ ij. *Infusion* as in No. 32. Analogous to Colombo.

50. Asarum Canadense. Canadian Snake-Root. Wild Ginger. *The root.*

Dodecandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ ss. *Infusion* as in No. 32.

A stimulant tonic and diaphoretic. Like Serpentaria, and may be combined in the same manner.

51. Menyanthes Trifoliata. Buck Bean. *The root.*

Pentandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ ss.—*Dose*, of Extract, grs. x. to xv. *Infusion* as in No. 32.

Tonic, diuretic, and in larger doses cathartic and emetic.

52. Prinos Verticillatus. Black Alder. *The bark.*

Hexandria, Monogynia.

Hab. United States.—*Shrub.*

Dose. ʒ ss. to ʒ j.—*Decoction* and *Dose*, as in No. 32.

53. Spiræa Tomentosa. Hardhack. *The root.*

Icosandria, Pentagynia.

Hab. United States.—*Shrub.*

A *Decoction* and *Dose*, as in No. 32.—*Dose*, of Extract, grs. v. to xx.

54. Ferri Ferro-Sesquicyanidum. Ferro-Sesquicyanide of Iron. Prussian Blue.

See p. 149, No. 32, for *Dose*, &c.

Mild. In irritable states of the stomach and bowels where tonics are required.

55. Cnicus Benedictus (*Centaurea Benedicta*). Blessed Thistle. *The leaves.*

Syngenesia, Polygamia.

Hab. South of Europe; Persia; Levant.—*Herbaceous.*

Infusion or *Decoction* and *Dose*, as in No. 32. Mild.

56. Pyrethrum Parthenium. Feverfew. *The plant.*

Syngenesia, Superflua.

Infusion and *Dose*, as in No. 32.

57. Barosma (*Diosma*) Crenata. Buchu. *The leaves*

Pentandria, Monogynia.

Hab. Cape of Good Hope.—*Shrub.*

Infusion and *Dose*, as in No. 32. An Aromatic Stimulant and Tonic. (See *Index.*)

58. Aletris Farinosa. Star Grass. *The root.*

Hexandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, grs. x. to xx. Also, an Infusion. Emetic and cathartic in large doses.

59. Coptis Trifolia. Gold Thread. *The root.*

Polyandria, Polygynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, grs. x. to xxx.; or an equivalent *Infusion* or *Tincture.*

A simple bitter tonic, resembling quassia in its effects.

60. Populus Tremuloides. Poplar. Also, other species.

See p. 155, No. 51, for *Dose*, &c.

61. Cephælis Ipecacuanha. Ipecacuanha.

See p. 100, No. 18, for *Dose*, &c.

Is not curative in virtue of any tonic property. As a remedy, in small alterative doses, in many conditions of indigestion, its utility is much greater than denoted by its rank in the present group. (See *Institutes of Medicine*, p. 579, 580, § 890½, *a–d.*; p. 676–679, § 904, *c–d.*)

62. Zinci Sulphas. Sulphate of Zinc. (See *Index.*)

Dose. Gr. ¼ to ½. Is not curative in virtue of any tonic property. (See *Institutes* as in No. 61.)

63. Cupri Sulphas. Sulphate of Copper. (See *Index.*)

Dose. Gr. ¼ gradually increased. Is not curative in virtue of any tonic property. (See *Institutes*, as in No. 61.)

64. Bismuthi Trisnitras. Trisnitrate of Bismuth.

Comp. Oxide of Bismuth, 81.64. Nitric Acid, 18.36=100.

Dose. Grs. v. to ℈ j., in pill. Is not curative in virtue of any tonic property. (See *Institutes* as in No. 61.)

65. Nitras Argenti. Nitrate of Silver. Lunar Caustic.

Comp. Oxide of Silver, 69.5. Nitric Acid, 30.5=100.

Dose. Gr. $\frac{1}{4}$ gradually increased to 3 or 4 grains, three times daily.

Is not curative in virtue of any tonic property. (See *Institutes*, as in No. 61.)

Incomp. Sulphuric, Muriatic, Tartaric Acids, and their Saline Compounds; Alkalies and Alkaline Carbonates; Lime Water, Astringent Infusions; Albumen; Milk, &c.

Antidotes. Chloride of Sodium (*Common Sea-Salt.*) Also, Milk, Albumen, Antiphlogistics.

Shower Bath.—How does it operate? (See p. 236, No. 13, and p. 292.)

RECENTLY OBSOLETE.

Ammoniæ Cupro-Sulphas. Inula Helenium. Dorstenia Contrayerva. Matricaria Chamomilla. Anthemis Cotula. Artemisia Absynthium. Tanacetum Vulgare. Marrubium Vulgare. Cetraria Islandica. Cupri Acetas. Artemisia Abrotanum. Achillea Millefolium. Tussilago Farfara. Curcuma Zedoaria. Chelone Glabra. Castanea Pumila. Hepatica Triloba. Ajuga Reptans. Betonica Officinalis. Stachys Sylvatica. Cupressus Sempervirens. Prunus Spinosa. Ledum Latifolium. Zinci Oxydum. Hydrastis Canadensis.

Class III.—STIMULANTS AND AROMATICS,

In the order of their value.

The vegetable stimulants and aromatics are generally employed in connection with tonics and cathartics, to improve their operation.

(See remarks prefatory to Tonics. Also, *Institutes of Medicine*, p. 579–583, § 890½.)

1. Wine. 2. Brandy. 3. Porter. 4. Wine Whey.

5. Aqua Ammoniæ Diluta. Dilute Water of Ammonia.

Comp. of Ammonia. Nitrogen, 82.35. Hydrogen, 17.65=100.

Dose. 15 to 30 drops. An antacid stimulant.

Incomp. Acids, Acidulous and most Metallic Salts.

Antidotes. Vinegar and Vegetable Acids.

6. Ammoniæ Sesquicarbonas. Sesquicarbonate of Ammonia. (*Ammoniæ Carbonas.*)

Comp. Carbonic Acid, 55.93. Ammonia, 28.81. Water, 15.26 =100.

Dose. Grs. v. to x. May be repeated like No. 5, every hour, to four hours.

Also, AMMONIÆ BICARBONAS. Bicarbonate of Ammonia.

Comp. Ammonia, 21.5. Carbonic Acid, 55.7. Water, 22.8= 100.

Dose. Grs. v. to xxv.

Also, LIQUOR AMMONIÆ SESQUICARBONATIS.

Dose. ʒ ss. to ʒ iss.

Also, SPIRITUS AMMONIÆ AROMATICUS. Spirit of Sal Volatile. (*Alcohol Ammoniatum Aromaticum.*)

Dose. ʒ ss. to ʒ iss.

Incompatibles and Antidotes. The same as for Ammonia. These agents are antacids as well as rapid and active stimulants, and should be properly diluted with water.

7. ELETTARIA CARDAMOMUM. The True or Officinal Malabar Cardamom. *The seeds.*

Monandria, Monogynia.

Hab. Mountainous coast of Malabar.—*Shrubby.*

The seeds are added to tonic infusions, and to cathartics, as are also the following tinctures:

(*a.*) *Compound Tincture of Cardamom Seeds.*—*Dose*, ʒ j. to ʒ ij.

(*b.*) *Tincture of Cardamom Seeds.* Same *dose.*

Also, ELETTARIA MAJOR. The Greater or Ceylon Cardamom.

Also, of inferior virtues, the *Amomum Grana-Paradisi*, *Amomum Cardamomum*, and other species.

8. CINNAMOMUM ZEYLANICUM. (*Laurus Cinamomum.*) Cinnamon. *The bark and volatile oil.*

Enneandria, Monogynia.

Hab. Ceylon; Java.—*Arborescent.*

Dose, of Powder, grs. x. to ʒ ss.

(*a.*) *Oil of Cinnamon.*—*Dose*, one to three drops.

(*b.*) *Cinnamon Water.* A vehicle for other medicines.

(*c.*) *Tincture of Cinnamon.*—*Dose*, ʒ j. to ʒ ij.

(*d.*) *Compound Tincture of Cinnamon.*—*Dose*, ʒ j. to ʒ ij.

(*e.*) *Spirit of Cinnamon.*—*Dose*, ʒ j. to ʒ iv. See No. 11, (*b.*)

Generally employed like No. 7.

9. CINNAMOMUM CASSIA. The Cinnamon Cassia. *The bark and volatile oil.*

Enneandria, Monogynia.

Hab. China.—*Arborescent.*

Preparations, uses, and *doses*, the same as No. 8.

10. MENTHA PIPERITA. Peppermint. *The herb and volatile oil.*

Didynamia, Gymnospermia.

Hab. Europe; America; Asia; Africa.—*Herbaceous.*

(*a.*) *Oil of Peppermint.*—*Dose*, one to five drops.

(*b.*) *Spirit of Peppermint.*—*Dose*, twenty to thirty drops. See No. 11, (*b.*)

(*c.*) *Peppermint Water.*—*Dose*, ℥ j. to ℥ ij. The distilled water is employed as a vehicle for other medicines, as well as to improve their operation. An infusion may be substituted.

11. PIMPINELLA ANISUM. The Anise. *The seeds and volatile oil.*

Pentandria, Digynia.

Hab. Egypt; Scio.—*Herbaceous.*

(*a.*) *Oil of Anise.*—*Dose*, two to ten drops, on sugar.

(*b.*) *Spirit of Anise*, distilled from the seed with spirit, or prepared by dissolving the oil in spirit. And so of other substances yielding essential oils.—*Dose*, ℈ j. to ʒ ij.

(*c.*) *Anise Water.* Prepared by distillation, or by union of the spirit with water. Employed, especially, in the flatulent colic of infants, and as a vehicle for other medicines.

12. ILLICIUM ANISATUM. Star Anise. *The seeds and volatile oil.*

Polyandria, Polygynia.

Hab. China; Japan.—*Tree.*

Preparations, uses, doses, the same as No. 11.

Also, ILLICIUM FLORIDANUM.

13. CARYOPHYLLUS AROMATICUS (*Eugenia Caryophyllata*). Clove Tree. *The dried undeveloped flower and volatile oil.*

Icosandria, Monogynia.

Hab. Molucca Islands.—*Tree.*

Dose, of Powder, grs. v. to xx.

(*a.*) *Oil of Cloves.* Two to six drops.

(*b.*) *Tincture of Cloves.*—*Dose*, ten drops to a drachm.

14. LAVENDULA VERA (*L. Spica*). Common Lavender. *The flowering heads and volatile oil.*

Didynamia Gymnospermia.

Hab. South of Europe.—*Herbaceous.*

(*a.*) *Oil of Lavender.*—*Dose*, one to five drops.

(*b.*) *Spirit of Lavender.*—*Dose*, ʒ j. to ʒ ij. See No. 11 (*b*).

(*c*) *Tincture of Lavender.*—*Dose*, ʒ j. to ʒ ij.

15. Æther Sulphuricus. Sulphuric Ether.

Comp. Carbon, 64.87. Hydrogen, 13.51. Oxygen, 21.62=100.

Dose. ʒ ss. to ʒ ij.

A transient stimulant, when taken by the stomach, exerting, also, the effects of an anodyne. Employed in cramp of stomach, hysteria, sea-sickness, flatulent colic. (See *Narcotics*, No. 20.)

16. Mentha Viridis. Spearmint. *The herb and volatile oil.*

Didynamia, Gymnospermia.

Hab. Europe.—*Herbaceous.*

Same preparations and uses, as No. 10; but less active.

17. Zingiber Officinale. Ginger. *The root.*

Monandria, Monogynia.

Hab. Asia.—*Herbaceous.*

Dose, of Powder, grs. x. to ʒ j.

(*a.*) *Tincture of Ginger.*—*Dose*, ʒ j. to ʒ ij.

(*b.*) *Syrup of Ginger.* Very mild, and used to impart a flavor to medicine.

(*c.*) *Infusion of Ginger.*—℞ Ginger, ʒ ij. to ʒ iv.; Boiling Water, ℥ vj. Digest for two hours.—*Dose*, ℥ ss. to ℥ j., in flatulent colic.

Ginger and its preparations are mostly employed as adjuvants to tonic, stimulant, and purgative compounds.

18. Acorus Calamus. Sweet Flag. *The root.*

Hexandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ j. *Infusion.*—℞. The Root, ℥ ss.; Boiling Water, ℥ vj. Digest 2 or 3 hours.—*Dose*, ℥ ss. to ℥ j.

(*a.*) *Tincture of Calamus.*—*Dose*, ℈ j. to ʒ ss.

Uses the same as those of Ginger.

19. Myristica Officinalis (*M. Moschata*). Nutmeg Tree. *Kernel of fruit, involucre or mace, and volatile oil.*

Dicœcia, Monadelphia.

Hab. Molucca Islands.—*Tree.*

Dose, of Powder, ℈ j. to ʒ ss.

(*a.*) *Oil of Nutmeg.* One to five drops. Rarely employed.

(*b.*) *Spirit of Nutmeg.*—*Dose*, ʒ ss. to ʒ iv. Added to tonic, stimulant, and cathartic mixtures.

(*c.*) *Water of Nutmeg.*—*Dose*, ℥ j. to ℥ ij. A vehicle and flavorer.

20. Capsicum Annuum. Common Capsicum. *The fruit.*

Pentandria, Monogynia.

Hab. America.—*Herbaceous.*

Dose, of Powder, grs. v. to x., in pills.

(*a.*) *Tincture of Capsicum.*—*Dose*, ten drops to ℈ ij.

A favorite *Condiment.* Mostly useful in medicine as a *Rubefacient.* A good remedy for sea-sickness. Has

a pernicious reputation as a gargle in malignant sore throat and scarlatina.

21. Melaleuca Minor (*M. Cajuputi*). The Lesser Melaleuca. *Volatile oil of the leaves.*

Polyadelphia, Icosandria.

Hab. Moluccas.—*Tree.*

Dose, of Oil, two to ten drops.

Useful in spasmodic affections of the stomach, and flatulent colic; but overrated as to its anti-spasmodic virtues in other affections. A remedy for toothache.

22. Eugenia Pimenta (*Myrtus Pimenta*). Common Allspice. *The unripe berries and volatile oil.*

Icosandria, Monogynia.

Hab. West Indies.—*Tree.*

Dose, of Powder, grs. x. to ʒ j.

(*a.*) *Oil of Allspice.—Dose*, two to six drops.

(*b.*) *Spirit of Allspice.—Dose*, ʒ j. to ʒ iv.

(*c.*) *Allspice Water.—Dose*, ℥ j. to ℥ ij. A vehicle for purgatives, &c.

Mostly used in combination with tonics, stimulants, and purgatives.

23. Carum Carui. Caraway. *The seed and essential oil.*

Pentandria, Digynia.

Hab. Europe.—*Herbaceous.*

(*a.*) *Oil of Caraway.—Dose*, two to ten drops.

(*b.*) *Spirit of Caraway.—Dose*, ʒ j. to ʒ iv. See No. 11, (*b.*)

(*c.*) *Caraway Water.* A vehicle for cathartics, &c. See No. 11, (*c.*)

Employed mostly in tonic and purgative mixtures.

24. CORIANDRUM SATIVUM. Coriander. *The seeds.*
Pentandria, Digynia.

Hab. South of Europe.—*Herbaceous.*

Mostly in repute as an adjunct to the Conserve and Infusion of Senna.

25. SASSAFRAS OFFICINALE (*Laurus Sassafras*). The Sassafras Tree. *Bark of root and volatile oil.*
Enneandria, Monogynia.

Hab. United States.—*Tree.*

Infusion of Bark.—℞. The Bark, ℥ ss.; Boiling Water, ℥ viij. Macerate; strain.—*Dose*, ℥ ij. to ℥ iv.

Oil of Sassafras.—*Dose*, two to ten drops.

Generally combined with Sarsaparilla and Guaiacum, in the treatment of syphilitic, cutaneous, and rheumatic affections.

26. LAURUS NOBILIS. Sweet Bay Tree. *The berries and leaves.*
Enneandria, Monogynia.

Hab. South of Europe.—*Tree.*

An Infusion of the Leaves or Berries. Employed as No. 23.

27. MENTHA PULEGIUM. Pennyroyal. *The herb and volatile oil.*
Didynamia, Gymnospermia.

Hab. Europe.—*Herbaceous.*

An Infusion is in popular use for amenorrhœa.

(*a.*) *Oil of Pennyroyal.*—*Dose*, two to six drops.

(*b.*) *Spirit of Pennyroyal.*—*Dose*, ʒ ss. to ʒ ij. See No. 11, (*b.*)

(*c.*) *Pennyroyal Water.*—*Dose*, ℥ j. to ℥ ij. A vehicle, &c. See No. 11, (*c.*)

Employed, mostly, as No. 21.

28. Gaultheria Procumbens. Partridge Berry. *The leaves.*

Decandria, Monogynia.

Hab. United States.—*Evergreen.*

An *Infusion* as in No. 25, and the *Oil*. Generally combined with Tonics, &c.

29. Solidago Odora. Sweet-scented Golden Rod. *The leaves.*

Syngenesia, Superflua.

Hab. United States.—*Herbaceous.*

A mild aromatic stimulant. An *Infusion*, as in No. 25.

30. Archangelica Officinalis. Garden Angelica. *The root and seeds.*

Pentandria, Digynia.—*Europe.*

An Infusion, as in No. 25.

31. Hyssopus Officinalis. Common Hyssop. *The leaves.*

Didynamia, Gymnospermia.—*Europe.*

An *Infusion*, ad libitum.

32. Origanum Vulgare. Marjoram.

Didynamia, Gymnospermia.—*United States.*

An *Infusion*, ad libitum.

Class IV.—CEREBRO-SPINANTS, OR NERVOUS AGENTS.

ORDERS.

1. Narcotics, Anodyne and Soporific.
2. Antispasmodics.
3. Tetanics, or cerebro-spino-excitants.
4. Moto-paralysants.
5. Senso-paralysants.
6. Cerebro-spino-depressants.

ORDER I.

NARCOTICS, ANODYNE AND SOPORIFIC

This order is intended to embrace such agents only as are properly denoted by the term *Narcotic;* that is to say, such as occasion sleep and insensibility to pain.

The effects of Narcotics generally decrease, in regard to each one respectively, when frequently repeated, or habitually employed at more distant intervals. But the organic properties, as in their relation to all vital stimuli, whether remedial or morbific, maintain their susceptibility to all narcotics except the one in

use, and it is therefore often necessary to change from one to another, or to employ two or more in combination. This obtuseness of gastric irritability, which is also seen in respect to tartarized antimony, and other agents, proves that remedies operate upon the system sympathetically, by impressions made upon the organic properties of the stomach. A magnificent philosophy is concerned throughout all the analogous problems, reaching from the most transient examples of vital habit to those permanent influences which are produced by the small-pox, cow-pox, measles, scarlatina, whooping-cough, &c. The same principle is also constantly shown even in respect to sound. The filing of saws, the roar of cannon, the peal of bells, and other sounds which are at first offensive, or painful, or startling, become by habit endurable without annoyance, or are entirely disregarded. But here, as with the effects of opium, the taste of tobacco, &c., each sound modifies sensibility and irritability in relation to itself alone. The final causes are beautiful illustrations of design; while what is agreeable always remains about the same. There are many remedial agents, however, which observe the opposite effect of vital habit; while morbific causes generally fall under the law of diminished action. (See *Institutes of Medicine*, p. 363–369, § 535–563; p. 583–593, § 891–891½; p. 172, § 350, No. 45.)

In the order of their relative therapeutic value.

1. Morphiæ Sulphas. Sulphate of Morphia.

Comp. Sulph. Acid, 1 atom=40. Morphia, 1 atom=292. Water, 6 atoms=54. Morphia saturated with Sulphuric Acid.

Comp of Morphia. Carbon, 71.91. Hydrogen, 6.85. Nitrogen, 4.80. Oxygen, 16.44=100.

Dose. Gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$.

℞. Sulph. Morphia, grs. viij.; Distilled Water, ʒ ss.; Vinegar, 5 or 6 drops; M.—*Dose*, 5 to 25 drops. One drop is equivalent to two and a half drops of laudanum.

This is the best anodyne and soporific for infants; but, like all the other opiates, should be administered, at this age, in cautious doses. The following formula is employed by the Author; ℞. Of the foregoing solution of Sulph. Morphia, six drops; Water, ʒ j.; Spirit of Anise, ten to twenty drops; M. Half a teaspoonful, repeated if necessary, is a dose at the age of two or three months.

The alkaline base of this and the following saline compounds is a well-known constituent part of Opium. The Sulphate and other preparations of Morphia are mostly employed to relieve pain, allay morbid irritability of the intestinal canal, and to procure rest. They are greatly exempt from the constipating and often injurious effects of opium. All the preparations of opium must be gradually increased to produce their original effects as *narcotics.*

Their operation is also astonishingly influenced by particular states of the nervous system, as shown by the great quantities that are borne in delirium-a-potu, and in painful affections, without inducing sleep, or the usual unpleasant effects of opium. Thus 100 drops of laudanum (tinc. opii) may be given at a dose in cramp of stomach and repeated, if necessary, and greater quantities have been exhibited in the brain fever of drunkenness. (See *Med. and Physiolog. Comm.*, Vol. II., p. 480–487, and *Institutes*, as above.)

All the narcotics are sedative, under favorable circumstances. If congestion, or increased inflammation, follow their exhibition, it does not imply a *stimulant* effect. (See *Institutes*, p. 480, 481, § 743.)

2. Morphiæ Hydrochloras. Muriate of Morphia.

Comp. Morphia, 76.24. Hydrochloric Acid, 9.66. Water, 14.10=100.

Dose. Gr. $\frac{1}{4}$ to $\frac{1}{2}$.

℞. Muriate of Morphia, grs. viij.; Alcohol, ʒ j.; Distilled Water, ʒ iij.; M. Dissolve by a moderate heat.—*Dose*, 5 to 25 drops.

3. Morphiæ Acetas. Acetate of Morphia.

Comp. Morphia, 82.95. Acetic Acid, 14.50. Water, 2.55=100.

Dose. Gr. $\frac{1}{4}$ to $\frac{1}{2}$.

℞. Acetate of Morphia, grs. viij.; Distilled Water, ℥ ss.; M.—*Dose*, 5 to 25 drops.

4. Morphiæ Tartras. Tartrate of Morphia. 5. Morphiæ Bimeconas. Bimeconate of Morphia. 6. Morphiæ Citras. Citrate of Morphia. 7. Morphia.—*Doses*, about the same as the preceding. The first three salts of Morphia are all that can be required in practice. The *Bimeconate of Morphia* is preferred by some; and as prepared by Mr. Squire, it has about the strength of Laudanum.

8. Papaver Somniferum. The Somniferous or White Poppy. *The unripe capsules.* Opium.

Polyandria, Monogynia.

Hab. Asia and Egypt.—*Herbaceous.*

Proximates. Morphia, Narcotina, Codeia, Thebaina, Narceine, Meconine, Meconic Acid.

Varieties of Opium. Smyrna Opium. Constantinople Opium. Egyptian Opium. Persian Opium. Indian or Bengal Opium. English Opium. French Opium.

Average dose of Opium. Gr. j.; ranges from gr. ¼ to grs. v.

The primary use of Opium is perhaps always improper where bloodletting is indicated, unless sometimes in muco-intestinal inflammation, or of the urino-genital organs. But, it may often follow immediately upon adequate bloodletting, in other inflammations, as in pneumonia, with much advantage; rarely, however, in affections of the head, or hepatic diseases. The salts of Morphia are preferable in the foregoing inflammatory states, excepting where the astringent effect of opium upon the intestines is wanted. (*Institutes*, p. 587, § 891, *i.*) But cases of the latter nature are so constantly occurring, that opium, or some of its ordinary preparations, will always sustain their importance; while, also, the greatest reliance may be placed upon the natural substance in all cases requiring the prompt operation of an opiate, especially for the relief of pain in the intestinal canal and the urinary and generative organs.

The inhalation of *Opium-fumes*, according to the Chinese method, is less offensive to the stomach and less constipating than the administration of opium in the usual manner, and may be sometimes usefully employed. It has probably none of the hazard which would attend the inhalation of Sulphuric Ether in morbid states.

OFFICINAL COMBINATIONS OF OPIUM.

Opiate Pills. ℞. Opium, ʒ ss.; Sulphate of Potash, ʒ iss.; Conserve of Rose, ʒ ss.; M. Divide into pills.—*Dose*, grs. iij. to x.

Opium and Soap Pills (*Compound Soap Pills*). ℞. Opium, ʒ ss.; Hard Soap, ʒ ij.; M.—*Dose*, grs. iij. to x.

Calomel and Opium Pills. ℞. Calomel, ʒ ij.; Opium, ʒ ss.; Conserve of Rose, ʒ ss.; M.—*Dose*, grs. iij. to v.

Lead and Opium Pills. ℞. Acetate of Lead, ʒ iij.; Opium, ʒ ss.; Conserve of Rose, ʒ ss.; M.—*Dose*, grs. j. to iij.

Compound Powder of Chalk with Opium. ℞. Compound Powder of Chalk, ℥ iss.; Opium, ℈ j.; M.—*Dose*, for adults, ℈ j. to ℈ ij.; for children, grs. j. to x., according to the age.

Confection of Opium.—*Dose*, grs. x. to ʒ j. Also, No. 13.

Some of the foregoing combinations are convenient as well as useful, though it will be often expedient to vary the proportions of the constituent parts. The adaptations of each compound to special forms of disease will be readily suggested by the nature of the ingredients. (See *Astringents*, No. 1.)

9. Opii Acetum. Vinegar of Opium.

Dose. 5 to 30 drops. Twenty drops are equivalent to thirty drops of the Tincture of Opium.

Like the salts of morphia, though in a less degree, the vinegar of opium is less offensive to the stomach and

head, and less constipating, than opium or laudanum. Very analogous to the celebrated nostrum, the *Black Drop*.

(*a.*) *Tinctura Opii Acetata.* Acetated Tincture of Opium.—*Dose*, 5 to 30 drops. Similar in effects to the Vinegar of Opium.

10. Extractum Opii Purificatum. Purified Extract of Opium.

Dose. Gr. ¼ to grs. iij. or iv. Similar in effects to No. 9. Like Battley's *Sedative Liquor of Opium;* as stated by the author of that preparation.

Extract of Poppy, prepared by boiling Poppy-heads in water, is thought to exert a similar effect to the purified extract. Its *Dose* is grs. ij. to xx.

Syrup of Poppy is similar to the Extract of Poppy, and a favorite anodyne, soporific and sedative for infants.—*Dose*, for infants of three or four months, ℈ ss. to ℈ j.—*Dose*, for adults, ʒ ij. to ʒ ss.

11. Tinct. Opii. Tincture of Opium. Laudanum.

Dose, 10 to 50 drops, for the ordinary purposes of opium; 80 to 100 in spasms of the stomach, and repeated, if necessary, every half hour, and the same quantity in mania-a-potu, when this remedy is appropriate, once in two to four hours till sleep is produced. (*Institutes*, p. 734, 735, § 976.)

Thirteen minims, or about twenty-five drops, are equivalent to one grain of opium, and the same effects ensue, though more speedily. The tincture, however, does not always possess the uniformity and certainty of the inspissated juice, but is often recommended by its conveniences and more rapid operation.

12. Tinctura Opii Camphorata. Camphorated Tincture of Opium. Elixir Paregoric.

Dose. ʒ j. to ʒ ij. Contains nearly one grain of opium in f. ℥ ss.

A highly useful preparation of opium, its administration comparatively safe, and in the hands of the public. In allaying gastric and intestinal pain incident upon indigestion, in arresting many conditions of diarrhœa, and in assuaging coughs that are independent of much inflammation, Paregoric often exerts the happiest effect, where an equivalent amount of solid opium or of laudanum would be nearly fruitless. It is also less apt to affect the stomach and head unpleasantly, or to embarrass the secretions and excretions. Its peculiar advantage consists in allaying certain states of morbid irritability and sensibility without the evils incident to greater quantities of opium in the same cases.

13. Pulvis Ipecacuanhæ et Opii. Compound Powder of Ipecacuanha and Opium. Dover's Powder.

Dose. Grs. v. to xv.

This notorious compound, bequeathed to mankind by a *Buccaneer*, in his "Ancient Physician's Legacy to his Country," stands next to the Tonics and Stimulants in the injury which it has inflicted in the treatment of febrile diseases. Its greatest value is illustrated in dysentery and diarrhœal affections; though here it is apt to be given in excessive doses. A single grain, or two grains repeated once in four to six hours, will be often more curative than larger doses at longer intervals. After bloodletting, also, in pneumonia and rheumatism, if opium be indicated, this compound, in a dose of five

to ten grains, is often the best anodyne. (See p. 102, No. 22.)

14. Vinum Opii. Wine of Opium. Sydenham's Laudanum. Thebaic Tincture.

Dose. Ten drops to a drachm. Similar in effects to laudanum.

Antidotes for Poisoning by Opium. Evacuate the stomach by Sulphate of Zinc, or Sulphate of Copper, stomach-pump, &c. Cold affusions to the head and chest. Drinking freely of infusions of Coffee, Nutgalls, Cinchona, or of any vegetable Astringents. Apply Ammonia or Acetic Acid to the nostrils. Walking or other exercise. Artificial respiration, if necessary. Bloodletting. The Author once saved the life of an infant, who was profoundly poisoned by the Sulphate of Morphia, by a strong infusion of coffee alone.

The Author has endeavored to show, in the *Medical and Physiological Commentaries*, and in the *Institutes of Medicine*, especially in his examinations of the Humoral Pathology, that Opium and other Narcotics do not produce their effects through the medium of the circulation, and that the facts which have been alleged in favor of the doctrine of absorption do not sustain the conclusion; while he has also endeavored to show that the general influences are exerted through the nervous system. This position, indeed, he has endeavored to defend in relation to the *modus operandi* of all other effcient remedial, as well as morbific, agents. As to the opinion of the distinguished Müller, that "*the Narcotic action of Opium does not react from a particular point of a nerve on the brain*," and which has been so often

quoted in favor of the doctrine of operation by the absorption of morbific and remedial agents, the Author has shown an important fallacy in predicating their action upon the nervous extremities of experiments performed upon the trunks of nerves. (See *Institutes*, p. 521, § 826, *d.*) In the *Institutes* (p. 567, § 889, *k*, and p. 672, § 904, *a*, &c.,) the Author has also shown, through the same great physiological principles, that narcotics so reduce the irritability of the intestinal canal, &c., and affect the nervous power in so peculiar a manner, as to render emetics and cathartics more or less incapable of exerting their effects upon the irritability of parts, or of altering the condition of the nervous influence. These remarkable facts led the Author to attempt the illustration of the whole philosophy of this subject by the physiological influences through which certain agents counteract the foregoing effects of narcotics. The *cold-dash*, an efficient antidote, and not within the physical rationale of absorption, operates by rousing the nervous power and rendering it stimulant to the organic viscera, to the respiratory organs, &c. Sympathetic sensibility is not lessened, but rather exalted in the skin, by the action of Narcotics. (*Institutes*, p. 338, § 514, *d.*) We have thus, therefore, a clear interpretation of the manner in which this negative agent reaches with sudden and useful effect the nervous influence, and by which it makes its counteracting demonstrations upon the whole organic system. The same philosophy is also at the foundation of the first acts of respiration in the new-born infant, as connected with the contact of cold air, and of the restorative influence of cold in cases of syncope. Again, *Coffee* is another efficient antidote to poisoning by opium; and we may now, through the foregoing

explanation as to the operation of cold, and even through that which relates to the *modus operandi* of narcotics, comprehend the manner in which coffee brings the nervous power into a like condition with that which is induced by cold, while emetics, cathartics, stimulants, cold water by the stomach, &c., fail of making any impression. It is scarcely necessary to say that the result is effected by the peculiar virtues of coffee as a vital agent, which so modify the irritability and sympathetic sensibility of the gastro-intestinal mucous membrane, that the impression reaches the nervous centres with a modifying effect that surmounts the narcotic influence upon the nervous power. It may be finally added that the philosophy relative to the several foregoing agents, under the circumstances supposed, is directly and analogically illustrated by the well-known action of a strong infusion of coffee upon the nervous centres in the condition of health. It is also worth observing, to the same effect, that, according to Emmert (Buchner, *Toxicol.* S., 235), coffee increased the violent action of *Nux vomica*.

Modus operandi of Opium. See *Institutes of Medicine*, p. 672, 673, § 904, *b*; p. 521, § 826, *d*.

15. Hyosciamus Niger, and H. Albus. Henbane. *The leaves and seeds.*

Pentandria, Monogynia.

Hab. Europe.—*Herbaceous.*

See p. 181, No. 4, for *Dose*, &c., and *Index*.

Often a valuable substitute for Opium, exerting comparatively little of the disagreeable effects of the latter upon the stomach and head, in its therapeutical doses, not embarrassing the secretions and excretions, and

being slightly laxative. Anodyne and soporific, but less so than opium.

Antidotes. The same as for poisoning by Opium.

16. Conium Maculatum. Poison Hemlock. Cicuta. *The leaves.*

Pentandria, Digynia.

See p. 117, No. 32, for *Dose*, &c. Also, *Index.* Mostly anodyne and antispasmodic.

Possesses nearly the same exemptions from the effects of opium which appertain to hyosciamus.

Antidotes. The same as for poisoning by opium.

17. Lactuca Sativa. The Garden Lettuce. *The inspissated juice, Lactucarium.*

Syngenesia, Polygamia Æqualis.

Hab. Native country unknown.—*Herbaceous.*

Dose, of Lactucarium, grs. iij. to v., or more. Anodyne and soporific.

Possesses nearly the same exemptions from the effects of opium which appertain to hyosciamus. (See *Tonics*, No. 48, and p. 118, No. 32.)

The *Lactuca Virosa* has been employed, but affects the head, and is evidently inferior to the *L. Sativa.*

18. Humulus Lupulus. Common Hop. *The dried strobile and Lupulinic grains.*

Dicœcia, Pentandria.

Hal. Europe.—*Herbaceous.*

For *Dose*, &c., see p. 184, No. 13. Also, p. 269, No. 48.

Anodyne and soporific.

Like Hyosciamus exempt from objections which apply to opium.

19. Spiritus Ætheris Sulphurici Compositus. Compound Spirit of Sulphuric Ether. Hoffmann's Anodyne Liquor.

Comp. Spirit of Sulphuric Ether, 64 parts. Ethereal Oil, 1 part.

Dose, ʒ ss. to ʒ ij.

Agreeably and mildly soporific, where the stimulant virtue of the alcohol is admissible.

Comb. May be added to any of the narcotics, especially to the tinctures.

20. Æther Sulphuricus. Sulphuric Ether.

See p. 278, No. 15, for *Dose*, &c.

The principal effects of which this remedy is capable as a narcotic, and which entitle it to a place in the present class, are obtained by inhaling the vapor. This method was formerly in use among physicians, but was abandoned in consequence of its dangerous tendencies. It has been lately revived by surgeons and dentists, for the purpose of producing stupefaction during the operations. But it should be considered that it has been long a settled rule in medicine, that it is not justifiable, for the purpose of relieving a patient from pain, to employ any remedies that may endanger his life, or that may expose him to a greater than the existing danger.

It is the opinion of M. Flourens, that ether exerts its first effects upon the cerebrum and the mind; next, upon the cerebellum, and disturbs voluntary motion; subsequently upon the spinal cord, when voluntary motion and sensibility are apparently extinguished; lastly, upon the medulla oblongata, which puts an end to life.

The differences in the effects of this agent when taken by the stomach and when inhaled, are of much physiological interest, and for the Author's opinion of which see *Institutes of Medicine*, p. 61–63, § 134–137; p. 67, § 149–151; p. 81, § 169, *f*; p. 89, § 188, *a*; p. 95–99, § 189–192; p. 172, § 350, Nos. 43, 94; p. 175, 176, § 350½, *n–q*; p. 229, § 419; p. 288, § 459, 460; p. 319–321, § 494; p. 334, § 510; p. 521–525, § 827; p. 588, § 891, *m*; p. 671–676, § 904; p. 715–721, § 960. Also, *Medical and Physiological Commentaries*, Vol. I., p. 567–581.

Such as may consult the foregoing references will find that the author regards the action of ether as being exerted upon the pulmonary or gastro-intestinal mucous tissue, and that the general effects are sympathetic, while he explains the differences which attend its inhalation and when swallowed by the differences in the vital constitution of the mucous tissue of the lungs and of the stomach. Consider, also, that the fumes of tobacco and of stramonium are nearly inert when inhaled, while those of hyosciamus and opium exert a powerful influence through the medium of the lungs.

21. Tinctura Opii Ammoniata. Ammoniated Tincture of Opium.

Dose, ℥ ss. to ℥ j. One drachm and a quarter contains about a grain of opium.

A narcotico-stimulant, which is useful in certain irritable states of the stomach where the usual preparations of opium may be offensive to the organ and where the general circulation is languid. It is best adapted to the phlegmatic temperament. Overrated as an antispasmodic.

22. Lycopus Virginicus. Bugle Weed. *The herb.*

Diandria, Monogynia.

Hab. United States.—*Herbaceous.*

Mildly anodyne. An Infusion drunk freely, in phthisis, spasmodic coughs, &c. Diminishes the frequency of the pulse.

23. Cannabis Sativa. Common Hemp. The concrete resinous exudation from the leaves, slender stems, and flowers, called *Churrus*, and the Alcoholic Extract.

Diœcia, Hexandria.

This substance, which appears to be anodyne and antispasmodic, has been greatly overrated, and requires farther observation of its effects to determine the extent of its claims as a remedial agent.

The *Doses* have been very variable, under similar circumstances, that of the resinous extract having been from gr. ½ to grs. xij., or more. In ordinary cases experiments should be commenced with half a grain or one grain. A *tincture* of the extract is the best form, which should be added to water and swallowed immediately.

ORDER II.

ANTISPASMODICS,

In the order of their value.

These remedies are often applied where bloodletting, or cathartics, or emetics, are alone appropriate, or should precede the antispasmodics. They may be gen-

erally very advantageously combined with each other. (See *Institutes of Medicine*, p. 590–593, § 891½.)

1. The Narcotics, in the Order of their Arrangement.

2. Æther Sulphuricus. Sulphuric Ether.

See p. 278, No. 15, for *Dose*, &c. Also, by *inhalation*. (See *Narcotics*.)

3. Ferula Asafœtida, *or* Narthex Asafœtida. Asafœtida. *The gum-resin.*

Dose. Grs. v. to xx., in pill, or emulsion.

(*a.*) *Tincture of Asafœtida.—Dose*, ʒ ss. to ʒ j.

Hysteria, pure spasmodic asthma. (See p. 165, No. 11.)

Sagapenum, a gum-resin, obtained from an unknown plant, is similar in its effects, but inferior to *asafœtida*. *Dose*, grs. v. to ℈ j.

4. Camphora Officinarum (*Laurus Camphora*). The Camphor Tree. Concrete Camphor.

Enneandria, Monogynia.

Hab. China; Japan, &c.—*Tree.*

Comp. Carbon, 78.94. Hydrogen, 10.53. Oxygen, 10.53=100.

Dose. Gr. j. to ℈ j., in emulsion.

Hysteria, spasmodic cough, chorea. (See Genito-Urinary Agents, No. 11.)

(*a.*) *Tincture of Camphor.—Dose*, ten drops to ʒ ss.

(*b.*) *Camphor Mixture.—Dose*, ℥ ss. to ℥ j.

Camphor is also derived from the *Dryobalanops Camphora*, and is preferred in the East to that of the C. officinarum.

5. Castor Fiber. The Beaver. A peculiar secretion from the Preputial Follicles.

Hab. Europe and America.

Dose. ʒ j. to ʒ ij., in pills or powder. The *Tincture* is useless on account of the quantity of Alcohol in the necessary doses.

In hysteria, epilepsy. Overrated.

6. Moschus Moschiferus. The Musk Animal. A concrete secretion of the Preputial Follicles.

Hab. Asia; Himalayan Mountains; China; Tartary; Siberia, &c.

The average contents of musk pods is about ʒ ij. grs. xl.

Dose. Grs. vj. to xvj., in bolus, or mixture. Often adulterated. The *Tincture* is useless for the same reason as stated in No. 5.

In hysteria, tetanus, epilepsy. Overrated.

An artificial musk is prepared which may be employed as a substitute for the natural. Is used in the whooping cough.—*Dose*, the same as of musk, or more.

7. Symplocarpus Fœtidus. (*Dracontium Fœtidum. Ictodes Fœtidus. Pothos Fœtida.*) Skunk Cabbage. *The root.*

Tetrandria, Monogynia.

Dose. Grs. x. to xx. Also, Infusion. ℞. The Root, ʒ ij.; Water, ℥ viij.—*Dose*, ℥ j. to ℥ ij.

Stimulant, antispasmodic, and narcotic.

In hysteria, asthma, chronic catarrh, whooping cough, epilepsy.

8. Potassii Cyanidum. Cyanide of Potassium.

See p. 136, No. 15, for *Dose*, &c. In same cases as No. 7.

Antidotes. The same as for Hydrocyanic Acid.

9. Zinci Cyanidum. Cyanide of Zinc.

See p. 183, No. 8, for *Dose*, &c. Employed in the same cases as No. 7.

Antidotes. The same as for Hydrocyanic Acid.

10. Zinci Ferrocyanidum. Ferrocyanide of Zinc.

See p. 183, No. 9, for *Dose*, &c. Employed in the same cases as No. 7.

Antidotes. The same as for Hydrocyanic Acid.

11. Ferri Ferro-Sesquicyanidum. Ferro-Sesquicyanide of Iron.

See p. 149, No. 32, for *Dose*, &c. In the same cases as No. 8.

12. Valeriana Officinalis. Wild Valerian. *The root.*

Triandria, Monogynia.

Hab. Europe. *Herbaceous.*

Dose, of Powder, ʒ ss. to ʒ iss. Also, *Infusion.* ℞. The root in coarse powder, ʒ ij.; Boiling Water, ℥ viij. Digest for an hour, and strain.—*Dose*, ℥ ss. to ℥ ij. May be often usefully combined with cathartics.

(*a.*) *Ammoniated Tincture of Valerian.*—*Dose*, ʒ j. to ʒ ij.

In hysteria, hypochondraism, chorea. Assuages restlessness.

13. Galbanum Officinale. Galbanum. *The gum-resin.*

See p. 165, No. 13, for *Dose*, &c. In spasmodic cough, hysteria.

14. Tinctura Ferri Sesquichloridi. Tincture of the Sesquichloride of Iron. Tincture of Muriate of Iron.

In retention of urine from spasmodic stricture, when the *Dose* is 12 to 15 drops once in 10 or 15 minutes, continued, if necessary, till nausea is produced. (See p. 116, No. 28.)

15. Creasoton. Creasote.

Comp. An Oxy-Hydro-Carburet, consisting of Carbon, 77.42; Hydrogen, 8.12; Oxygen, 14.46=100.

Dose. One or two drops, in mucilage, gradually increased to five or ten.

In hysteria, vomiting, and neuralgia. An efficient local remedy for the tooth-ache, largely diluted with Alcohol or Tincture of Camphor.

16. Ammoniæ Cupro-Sulphas. Cupro-Sulphate of Ammonia.

Comp. Oxide of Copper, 32.52. Ammonia, 27.64. Sulphuric Acid, 32.52. Water, 7.32=100.

Dose. Gr. $\frac{1}{2}$, gradually increased to grs. iv. or v., in pills.

In hysteria, epilepsy, whooping cough, chorea, cramp of stomach, spasmodic asthma.

Incomp. Nitrate of Silver, Acetate of Lead.

17. Cerasus Lauro-Cerasus. Cherry Laurel. *The leaves.*

Icosandria, Monogynia.

Dose, of the *Water of Cherry Laurel*, ♏ ss. to ♏ j., or more, according to its strength. (See p. 185, No. 18.)

In spasmodic affections of the stomach, hysteria connected with uterine pains, &c.

18. Æther Aceticus. Acetic Ether.

Comp. Carbon, 54.54. Hydrogen, 9.10. Oxygen, 36.36=100.

Dose. ♏ ss. to ♏ j.

In the same cases as Sulphuric Ether, but milder.

19. Argenti Nitras. Nitrate of Silver.

See p. 273, No. 65, for *Dose*, &c.

In epilepsy, chorea, chronic vomiting.

20. Acidum Arseniosum. Arsenious Acid. Also, Liquor Potassæ Arsenitis. Fowler's Arsenical Solution.

See p. 146, Nos. 25, 26, for *Dose*, &c.

Employed especially in chorea.

21. Zinci Sulphas. Sulphate of Zinc.

Dose. Gr. j. to grs. v. Or grs. x. to grs. xx.

In the same cases as No. 16. Overrated. (See p. 80, No. 3.)

22. Cupri Sulphas. Sulphate of Copper.

Dose. Gr. $\frac{1}{4}$, gradually increased.

In epilepsy, chorea. Overrated. (See p. 83, No. 9.)

23. Cimicifuga Racemosa. Black Snake-root.

See p. 137, No. 17, for *Dose*, &c.

Particularly in chorea.

24. Melaleuca Minor. The Lesser Melaleuca. *Volatile oil of the leaves: Cajuput Oil.*

See p. 280, No. 21, for *Dose*, diseases, &c.

25. Colchicum Autumnale. Meadow Saffron.

See p. 129, No. 3, for *Dose*, &c.

Employed in the same cases as No. 12.

26. Acidum Hydrocyanicum. Hydrocyanic Acid.

See p. 182, No. 6, for *Dose*, *Antidotes*, &c.

In epilepsy, hysteria, chorea, convulsions of children, whooping cough. Overrated.

27. Æther Hydrocyanicus. Hydrocyanic Ether.

Dose. The same as of the *Medicinal Hydrocyanic Acid*, or rather more, and employed in the same affections.

Antidotes. The same as for Hydrocyanic Acid.

28. Zinci Oxydum. Oxide of Zinc.

Comp. Zinc, 80. Oxygen, 20=100.

Dose. Grs. ij. to viij., gradually increased to grs. xx., three or four times a day, in pill or powder. In same cases as No. 16.

29. Datura Stramonium. Thorn Apple. *The leaves.*

Smoking the leaves in spasmodic asthma. (See p. 132, No. 5.)

THE FOLLOWING ARE MORE OR LESS OBSOLETE.

Indigofera Tinctoria. Indigo. Artemisia Vulgaris. Mugwort. Opoponax Chironium. The

Opoponax. Oleum Succini. Oil of Amber. Tela Aranearum. Cobweb. Oleum Cornu Cervi. Dippel's Animal Oil. Zinci Chloridum. Chloride of Zinc. Ruta Graveolens. Rue. Oleum Terebinthinæ. Oil of Turpentine. Chenopodium Anthelminticum. Wormseed. Chenopodium Olidum. Phellandrium Aquaticum. Heracleum Lanatum. Masterwort. Galium Verum and G. Tinctorium. Cleavers. Cardamine Pratensis. Cuckoo Flower. Viscum Album. Mistletoe.

ORDER III.

CEREBRO-SPINO EXCITANTS. TETANICS,

In the order of their value.

Remedies of this class have the effect of developing the nervous power in such violence as to produce convulsions in the muscles of animal life. They are, therefore, advantageously employed in cases of paralysis. They also illustrate, in an opposite manner from that of opium, &c., the special influences which may be exerted upon the nervous power, and the more so by the failure of the apparently antagonizing agents to neutralize the effects of each other, while those of either group may be surmounted by agents of very different virtues, and of such mildness as to be inert in conditions of health. Facts of this nature should lead us to a distrust of those theoretical views which would prompt the

administration of remedies according to their abstract physiological influences in health, and to rely mostly upon experimental observations in disease. Let us study principles which are relative to the constitution of organic nature, rather than principles to find out the virtues of remedial agents. (See p. 291, No. 14. Also, *Institutes of Medicine*, p. 63, § 137, *d;* p. 65, § 143, *c;* p. 67, § 150–151,; p. 73, § 163; p. 89, § 188; p. 107–111, § 226–233¾; p. 613, § 892½, *b;* p. 323–328, § 500, *c–l;* p. 319–321, § 494, *b–e.*)

Strychnos Nux Vomica. Nux Vomica. Nux Vomica Tree. *The seeds.*

Pentandria, Monogynia.

Hab. Coromandel; Ceylon, &c.—*Tree.*

The difference in the vital constitution of animals, and their difference in this respect from man, are emphatically shown by the inertness upon some animals of substances which are exceedingly poisonous to others and to man; a fact from which important physiological and practical conclusions may be drawn. The nux vomica is an exception to the foregoing general fact, since it is poisonous to all classes of animals; but, while a few grains will kill a dog, several ounces are necessary to effect the death of a horse. (See *Med. and Phys. Com.*, Vol. I., p. 568–575.)

Dr. M. Hall notices the remarkable fact that, in paralysis, the principal demonstration of nux vomica is made upon the paralyzed parts, and he imputes the peculiarity to an exalted irritability of the paralyzed limb. This is undoubtedly true, and corresponds with the narcotizing effects of opium. (See *Institutes*, p. 338, § 514, *d.*) It beautifully illustrates, also, the distinction between *irri-*

tability and *sensibility*, and shows that the nervous power develops motion by acting upon organic irritability. (*Ibid.*, p. 89, § 188; p. 100–103, § 194–204.) The action of nux vomica after decollation shows, with a thousand other facts, that the nervous power is developed by remedial and morbific agents at least as well in the spinal cord as in the brain. (*Ibid.*, p. 284–289, § 454–461½.)

The proximates, *strychnia* and *brucia*, are alkaline substances, derived from the Strychnos nux vomica, S. ignatia, S. colubrina, and S. tieuté. Their action is the same, though brucia is supposed to possess only one-twelfth to one twenty-fourth part of pure strychnia. The violent nature, therefore, of these substances, should give to brucia a preference.

These remedies are mostly useful in paralysis, but have been employed in hysteria, neuralgia, chorea, syphilitic pains, and even in dysentery, diarrhœa, and bronchitis. Their employment should be restricted to paralysis, unless other safer and more efficient means shall have failed in the other affections.

All the preparations may be repeated two or three times a day.

Antidotes. See No. 10.

1. Brucina. Brucia.

Comp. Carbon, 70.88. Hydrogen, 6.66. Nitrogen, 5.07. Oxygen, 17.39 = 100.

℞. Brucia, grs. xvj.; Alcohol, ℥ j.; M.—*Dose*, ten to thirty drops, gradually increased to ʒ iiss. Or, in pills of gr. ⅓, gradually increased to five grains.

In paralysis generally; incontinence of urine from paralysis of the sphyncter muscle of the bladder, and in

many obstinate cases of nocturnal incontinence of urine in children; impotence.

2. STRYCHNIA. Strychnia.

Comp. Carbon, 76.43. Hydrogen, 6.70. Nitrogen, 5.81. Oxygen, 11.06=100.

℞. Strychnia, grs. ij.; Alcohol, ℥ ss.; M.—*Dose*, 10 drops, gradually increased to ʒ j. or ʒ ij., if necessary, or the strength increased. May be also given in pills, beginning with one-twentieth of a grain, and gradually increased to half a grain or a grain.

In the same cases as Brucia.

3. STRYCHNIÆ ACETAS. Acetate of Strychnia.

℞. Strychnia, grs. ij.; Acid Acetic, ʒ ij.; Distilled Water, ʒ ij.; M.—℞. Strychnia, Acetate, grs. ij.; Alcohol, ℥ ss.; M. Or pills.—*Dose*, of either, the same as No. 2.

4. STRYCHNIÆ SULPHAS. Sulphate of Strychnia.

℞. Strychnia Sulph., grs. ij.; Distilled Water, ℥ ss.; M. Or pills.—*Dose*, the same as No. 2. Easily decomposed.

5. STRYCHNIÆ HYDROCHLORAS. Muriate of Strychnia.

Preparations and *Dose*, the same as No. 4.

6. STRYCHNIÆ NITRAS. Nitrate of Strychnia.

℞. Strychnia Nitrate, grs. ij.; Distilled Water, ℥ ss.; M. Or pills.—*Dose*, the same as No. 2.

7. Strychniæ Iodidum. Iodide of Strychnia.

℞. Strychnia Iodide, grs. ij.; Ext. of Liquorice, ℈ ij.; M. Divide into pills, xx.—*Dose*, one, twice or thrice a day, very gradually raising the dose to a quarter or half a grain, in old cases of extensive paralysis.

8. Tinctura Nucis Vomicæ. Tincture of Nux Vomica.

Dose. 8 to 15 drops, gradually increased to 30 or more.

9. Extractum Nucis Vomicæ. Alcoholic Extract of Nux Vomica.

Dose. Gr. ½, gradually increased to 2 or 3 or more grains.

10. Strychnos Ignatia. Bean of St. Ignatius. *The seed.*

Pentandria, Monogynia.

Hab. Philippine Islands.—*Tree.*

Affords a large proportion of strychnia, and some brucia. Superseded by the foregoing. Also, strychnos tieuté; its aqueous cortical extract affording the poison *upas tieuté.* Effects the same as from nux vomica.

Antidotes. Evacuate the stomach. Probably, Vegetable Astringents and Narcotics. Donné has proposed Iodine and Bromine; but their compounds with Strychnia have about the activity of the Alkaloid. (See Remarks introductory to this Order.)

11. Arnica Montana. Leopard's Bane. *The flowers, leaves and root.*

Syngenesia, Polygamia Superflua.

Hab. Europe; Siberia; Canada.—*Herbaceous.*

"Cathartic, emetic, diuretic, diaphoretic, and emmenagogue." Employed in "dysentery, diarrhœa, intermittent fever, rheumatism, gout, dropsy, chlorosis, and various other complaints;" but is only appropriate to paralysis and amaurosis.—*Dose*, of Powder, grs. v. to x. ℞. Arn. Mont., ℥ ss.; Water, ℥ xvj.; M. Macerate; strain.—*Dose*, ℥ ss. to ℥ j. Also, ℞. Ethereal Oil of Arnica flowers, drops iv.; Spirit of Nitric Ether, ℥ ss.; M.—*Dose*, 5 to 20 drops, 4 or 5 times a day.

12. Rhus Toxicodendron. Poison Oak. Rhus Vernix. Swamp Sumach. Rhus Pumilum. Dwarf Sumach. *The leaves.*

Pentandria, Trigynia.

Hab. United States.—*Shrub.*

Dose, of Powder, grs. j. to v., till a prickling of the skin, or some other manifest effect takes place. Also, a *Tincture*, and an *Extract* of the fresh leaves. Exhibited two or three times a day.

Employed in paralysis. Very poisonous to the skin, when applied fresh.

13. Delphinium Staphysagria. Stavesacre. See p. 133, No. 8, for *Dose*, &c.

14. Veratria. See p. 132, No. 6, for *Dose*, &c. Applied, also, externally, in cases of paralysis.

15. Iodinium. Iodine.

In paralysis.

ORDER IV.

MOTO-PARALYSANTS.

This order is introduced to illustrate the vital relations of remedial agents under special conditions of the system. So far as known, it comprehends such as will paralyze the voluntary muscles in their natural state, while they appear incapable of counteracting effectually the spasms which are produced by the tetanics, or those of tetanus arising spontaneously or from wounds. On the other hand, they relieve permanently the spasms which affect the muscles in organic, and in animal life when not of a tetanic nature. (See *Remarks* at p. 291, No. 14. Also, *Institutes of Medicine*, p. 323–332, § 500, *c–o;* p. 417, § 650.) The following is the only substance which clearly falls under the present denomination.

Conium Maculatum. Poison Hemlock.
See p. 117, No. 32, or *Index*.

The Alkaloid *Conia* is especially rapid in its paralyzing, as well as destructive, action. When two drops, neutralized by dilute Muriatic Acid, were injected into the femoral vein of a young dog, it "killed the animal in two or three seconds at farthest;" or before it could have reached the nervous centres, and the poison, therefore, being thus shown to produce its effects sympathetically. (See *Institutes*, p. 671–676, § 904, *a*, *b*.)

The following is the elementary *composition* of Conia:

Carbon, 66.913. Hydrogen, 12.000. Nitrogen, 12.805. Oxygen, 8.282=100.

ORDER V.

SENSO-PARALYSANTS,

In the order of their value.

The members of the present group are such as diminish morbid sensibility, but are not soporific in their therapeutical doses, excepting as sleep may follow the subsidence of pain. The anodyne soporific narcotics, therefore, are not admitted into this order. It is also a remarkable characteristic of the purely senso-paralysants that their effect is mostly limited, as it regards sensibility, to morbid states of the nerves, and perhaps, also, the superficial nerves, and that they greatly fail of assuaging the pain which is incident to those affections of other tissues over which opium exerts its powerful control. It is also an interesting fact, physiological as well as practical, that opium is inefficient where the senso-paralysants reach so profoundly the exalted sensibility of the external nerves. (See, in connection, remarks introductory to Order IV., p. 310, and at p. 39, No. 14. Also, *Institutes of Medicine*, p. 357, 358, § 526, *d.*)

1. Aconitum Napellus. Monkshood. Aconite.

See p. 134, No. 12, for *Dose*, *Preparations*, &c.

In neuralgia and neuralgic rheumatism. Also, externally. See p. 220, No. 1.

2. Asagræa Officinalis. Spike-flowered Asagræa. Active principle, *Veratria.*

See p. 232, No. 6, for *Dose*, *Preparations*, &c.

In neuralgia and rheumatism. Also, externally. See p. 219, No. 5.

3. Atropa Belladonna. Deadly Nightshade. *The leaves.*

Pentandria, Monogynia.

Hab. Europe.—*Herbaceous.*

Dose, of Powdered Leaves, gr. j., gradually increased till its effects are manifested by an abatement of pain, or by dryness of the throat, dilatation of the pupils, or by unusual sensations in the head.

(*a.*) *Extract of Belladonna.—Dose.* grs. j. to v., repeated two or three times a day, and cautiously increased, till some effect is produced.

(*b.*) *Tincture of Belladonna.—Dose*, 20 to 50 drops, and given, as above.

In neuralgic affections. Also, externally. (See p. 221, No. 4.)

The alkaloid, *Atropia*, is one of the most energetic poisons. (See *Institutes*, &c., relative to its supposed operation by absorption, p. 673, § 904, *b.*)

4. Delphinium Staphysagria. Stavesacre. *The seeds and alkaloid, Delphinia.*

See p. 133, No. 8, for *Dose*, &c. Also, *Index.*

In neuralgia and neuralgic rheumatism. Also, externally. (See p. 221, No. 2.)

5. Datura Stramonium. Thorn Apple. Jamestown Weed. *The leaves and seeds.*

Pentandria, Monogynia.

Dose, of Powdered Leaves, gr. j. *Dose*, of Powdered Seeds, gr. ½. To be repeated two or three times a day, and gradually increased till some effect is manifested.

(*a.*) *Extract of Stramonium.—Dose*, a quarter of a grain, gradually increased.

(*b.*) *Tincture of Stramonium.—Dose*, 10 to 30 drops, gradually increased.

In neuralgia and rheumatism, especially the former.

It is the remarkable property of Stramonium, Belladonna, and Hyosciamus, whether taken internally or applied externally, to reduce the *irritability* (rarely the *sensibility*) of the optic nerve, in its relation to light, so that the well-known effect of dilatation of the iris follows as a consequence. The *Antisodus Lucidus*, a native of Nepaul, is said by Dr. Lejeune to possess a greater power than the foregoing agents of dilating the pupils; reaching even the specific sensibility of the retina, and thus producing, as in the excessive use of stramonium, &c., temporary blindness. (See *Institutes*, &c., p. 89, § 188; p. 100–103, § 194–203; p. 340, § 514, *k.*)

It is farther worthy of remark that smoking stramonium leaves is quite an efficient remedy for spasmodic asthma, when the internal use will have comparatively little or no effect.

Antidotes. The same as for poisoning by opium.

The distinguished Dr. Graves of Dublin, having recommended the use of belladonna in those very formidable cases of fever in which a contracted state of the pupil shows a profound lesion of the brain, proceeds "*to suppose that the state of the brain which accompanies dilatation of the pupil is different from that which accompanies contraction; and, if belladonna has an effect in producing that cerebral state which is attended with dilatation, it is not going too far to infer that its administration may do much toward counteracting the opposite condition; neither is it unphysiological to conclude, that if a remedy be capable of counteracting,*

or preventing, one very remarkable effect of a certain morbid state of the brain, it may also counteract other symptoms connected with the same condition." (*Dr. Graves, in Dublin Journal of Medical Science*, July 1, 1838.)

I also farther submit, whether examples of the foregoing nature, emanating from the highest sources in Medicine, should admonish us to beware of reasoning hypothetically as to the virtues of remedial agents, and to rest our conclusions upon the facts which experimental observation may supply. (See examples of a coincident practice and philosophy, in *Institutes of Medicine*, p. 715–722, § 960.)

6. Ferri Sesquioxydum. Sesquioxide of Iron. See p. 261, No. 10, for *Dose*, &c. In neuralgia.

7. Potassii Ferrocyanidum. Ferrocyanide of Potassium.

Comp. Cyanogen, 36.620. Iron, 13.145. Potassium, 37.560. Water, 12.675=100.

Dose. Grs. xv. to xl. In neuralgia.

8. Oleum Terebinthinæ. Oil of Turpentine. Obtained by distillation from a mixture of American Turpentine and water.

The oleo-resinous substance is a natural product of the genus *Pinus*, but is mostly supplied by the *Pinus Palustris* especially, and by the *Pinus Tæda* in part.

Comp. of Oil of Turpentine. Carbon, 88.23. Hydrogen, 11.76 =99.99.

Dose. 20 drops to ʒ j. In neuralgia, particularly sciatic. (See *Index.*)

9. Camphora Officinarum. Camphor.

See p. 298, No. 4, for *Dose*, &c.

Its use in this group is mostly limited to morbid states of sensibility in the genito-urinary organs, in painful affections of the intestines unattended by inflammation, and as an external application for the relief of rheumatic pain.

ORDER VI.

CEREBRO-SPINO-DEPRESSANTS,

In the order of their value.

Agents of this order so modify the nervous power as to render it a depressing agent to all the organic properties and functions. It is only the first which has much value in medicine, unless *Loss of Blood* be admitted into this group of remedies. (See *Institutes of Medicine*, p. 107–111, § 225–233¾; p. 667–672, § 902, *e*–904, *a*; p. 703–711, § 940–952, *h*.)

1. Potassæ Antimonio-Tartras. Tartrate of Potash and Antimony. Tartarized Antimony.

See p. 77, No. 2, and p. 97, No. 13, for *Doses*, &c.

Applicable to all acute, and many chronic forms of inflammation.

2. Acidum Hydrocyanicum. Hydrocyanic Acid.

See p. 182, No. 6, for *Dose*, &c.

3. Potassii Cyanidum. Cyanide of Potassium.

See p. 136, No. 15, for *Dose*, &c.

4. Zinci Cyanidum. Cyanide of Zinc.
See p. 183, No. 8, for *Dose*, &c.

5. Zinci Ferrocyanidum. Ferrocyanide of Zinc.
See p. 183, No. 9, for *Dose*, &c.

6. Cerasus Lauro-cerasus. Cherry Laurel. *The volatile oil and distilled water.*
See p. 301, No. 17, for *Dose*, &c.

7. Amygdalus Communis. Bitter Almond. *The oil, &c.*
See p. 185, No. 19, for *Dose*, &c.

8. Digitalis Purpurea. Purple Foxglove. *The leaves.*
Didynamia, Angiospermia.
See p. 192, No. 21, for *Dose*, &c.
Antidotes. Emetics, Stomach-pump, Ammonia, and Alcoholic Stimulants.

9. Nicotiana Tabacum. Virginian Tobacco. *The leaves.*
Dose, of *Infusion*, 60 to 100 drops. Of the *Wine* or *Tincture*, 10 to 60 or 100 drops. (See p. 88, No. 26.)
In tetanus, ischuria and dysury, colic, ileus, strangulated hernia, spasmodic asthma.

10. Lobelia Inflata. Indian Tobacco.
See p. 84. No. 13.

Class V.—ASTRINGENTS INTERNAL.

Perhaps enough was said in the general remarks, at page 12, of the *modus operandi* of astringents, especially when applied internally. That they should have been so long and universally supposed to operate by physically astringing the vessels, whether in hemorrhage or diarrhœa, is an evidence of the great disposition of the human mind to seek for the tangible objects of sense in explaining the phenomena of living beings, and to apply to their unique organization and powers the laws of inorganic matter. I believe, however, that it will be ultimately conceded that astringents operate, like all other positive remedial agents, by modifying the living properties and actions of the secerning vessels, by which the redundant secretions of blood, or other fluids, are arrested. We shall then have placed the operation of this group of agents upon the same physiological ground as that of all others. The first agent in this class, which possesses no astringent principle, but exerts the effects of the most powerful under particular circumstances of disease, illustrates the mode in which the pure astringents bring about corresponding results. And so of Ipecacuanha, Ice, &c. (See *Institutes of Medicine*, p. 570–578, § 890.)

Decoctions or Infusions of the vegetables which are characterized by astringency are preferable to the substances in powder.

Astringents in the order of their relative therapeutic value.

1. OPIUM. (See p. 287, No. 8.)

The *Dose* is very variable, from the tenth part of a grain to one grain.

Employed in diarrhœal affections, dysentery, and excessive secretions from the pulmonary mucous membrane. Simultaneously, also, it diminishes the natural products of the liver, kidneys, &c. Indeed, there is no secreted product, even in health, which it does not diminish, unless it be the sweat, and this often decreases greatly under its influence. The bile, the urine, saliva, intestinal mucus, all abate in their healthy conditions, during the operation of opium; and their morbid redundances are more remarkably diminished.

All this shows that it is a great mistake to suppose that opium arrests diarrhœa by simply diminishing peristaltic action. Moreover, if that were its special influence, the intestinal and hepatic secretions should go on as usual, and accumulate in the bowels, which is contrary to fact.

The modes in which opium effects the foregoing results are various. Partly, indeed, by diminishing peristaltic action, but more so by lessening irritability of the intestinal mucous tissue and of other organs, and by some direct alterative action upon the secerning vessels of that tissue, and of the liver, &c. These influences, too, which terminate in the sensible result which is the common object of the true astringents, as they are called, are attended by other phenomena which concur with the incidental effects of the pure astringents in demonstrating the physiological influences of the entire class

of astringents. The true astringents, for example, are detrimental in the active forms of inflammation, and their internal use under any circumstances is not often desirable. It is, however, quite otherwise with opium. This agent is exceedingly valuable in many active forms of inflammation of the intestinal mucous tissue that are attended by mucous and serous discharges. It aids in subduing the pathological cause by moderating irritability and sensibility, and by arresting peristaltic action, and often, too, by diminishing the production of redundant bile, and thus removing an irritating cause from the intestinal canal, as well as inducing a more or less salutary change in the state of the liver. In all these conditions, too, opium is often an important counter-agent to the irritating effects of cathartics; the cathartics being given under cover, as it were. Coming to other forms of intestinal discharges, such as attend cholera morbus, cholera infantum, common diarrhœa, the diarrhœa of consumption, &c., opium is the only astringent which should ever be employed; and in all these cases, its effects surpass any useful results that are often witnessed from other astringents when employed for other purposes. So, also, in the diarrhœas that are incident to fevers, either in their early or advanced stages, there is no astringent, in a general sense, that operates so advantageously as opium; though catechu, &c., may sometimes do as well.

There are few conditions arising, in which astringents are indicated by intestinal discharges, in which opium will not be preferable to any of the ordinary astringents. Its use, however, demands circumspection as to time, quantity, combination with other remedies, preliminary treatment, &c. Different preparations are, also, most

useful under different circumstances of intestinal disease, sometimes solid opium, sometimes the tincture, often the camphorated tincture, and in another case the salts of morphia, &c. It is, however, mostly in intestinal derangements that opium is useful as an internal astringent. But these are far more common than all other morbid states for which internal astringents are administered. I may add, however, that in my hands great advantages have resulted from opium in restraining excessive menstruation. For this purpose I have generally employed the camphorated tincture.

The expression, "checking the secretions" by astringent or other remedies is very vague, and only implies a consequence of the vital changes which are instituted by the remedial agents. Whether, therefore, the secretions will be checked by opium, or by astringents, or by loss of blood, or by blisters, &c., the same principles are concerned in all the cases. Each of the remedies brings about the diminution of the secretions by first altering the morbid states upon which they depend. A new action is substituted, by which the results are necessarily changed. And how arises the analogous effect of opium in arresting the operation of purgatives? How does it diminish the secretions in this case? By lessening intestinal irritability, in consequence of which the purgative no longer exerts its action, and, of course, the redundant secretions of the intestinal mucous tissue of the liver, &c., cease to be produced; though partly, also, from a preternatural change exerted by the opium upon the organic functions of those parts. It is, therefore, only a symptom of a new physiological or pathological state which opium produces in the organs whose secretions are arrested or diminished, in all the cases

under consideration, and the redundant and morbid secretions are no more diseases than the dropsical fluid after it is transferred from the abdomen to a receiver. They are only symptoms, and are exactly on a par with a hard pulse, or headache, or any other symptom. Their only interest is to conduct us to a knowledge of the pathological conditions upon which they depend. The whole philosophy which concerns this subject is extensively applicable to the practice of medicine. (*Institutes*, p. 89, § 188, &c.; p. 567, § 889, *k*; p. 570–578, § 890; p. 587, § 891, *i*; p. 628–630, § 892⅔–892¾, *b*; p. 639, § 892⅘, *g*; p. 665, § 901.)

2. Pulvis Ipecacuanhæ et Opii. Compound Powder of Ipecacuanha and Opium. Dover's Powder.

See p. 102, No. 13, for *Dose*, &c.

In dysenteric and diarrhœal affections.

3. Plumbi Acetas. Acetate of Lead.

Comp. Oxide of Lead, 58.9. Acetic Acid, 26.8. Water, 14.3= 100.

Dose. Grs. j. to v., once in 2 to 6 or 8 hours. In cases of emergency, ℈ j. to ʒ j.

Employed in the following affections; being most useful in the order in which they are stated. Uterine hemorrhage; hæmatamesis; hæmoptysis; chronic diarrhœa, and dysentery; excessive expectoration, and night sweats, attendant on phthisis; salivation from mercury. Its uses, however, are mostly limited to the hemorrhagic affections, over which it exerts a powerful control, and is therefore peculiarly valuable in alarming cases, especially in hemorrhage from the uterus.

In hemorrhages which immediately endanger life, this agent may be employed in doses of a scruple to one

drachm. There is no doubt of the safety of such doses, and that they may be repeated once in two hours, or oftener, for two or three times, if necessary. Prof. Stephenson, late of Montreal (Canada), often employed it habitually in doses of one drachm; and Prof. Holmes, of the same place, exhibits it "in doses of 5 to 10 grains once in 2 to 4 or 6 hours, in hæmoptysis, epistaxis, menorrhagia, &c." Mr. Hiff relates a case, in the London Medical Repository, in which an ounce of this salt, in solution, was taken with the effect, only, of occasioning colic and vomiting, and a very temporary numbness and rigidity. Dr. Latham says it may be eaten like lump-sugar; and Dr. Webster states an instance in which ʒ ij. were swallowed along with ℥ ij. of Sulphate of Magnesia, with no other effect than that of purging. Van Sweiten supplies, in his Commentaries, the case of a young nobleman who took one drachm daily, at a dose, for ten successive days, before any unusual effect took place, when he was seized with colic, but recovered.

The foregoing statements are made in consequence of the unfounded opinion that the Acetate of Lead is particularly liable to induce the colica pictonum. Van Sweiten shows that the colic and paralysis, which are imputed to lead, are often due to other causes; the same colic being sometimes endemic. In cases, however, which are not immediately alarming, *one* or *two* grains are enough at a dose; and the Author has rarely employed more than *one grain.*

Combinations. The Acetate of Lead, especially in its small doses, is commonly much improved by the addition of a half to one grain of Ipecacuanha, and small proportions of Morphia or Opium, to each dose.

Antidotes. In cases of *poisoning*, a solution of Sulphate of Soda, or Magnesia, or Potash, &c. In *Lead paralysis*, nux vomica, &c. In Lead colic, a solution of alum, cathartics, opiates, &c.

4. CUPRI SULPHAS. Sulphate of Copper.

Dose. Gr. ¼ to grs. ij., avoiding its action as an emetic. (See p. 83, No. 9.) Mostly useful in hemorrhages.

Comb. ℞. Sulphate Copper, grs. iij.; Water, ʒ ij.; Sulphuric Acid, 20 drops; M.—*Dose*, 15 to 20 drops, once an hour to six hours, in pulmonary, uterine, or other hemorrhages. ℞. Sulph. Copper, grs. vj.; Opium, grs. iij. or iv.; Ext. of Liquorice, ℈ j.; M. Divide into 12 pills.—*Dose*, one pill twice or thrice a day in chronic diarrhœa and dysentery. Also, in profuse secretions from the bronchial and urino-genital mucous tissues.

5. POTASSÆ ALUMINO-SULPHAS. Alumen. Alum.

Comp. Alumina, 10.76. Potash, 9.95. Sulphuric Acid, 33.74. Water, 45.55=100.

Dose. Grs. x. to ʒ ij.; according to the nature of the affection.

Mostly useful in restraining hemorrhage after parturition, where it is very efficient, especially in connection with ice applied to the internal surface of the uterus.—*Dose*, ʒ j. to ʒ ij., repeated in 15 to 30 minutes; with Ergot, also. In hæmoptysis, hæmatamesis, hæmaturia, &c., the *Dose* must be regulated by the urgency of the case. In colliquative sweating, gleet, chronic diarrhœa, leucorrhœa, and diabetes, the *Dose* is grs. x. to xx. Applied, also, externally, to superficial hemorrhages. The

best remedy for lead colic, when the *Dose* is ʒ j. to ʒ ij., once in three or four hours.

6. Acacia Catechu. The Catechu Acacia. *Extract of the wood.*

Polygamia, Monœcia.

Hab. East Indies.—*Tree.*

Dose. Grs. x. to ʒ j., in bolus. *Infusion.* ℞. Catechu, ʒ iiss.; Boiling Water, ℥ viij.; M. Digest two hours; strain.—*Dose*, ℥ ss. to ℥ j.; three or four times a day.

(*a.*) *Tincture of Catechu.—Dose*, ʒ j. to ʒ ij. Generally combined with opiates, or prepared carbonate of chalk, &c.

(*b.*) *Compound Electuary of Catechu.—Dose*, ℈ j. to ʒ ij. Generally compounded with opiates, prepared chalk, cinnamon.

In hemorrhages, especially intestinal; immoderate flow of menses; chronic diarrhœa and dysentery.

7. Pterocarpus Erinaceus, and P. Marsupium. *The Concrete Exudation.*

Diadelphia, Decandria.

Hab. of *P. erinaceus*, Senegambia; of *P. marsupium*, Circar Mountains and coast of Malabar.—*Trees.*

There is still some uncertainty as to the true source of the genuine Kino. It is doubtful whether any of the varieties is yielded by the *P. erinaceus*. The best, or *East Indian Kino*, is the product of the *P. marsupium*. The *Botany Bay Kino* is obtained from the *Eucalyptus resinifera*, or Brown Gum Tree, and the *Jamaica* Kino from the *Coccoloba uvifera*, Seaside Grape.

Dose. Grs. x. to ʒ ss., in bolus.

(*a.*) *Tincture of Kino.*—*Dose*, ʒ j. to ʒ ij.

(*b.*) *Compound Powder of Kino.*—*Dose*, grs. v. to ℈ j. Generally compounded with opiates, prepared chalk, cinnamon.

In obstinate forms of chronic diarrhœa; intestinal hemorrhage; leucorrhœa.

8. Uncaria Gambier. The Gambir-Catechu. *Extract from the leaves.*

Pentandria, Monogynia.

Hab. East Indian Archipelago. Sixty thousand Gambir Plantations on the Island of Bintang.—*Shrub.*

Sold as Catechu. Its *uses* and *doses* the same as of Catechu.

9. Geranium Maculatum. Cranebill Geranium. Spotted Geranium. *The root.*

Monadelphia, Decandria.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ℈ j. to ℈ ij. *Decoction.* ℞. The Root, ʒ j.; Water, ℥ xij.; Boil to ℥ viij.—*Dose*, ʒ ss. to ℥ iss.

Employed in the same cases as Catechu and Kino.

10. Rheum Palmatum. Rhubarb.

Has the remarkable property of proving astringent, by its alterative action, after exerting its cathartic effect in diarrhœa, as, also, in smaller doses where no such effect may precede the astringent. In all cases of this nature, at all ages, when unattended by inflammation of the intestines, it is a most valuable astringent cathartic, and especially so in what are denominated attacks of indigestion. In the latter cases, it is commonly

associated with magnesia and mint water, and given in *Doses* varying from grs. v. to xxv. At other times, and in analogous affections, the *Dose* may be only gr. j. to grs. v. Also, the *Tincture and Extract.* (See p. 101, No. 19, and *Institutes*, p. 571, § 890, *b.*)

Burnt Rhubarb is also often advantageously employed in diarrhœa.

11. Oleum Terebinthinæ. Oil of Turpentine.

See p. 314, No. 8, for *Dose*, &c.

Placed here on its strong recommendation by Dr. Copland, and some others, as a remedy for various internal hemorrhages. "It acts," says Dr. Willshire, "more quickly than any other astringent, and may be administered both in the active and passive forms of hemorrhage."

Like many other agents of this group, the remedial virtues of Oil of Turpentine are *sui generis*, and go, with the rest, to illustrate the vital principles on which all "astringents" operate.

12. Statice Caroliniana. Marsh Rosemary. *The root.*

Pentandria, Pentagynia.

Hab. United States.—*Herbaceous.*

In the same cases and doses as Geranium.

13. Potentilla Tormentilla. Common Tormentil, or Septfoil. *The root.*

Icosandria, Polygynia.

Hab. Europe.—*Herbaceous.*

In the same cases and doses as Geranium.

14. Heuchera Americana. Alum Root. American Sanicle. *The root.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

In the same cases and doses as Geranium. The *H. Caulescens* (indigenous) possesses the same virtues.

15. Tinctura Ferri Sesquichloridi. Tincture of Muriate of Iron.

Dose. 12 to 30 drops. (See p. 260, No. 8.)

Valuable in hæmatamesis. Employed, also, in hemorrhages from uterus, kidneys, and bladder; in gleet, leucorrhœa, and chronic diarrhœa.

16. Liquor Ferri Persesquinitratis. Solution of Nitrate of Iron.

In the same cases and doses as No. 15. (See p. 262, No. 16.)

16½. Cephælis Ipecacuanha. Ipecacuanha.

Dose. Gr. j. to grs. v. (See p. 100, No. 18.)

Ipecacuanha, in small doses, has been very justly extolled as a remedy for hæmoptysis. It is also the best internal remedy for dysentery, and, what is peculiar to it, in the present group, it is especially suited to the active inflammatory stage of dysentery. It is the only agent, in the present class, that can be administered with advantage, or even with safety, in pulmonary hemorrhage when the effusion is not large. In all the cases it is beneficial by striking at the pathological cause.

Ipecacuanha, therefore, is another remedy which illustrates the principle upon which astringents operate, and points out the absurdity of the physical *rationale*, since ipecacuanha possesses nothing of what is denom-

inated *astringency*. It is a valuable agent for restraining the hemorrhage attendant on abortion, especially; nor is its influence owing to any nauseating effect, since it is administered in doses of one grain only. Consider, too, the manner in which it increases the anti-hemorrhagic effect of the acetate of lead, and that the sulphate of copper probably does not restrain hemorrhage till it produces nausea, and you will then see yet farther that the physical doctrines of life and disease, now almost universal, must be abandoned as unworthy the present age.

It will be borne in mind that, in arranging these substances, their degree of "*astringency*" is not taken as the basis; but their relative remedial virtues.

17. SECALE CEREALE. Rye. *The ergotted seed.* Ergot.

Triandria, Digynia.

Hab. The Caucasian-Capsian Desert.—*Herbaceous.*

Dose. In its relations to the present class, grs. x. to xv., three or four times a day.

Infusion. ℞. Ergot Bruised, ʒ j.; Boiling Water, ℥ iv. Digest till cold; strain.—*Dose.* ℥ ss. to ℥ iss.

(*a.*) *Tincture of Ergot.—Dose*, ʒ ss. to ℈ ij.

(*b.*) *Oil of Ergot.—Dose*, 10 to 30 drops.

In hemorrhages generally, especially uterine; leucorrhœa; gonorrhœa. Dr. Negri justly supposes that "secale cornutum has a peculiar action on the mucous membranes; but if exhibited when there is a state of acute inflammation, their morbid secretions may be considerably increased; on the contrary, when a mere chronic form of inflammation exists, this agent may

have a beneficial influence in arresting their preternatural discharge." (See *Institutes*, p. 61, § 134; p. 63, § 137, *d*, *e*; p. 67, § 150–151; p. 73, § 163; p. 571–577, § 890.)

The spurred rye, being destitute of the astringent virtue, supplies another example in illustration of the principles which I have propounded as to the *modus operandi* of the pure astringents. Pereira says in his Materia Medica, that "the power possessed by ergot of exciting uterine contractions readily explains the efficacy of this agent in restraining sanguineous discharges from the womb; but we can in no way understand how hemorrhage from other organs can be influenced by it." Now, it should be understood that ergot will restrain menorrhagia when it is evident that it produces no impression upon the muscular substance of the womb, but upon its mucous tissue alone. (See *Institutes*, p. 627, 628, § 892⅔, *o*.)

18. Quercus Infectoria. The Gall, or Dyer's Oak. The morbid excrescences, called Nut-galls, and Tannic Acid or Tannin.

Dose, of Powdered Galls, grs. x. to xx.—*Dose*, of Tannin, or Tannic Acid, grs. ij. to iv.—*Infusion*. ℞. Galls, ʒ iv.; Boiling Water, ℥ vj.—*Dose*, ℥ ss. to ℥ j.

In intestinal and pulmonary hemorrhages, leucorrhœa, chronic mucous discharges, gonorrhœa. (See p. 134, No. 1.)

Also, a general *antidote* for poisoning by narcotics and vegetables yielding alkaloids; as are, also, infusions of other vegetables containing tannic acid.—*Dose*, ℥ iv.

19. Acidum Sulphuricum. Sulphuric Acid.

See p. 265, No. 29, for *Dose*, &c.

Intestinal hemorrhages, colliquative sweats, &c.

If the manner be now considered in which Tannic Acid and Vegetable Astringents effect the tanning of hides, and the permanency of the change, the fallacy of identifying their mode of action upon living tissues with the physical process must be abundantly obvious. (See *Institutes*, for *modus operandi*, p. 530, § 837, *c*, &c.)

20. Calcis Carbonas. Carbonate of Lime.

Comp. Lime, 56. Carbonic Acid, 44=100.

The substance employed is the *Prepared Carbonate of Lime*, or *Prepared Chalk*.

Dose. Gr. j. to ℈ j.

Comb. Often united with opium, catechu, and other astringents.

Operates mostly as an antacid, but exerts, also, the effects of the pure astringents, without possessing their characteristic property.

21. Rumex Crispus. R. Obtusifolius.

Virtues analogous, but inferior to those of rhubarb, and employed in the same cases.

Decoction of Root and *Dose* like those of Geranium. (See p. 65, No. 40.)

22. Geum Rivale. Water Avens. *The root.*

Icosandria, Polygynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, ʒ ss. to ʒ j.; or in Decoction.

In the same cases as catechu.

23. Artanthe Elongata. (*Piper Angustifolium.*) Narrow-leaved Pepper. Mattico. *The leaves.*

Diandria, Trigynia.

Hab. South America.—*Herbaceous.*

Infusion. ℞. The Leaves, ℥ ss.; Boiling Water, ℥ viij.; M. Strain.

Dose. ʒ ij. to ℥ ss.

Tincture. ℞. The Leaves, ℥ j.; Diluted Alcohol, ℥ viij.; M.

Dose. ʒ ss. to ʒ ij.

In hæmoptysis, hæmatamesis, chronic diarrhœa, chronic dysentery. (See p. 235, No. 5.)

24. KRAMERIA TRIANDRIA. Rhatany. *The root and extract.*

Tetrandria, Monogynia.

Hab. Peru.—*Undershrub.*

Dose. Powder of Root, grs. x. to ʒ ss.

Infusion. ℞. Krameria, ℥ j.; Boiling Water, ℔ j.; M. Digest for four hours; strain.—*Dose*, ℥ j. to ℥ ij.

(*a.*) *Extract of Rhatany.*—*Dose*, grs. x. to xx. Generally employed.

(*b.*) *Tincture of Rhatany.*—*Dose*, ʒ ss. to ʒ ij. Commonly employed as an adjunct to chalk mixtures, and as a gargle with water.

(*c.*) *Syrup of Rhatany.*—*Dose*, ʒ j. to ℥ ss.

In hemorrhages, diarrhœa, chronic dysentery, &c. Stimulant and astringent.

By digesting Rhatany in sulphuric ether, a soluble extract is obtained of great astringency, and has been employed in hemorrhages after parturition and miscarriages.—*Dose*, grs. v. to x. Injected, also, in leucorrhœa, gleet, &c., grs. ij. to v. in Barley Water, ℥ xij.

25. GEUM URBANUM. European Avens. Herb Bennet. *The root.*

Icosandria, Polygynia.

Hab. Europe.—*Herbaceous.*

Dose. ʒ ss. to ʒ j., in Powder or Decoction. In the same cases as No. 22.

26. Sodii Chloridum. Chloride of Sodium. Common Salt.

Dose. ℥ ss., repeated, if necessary. In hæmoptysis.

Another agent without astringency, and illustrative of the physiological views advanced by the Author in relation to the *Modus Operandi* of this class of remedies.

See p. 59, No. 27.

27. Spiræa Tomentosa. Hardhack. Steeple-Bush. *The root and extract.*

See p. 70, No. 53, for *Dose*, &c. Tonic and astringent.

In diarrhœa and analogous affections, unattended by inflammation.

28. Polygonum Bistorta. Bistort. Snake-Weed. *The root.*

Octandria, Trigynia.

Hab. Europe.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ ss.; or an equivalent *decoction.*

In hemorrhages, especially intestinal, and as in No. 27.

29. Rubus Villosus. Blackberry. Rubus Trivialis. Dewberry. *Bark of root.*

Icosandria, Polygynia.

Dose, of Powder, ℈ j. to ʒ ss.; or an equivalent decoction, which is much preferable.

Tonic and actively astringent. Employed in the same cases as No. 27. In popular use.

30. Zinci Sulphas. Sulphate of Zinc.

Dose. Gr. j. to grs. v.

In the same cases as Catechu.

Comb. ℞. Sulph. Zinc; Sulph. Copper; M.—℞. Sulph. Zinc; Ipecacuanha; M. In hemorrhages.

See p. 80, No. 3.

31. Ferri Sulphas. Sulphate of Iron.

Dose. Gr. j. to grs. v. See p. 261, No. 13.

In hemorrhages, chronic catarrh, leucorrhœa, colliquative sweating, gleet, old dysenteric affections. Astringent and actively tonic.

32. Nymphæa Odorata. Sweet-scented Water Lily. *The root.*

Polyandria, Monogynia.

Hab. United States.—*Herbaceous.*

Dose. ʒ ss. to ʒ ij., in powder or infusion.

Chronic diarrhœa, dysentery, &c. Astringent.

33. Agrimonia Eupatoria. Common Agrimony. *Herb and root.*

Dodecandria, Digynia.

Hab. United States; Europe; Asia.—*Herbaceous.*

Dose, of Powder, ʒ j. to ʒ ij., or in decoction. Astringent. In same cases as Geranium.

34. Quercus Alba. White Oak. Q. Tinctoria. Black Oak. Q. Robur. British Oak. *The bark.*

Monœcia, Polyandria.

Dose, of Powder, ʒ ss. to ʒ j., or in decoction. Astringent; tonic. In same cases as Rubus.

35. HÆMATOXYLON CAMPECHIANUM. Logwood. *The wood and extract.*

Decandria, Monogynia.

Hab. Campeachy.—*Tree.*

In the same *Cases* and *Doses* as Geranium. Astringent.

36. EUPHORBIA HYPERICIFOLIA. Astringent Euphorbia. *The leaves.*

Dodecandria, Trigynia.

Hab. United States.—*Herbaceous.*

Infusion. ℞. The Leaves, ʒ ss.; Boiling Water, ℔ j. Digest; strain.—*Dose*, ʒ ss. to ʒ j.

A mild astringent, employed in diarrhœa, dysentery, leucorrhœa, &c.

37. ARGILLA PURA. Armenian Bole. Pure Alumina.

In dysentery, diarrhœa, &c. Forms astringent salts in the primæ viæ.

38. DIOSPYROS VIRGINIANA. Persimmon. *The bark.*

Diœcia, Octandria.

Hab. United States.—*Tree.*

Dose. Grs. xx. to ʒ ss., or in decoction. Tonic and astringent. In same cases as Rubus.

MORE OR LESS OBSOLETE.

39. ALCHEMILLA VULGARIS. Ladies' Mantle. 40. POTENTILLA REPTANS. Cinquefoil. 41. BOLETUS

Larycis. Purging Agaric. 42. Lythrum Salicaria. Loose Strife. 43. Punica Granatum. Pomegranate. 44. Anchusa Tinctoria. Alkanet Root. 45. Dracæna Draco. Dragon's Blood. 46. Pterocarpus Draco. Calamus Rotang. Calamus Draco. Dragon's Blood. 47. Prunus Spinosa. Wild Plum. 48. Vinca Minor and V. Major. Periwinkle. 49. Ajuga Reptans. Common Bugle. 50. Sanguisorba Officinalis. 51. Stachys Palustris. Marsh Nettle. 52. Sisymbrium Sophia. Flixweed. 53. Prunella Vulgaris. Healall. 54. Scolopendrium Officinarum. 55. Ceanothus Americanus. New Jersey Tea. 56. Mespilus Oxyacantha. 57. Sempervivum Majus. Greater Houseleek. 58. Gnaphalium Germanicum. 59. Vaccinium Myrtillus. Myrtle-leafed Vaccinium. 60. Myrtus Communis. Common Myrtle. 61. Galium Luteum. Yellow Cleavers. 62. Gordonia Lasianthus. 63. Rhododendron Maximum. The Great Rhododendron.

Class VI.—UTERINE AGENTS,

In the order of their value.

This group embraces only such agents as exert special influences upon the uterus in its morbid or unusual states. These influences, however, are not always direct. Nos. 5, 6, 7, 8, 9, 10, 11, for example, are indirectly emmenagogue, in most cases, by tonic and other effects upon other organs than the uterus. They may con-

tribute more or less by direct sympathy of the uterus with the impressions which they exert upon the alimentary mucous tissue; or, in other cases they prove emmenagogue by surmounting some abdominal disease upon which the uterine affection depends. (See *Institutes of Medicine*, p. 628, 629, § 892⅔; p. 683–689, § 905½; p. 617, 618, § 892½, *k*, *l*.)

1. Secale Cornutum. Ergot. Obtained from the glumes of the *secale cereale*.

Dose, of fresh Powder, ℈ j., at intervals of half an hour, for two or three doses, if necessary.

Infusion best. ℞. Bruised Ergot, ʒ j.; Boiling Water, ℥ iv. Digest for half an hour; strain.—*Dose*, one-third, or one-half, repeated as above. Also, *Decoction*, which is about the same. Boil for 10 minutes.

(*a*.) *Tincture of Ergot.—Dose*, ʒ j. to ʒ ij. *Inferior*.

(*b*.) *Oil of Ergot.—Dose*, 20 to 50 drops.

(*c*.) Lever's *Ethereal Solution of Ergot.—Dose*, 25 to 60 drops, on sugar. This is only a solution of Oil of Ergot, either of which are energetic and very safe.

Employed in the present class, to promote uterine contraction. (See p. 328, No. 17.)

Authors have not agreed as to the cause or nature of spurred rye; but it is now known to be a disease of the grain occasioned by a parasitical fungus. For a long time a popular means in Europe of accelerating parturition. Common in Germany, Italy, and France, a century and half ago. Poisonous to some animals, as flies, leeches, dogs, cats, but scarcely so, or not at all, to others. "It requires ounces to destroy rabbits and pigeons." "Twenty sheep ate nine pounds daily for

four weeks without any ill effects. Thirty cows took together twenty-seven pounds daily, for three months, with impunity."—*Pereira.* These differences in the effects of substances on different animals are very common. (See p. 296.) Pereira "made a guinea-pig swallow a fluid drachm of the *Oil of Ergot.* The only obvious effect was copious and frequent diuresis."—PEREIRA'S *Mat. Med.* The injections into the veins are worthy only of the humoral pathology.

The remarkable peculiarity of ergot consists in its action upon the gravid uterus, especially when nature is employed in the process of parturition. It then acts energetically in increasing the parturient efforts; and this effect appears to be common to all animals, so far as tried. It is less ascertained how far it is capable of affecting the uterus in its unimpregnated state, or to what extent, if any, it is capable of exciting abortion, or of instituting the process of labor. There is much reason for believing, however, that the uterine influence of Ergot is greatly limited to that condition of the womb in which the process of labor, or of abortion, has begun spontaneously, or from other causes.

When natural labor has commenced, the action of ergot upon the uterus is manifested in ten or twenty minutes, in an increase and frequency of the pains, and in their prolongation; this influence often reaching even to the expulsion of the placenta. But here it commonly ceases, which shows the probability that ergot is not much disposed to act upon the uterus as an excitant to its muscular action unless nature is instituting the same process. Nevertheless, it is not improbable that, after the expulsion of the placenta, contractions may be reproduced, especially if the remedy have not been pre-

viously exhibited, and the uterus remain imperfectly contracted. In the event of unusual hemorrhage, therefore, under these circumstances, ergot should be one of our means for arresting it. (See *Alum and Ice*, *Index*.)

It is also recommended with great confidence, by some, in hemorrhage of the unimpregnated uterus, and denied by others, as by Prescott and Villeneuve.

Ergot should never be administered till a full dilatation of the os uteri has taken place. An earlier exhibition endangers the uterus, the perinæum, and the life of the child, as well as that of the mother. Nor should it ever be exhibited where unaided nature may go through with the process of labor in her ordinary way. Economy of time is no apology for an unnecessary interference; and this is one of the occasions in which it were well that the objectors to bloodletting in inflammations and fevers, would extend their protest to the abuse of ergot. Pereira says, that "ergot has been charged with causing the death of the child, but the charge has been repelled," etc. Our eminent Dr. Hosack remarks that, "as it regards the child, ergot may with almost equal truth be denominated the *pulvis ad mortem*, as the *pulvis ad partum*, where nature is alone unequal to the task," etc. This is quoted by Pereira; but it was manifestly intended by Dr. Hosack only as a strong expression of an honest conviction, that ergot is not unfrequently fatal to the child, especially when prematurely employed. If properly used, it is an invaluable agent, rarely failing of its specific effects, and may, therefore, be often instrumental in saving mother and child.

An interesting statement, and practically important if correctly founded, has been lately made to me by Dr.

James T. Jameson, of Chenango County, New York, which evinces a more or less permanent influence of ergot upon the organic state of the uterus. Dr. J. in his former connection with the Manchester (Eng.) Lying-in Infirmary, observed and recorded several cases of parturition in which the uterine action was feeble and the labors protracted where ergot had been administered to the same individuals at a preceding accouchment. If such effects be exerted, it becomes more obvious that this agent should be employed only where nature may clearly justify the interposition; but, when once employed that its subsequent use will be probably more necessary than when the uterus has not been subjected to the influence of ergot. In its physiological aspect, it goes to illustrate the nature of the organic properties, the action of foreign causes upon those properties, the modifications which they may undergo in consequence, and the law of Vital Habit as set forth in the Author's *Institutes of Medicine*. (See *Institutes*, p. 363–370, § 535–568; p. 44 49, § 71–80; p. 620–628, § 892⅔.)

The honor of introducing this remarkable substance into the materia medica is due to our distinguished fellow-citizen, John Stearns, M.D., in 1807.

Ergot has been also employed to effect the expulsion of uterine hydatids, polypi, etc., and in leucorrhœa.

2. Cantharis Vesicatoria. Cantharides.

As an emmenagogue.—*Dose*, of Powder, 1 or 2 grains, in pill. The *tincture* should always be preferred.—*Dose*, 15 drops, morning and evening, increasing one drop at each dose, till slight strangury is produced.

It rarely happens that menstruation is effected till strangury is produced, when the medicine should be

suspended. The end may be often promoted by leeches to the thighs or perinæum, or which are often alone sufficient. Also, by exercise on horseback, proper diet, tonics, or their opposite. So, of other emmenagogues. Cantharides appears to be capable of producing abortion. (See *Index.*)

3. Guaiacum Officinale. Guaiacum.

An emmenagogue, in the absence of inflammation, plethora, etc.

Dose, of Powder, grs. x. to ʒ ss.—*Dose*, of Tincture, ʒ j. to ʒ iv.—*Dose*, of the Compound Tincture, ʒ ss. to ʒ ij., in mucilage, or milk.

4. Juniperus Sabina. The Savin Juniper. *The leaves, tops, and oil.*

Diœcia, Monadelphia.

Hab. Europe.—*Bushy Shrub.*

Infusion. ℞. The Tops, ʒ j.; Boiling Water, ℥ viij.; digest.—*Dose*, ʒ ss. to ℥ j.

(*a.*) *Oil of Savin.—Dose*, 2 to 6 drops, in mucilage. The oil is preferable to the infusion.

A powerful uterine stimulant, and efficient emmenagogue. Not admissible when any inflammation or irritable state of any important organ exists. Also, in chronic rheumatism and dropsy, rarely.

Home, Pereira, and some others, represent the Oil of Savin as the most certain emmenagogue we possess. It is, however, probably not only less certain than cantharides, but both cantharides and guaiacum, particularly the former, may be administered in many cases, especially of indigestion, where the Oil of Savin would be injurious. Cantharides is also often compatible with

irritable states of the uterus, where Savin and Guaiacum would be morbific. Which of the three could be surrendered with least inconvenience or loss?

Antidotes. Evacuate the stomach. Opiates. Bloodletting.

5. Preparations of Iron in their Order of Arrangement.

See *Tonics*, for *Doses*, etc.

6. Aloe Socotrina. Aloes.

An emmenagogue, especially if the uterine affection be complicated with hepatic derangement. Given in alterative, or cathartic doses. (See p. 39, No. 6.) May be often usefully combined with Nos. 5 and 7. (See also, No. 2.)

7. Balsamodendron Myrrha. Myrrh.

Emmenagogue. (See p. 264, No. 22, for *Dose*, &c.)

8. Mercurial Preparations, with or without Iodine.

In amenorrhœa, and other uterine affections.

See *Alteratives, Internal*, for *Dose*, &c.

9. Iodinium. Iodine.

In amenorrhœa. Most useful in scrofulous habits, where its effects are very beneficial.

See p. 104, No. 1, for *Dose*, &c.

10. Potassii Bromidum. Bromide of Potassium.

Emmenagogue.

See p. 111, No. 15, for *Dose*, &c.

11. Ipomæa Purga. Jalap.
Emmenagogue. (See No. 2.)
See p. 34, No. 3, for *Dose*, &c.

12. Juniperus Virginiana. Red Cedar. *The tops and leaves.*
Dicœcia, Monadelphia.
Analogous, but quite inferior, to No. 4. In the same diseases.
Doses rather larger.

13. Aristolochia Serpentaria. Virginian Snake-root.
See p. 152, No. 43, for *Dose*, &c.
Emmenagogue.

14. Ferula Asafœtida. Asafœtida.
See p. 298, No. 3, for *Dose*, &c.

15. Rubia Tinctorium. Madder. *The root.*
Tetrandria, Monogynia.
Hab. South of Europe.—*Herbaceous.*
Dose, of Powder, ʒ ss. to ʒ ij.
Decoction. ℞. The Root, ℥ j.; Water, ℔ j. Boil; strain.—*Dose*, ℥ j. to ℥ ij.; once in 3 or 4 hours.
Emmenagogue. Has the strong recommendation of Dr. Dewees, who places it before all other emmenagogues when employed near the expected period. If entitled to confidence, it possesses the advantage of being exempt from deleterious virtues.

16. Chenopodium Olidum. Stinking Goose-Foot. *The plant.*
Pentandria, Digynia.

Dose, of the Inspissated Juice, grs. v. to xv.

17. RUTA GRAVEOLENS. Rue. *The leaves and unripe fruit.*

Irritating to the skin. Stimulant, narcotic, and emmenagogue.—*Dose*, of Powder, ℈ j. to ʒ ss. An Infusion of the fresh herb is best. ℞. Rue, ʒ j., to Water, ʒ xvj.—*Dose*, ʒ j. to ʒ ij.—*Dose*, of Oil of Rue, 2 to 6 drops.—*Dose*, of Syrup of Rue, ʒ j. to ʒ ij., to children for flatulent colic. Also, *Confection of Rue.*—*Dose*, ℈ j. to ℈ ij. (See *Index.*)

18. SODÆ BIBORAS. Borax.

Comp. Soda, 16.84. Boracic Acid, 35.79. Water, 47.37=100.

To promote uterine contractions. Employed in connection with ergot.—*Dose*, ʒ ss. to ʒ j.

19. MENTHA PULEGIUM. Pennyroyal. Also, HEDEOMA PULEGIOIDES.

Popular remedies in amenorrhœa, hysteria, whooping-cough, etc. (See p. 281, No. 27.)

20. HELLEBORUS NIGER. Black Hellebore.

An emmenagogue. (See p. 63, No. 36, for *Dose*, &c.)

Class VII.—GENITO-URINARY AGENTS,

In the order of their value.

The agents embraced in this group possess specific relations to some one or more parts of the urinary and genital organs. (See *Institutes of Medicine*, p. 683–689, § 905½.)

1. Copaifera Multijuga. Copaiva Tree. Also, *other Species. The fluid resinous exudation.*

Decandria, Monogynia.

Hab. San Paulo; Guiana; Para; Rio; Venezuela.—*Trees.*

Copaifera Multijuga yields the principal quantity, which comes from Para and Maranham, Brazils, Carthagena, &c.

Dose, of Balsam, 15 drops to ʒ j., or more, on sugar or water, or with mucilage, or in pills formed with Magnesia. Also, in Gelatinous Capsules, each containing 10 grains of the balsam.

(*a.*) *Oleum Copaibæ.* Oil of Copaiva.—*Dose*, 10 to 20 drops, gradually increased to ʒ j., or more, on sugar or in pills formed with Magnesia. As useful, at least, as the balsam.

Comb. ℞. Copaiva Balsam, ℥ j., or Oil Copaiva, ℥ ss.; Liquor of Potash, ʒ ij.; Mucilage, ℥ iij.; Water, ℥ iij.;

Camphorated Tincture of Opium, ℥ ss.; Spirit of Nitric Ether, ℥ ss.; M.—*Dose*, ℥ ss., twice or thrice a day. ℞. The Balsam, ℥ ss.; Spirit of Nitric Ether, ℥ ss.; Sulphuric Acid, ♏ ss.; Mucilage, ℥ iij.; Water, ℥ iv.; M.—*Dose*, ℥ ss. to ℥ j. ℞. The Balsam, ♏ iij.; Powdered Cubebs, ♏ vj.; Opium, grs. iv.; Magnesia, q. s.; M. Divide into 12 parts.—*Dose*, 2 to 4 a day. ℞. The Balsam, or Oil, and Oil of Cubebs; Magnesia, q. s.; M. Make into pills. The Oil of Cubebs may be added to the first two formulæ.

Balsam of Copaiva affects particularly the mucous tissue of the urethra; a phenomenon analogous to the irritation of the neck of the bladder by cantharides, and involving a beautiful illustration of remote sympathy. (See *Institutes*, p. 61–63, § 134–137, *e;* p. 67, § 150, 151; p. 107–109, § 225–229; p. 326–327, § 500, *g–k;* p. 340, § 514, *k.*)

Copaiva is moderately stimulant to the pulmonary and gastro-intestinal mucous membranes. Deranges the stomach when long continued, or in large doses, occasioning vomiting, purging, griping, full and excited pulse, hot skin, &c. Especially adapted to gonorrhœa, to which its use is now limited, and more successful with males than females. Should not be exhibited till the activity of the inflammation is first overcome by more direct antiphlogistics, as low diet, cathartics, rest, leeching, or general bloodletting. (See p. 243, No. 3.)

2. Piper Cubeba. Cubebs. *The dried unripe fruit and oil.*

Diandria, Trigynia.

Hab. Java; Prince of Wales' Island.—*Shrubby.*

Dose, of Powder, ʒ j. to ʒ iij., three or four times a day.

(*a.*) *Oleum Cubebæ.* Oil of Cubebs.—*Dose*, ten drops, gradually increased as far as the stomach will admit, three or four times a day. Given in the same form as Copaiva, or in conjunction with it. (See *Comb.*, No. 1.)

(*b.*) *Tinctura Cubebæ.* Tincture of Cubebs.—*Dose*, ʒ j. to ʒ ij. Useful in chronic forms of gonorrhœa.

Cubebs is an acrid spice, analogous to black pepper, but, like copaiva, possesses specific relations to the urinary organs, and especially the mucous tissue of the urethra. Adapted to gonorrhœa. May be exhibited early, if the inflammation be mild; otherwise, treat as stated in No. 1. Should be soon discontinued.

3. Cantharis Vesicatoria. Cantharides.

See p. 339, No. 2, for *Dose*, &c.

A superior remedy for leucorrhœa. Slight strangury must be produced.

In paralysis of the bladder, whether retentive or incontinent, especially in the incontinence of children. Also, in obstinate gonorrhœa.

4. Strychnia, and its Salts.

In paralysis of the bladder, or of its sphyncter.

See p. 307, No. 2, for *Dose*, &c.

5. Barosma Crenata. Buchu. *The leaves.*

Dose, of Powder, ℈ j. to ʒ ss., or infusion.

Tonic, stimulant, diuretic, diaphoretic. In chronic inflammation of the mucous tissue of the bladder, where the discharge of mucus is large, leucorrhœa, inconti-

nence of urine, gleet, lithiasis, prostatic affections, and dyspepsy.

(*a.*) *Tincture of Buchu.—Dose*, ʒ j. to ℥ ss. (See p. 271, No. 57.

6. Abies Balsamea. The Canadian Balsam Fir. Balm of Gilead Fir. *The balsam.* Also, *several inferior species.*

Monœcia, Monadelphia.

Hab. Canada; United States.—*Trees.*

In gonorrhœa, leucorrhœa, chronic cystorrhœa, gleet.—*Dose*, ℈ j. to ʒ j., in emulsion.

7. Oleum Terebinthinæ. Oil of Turpentine.

In same cases as No. 6, and suppression of urine.—*Dose*, ten drops to ʒ j., in mint water.

See p. 314, No. 8.

8. Pistacia Terebinthus. The Turpentine Pistacia. *The liquid resinous exudation.*

Diœcia, Pentandria.

Hab. Syria; Grecian Archipelago.—*Tree.*

The Chian Turpentine is employed in the same cases and doses as Canada Balsam.

9. Arctostaphylos Uva-Ursi (*Arbutus Uva-Ursi*). Bearberry. *The leaves.*

Decandria, Monogynia.

Hab. Europe; Asia; America.—*Under-shrub.*

Dose, of Powder, ℈ j. to ℈ ij. *Decoction.* ℞. The Leaves bruised, ℥ ss.; Water, ℥ xvj.; M. Boil ten minutes.—*Dose*, ℥ j. to ℥ ij., every hour or two. Ext. hyosciamus usefully combined.

In catarrhus vesicæ, lessening irritation ; in the ardor urinæ of gonorrhœa, and dysury from various causes. Also, in nephritis, leucorrhœa, Has promoted the discharge of urinary calculi.

(*a.*) *Extract of Uva-Ursi.—Dose*, grs. v. to xv.

10. Cissampelos Pareira. Pareira Brava. Velvet Leaf. *The root.*

Dicœcia, Monadelphia.

Hab. West Indies ; Spanish Main.—*Climbing Shrub.*

Dose, of Powder, ʒ ss. to ʒ j. *Infusion.* ℞. The Root, ℥ j. ; Boiling Water, ℔ j. Digest ; strain.—*Dose*, ℥ j. to ℥ ij., three or four times daily. Any of the narcotics may be added.

In gonorrhœa, leucorrhœa, and chronic inflammation of the bladder, attended by discharges of ropy mucus.

11. Camphora Officinarum. The Camphor Tree.

See p. 315, No. 9, for *Dose*, Uses, &c.

In strangury and dysury, induced by cantharides, etc. ; nymphomania, satyriasis, onanism, incontinence of urine in children.

Mean dose 5 to 10 grains, or 2 to 3 grains when combined with cathartics.

I have employed it with the best success in the nocturnal emissions brought on by onanism, in doses of 15 to 20 grains, twice a day.

In these cases it is important to protect the organs, during sleep, from contact with the bed-clothes and the hands, and from too much heat. For this purpose a shield of basket-work may be employed, extending at its upper part nearly from one hip to the other, and tapering

to the lower part. The upper edge should be adapted to the convexity of the lower part of the abdomen. It is here secured by a strap above the hips. The lower part of the shield is secured by straps from the rim passing under the thighs to other straps upon the outer parts of the rim, but so loosely as to allow of some flexure of the limbs when the patient lies upon his side.

12. Tinctura Ferri Sesquichloridi. Tincture of Muriate of Iron.

In many affections of the urinary organs, as retention of urine from spasm (dose, ten or fifteen drops every ten to twenty minutes), gleet, leucorrhœa, hemorrhage from kidneys, bladder, and uterus.

Dose. Ten to thirty drops, gradually increased to ʒ j. or ʒ ij. (See p. 116, No. 28.)

13. Chimaphila Umbellata. Pipsissewa.

In the same affections as No. 9. (See p. 117, No. 31, for *Dose*, etc.)

14. Cinchona Officinalis. Cinchona.

Adapted to old chronic inflammations of the mucous tissues, and to that irritable state of the urinary mucous membrane and genital organs which is attended by nocturnal emissions. The dose must be large; of the powdered bark, ℥ ss. every morning for a short time.

15. Amyris Gileadensis. Balm of Gilead. *The balsamic substance.*

For *Dose*, &c., see p. 167, No. 20.

In gleet, leucorrhœa, gonorrhœa.

Similar to No. 6.

Class VIII.—ANTHELMINTICS,

In the order of their value.

All the agents of this class, with the exception of Tin and Iron filings, probably operate more or less destructively upon worms.

Abstinence from solid food, during the administration of anthelmintics, contributes much to their effect.

1. Chenopodium Anthelminticum Wormseed. *The seeds and oil.*

Pentandria, Digynia.

Hab. United States.—*Herbaceous.*

Dose, of Powder, for a child of two to three years, ℈ j. to ℈ ij. The oil is best.

(*a.*) *Oleum Chenopodii.* Oil of Chenopodium.—*Dose*, for same, three to eight drops, in mucilage.

The powder or oil to be given morning and evening, fasting, for four or five days; followed by calomel, castor oil, or jalap.

The leaves of the fresh plant are also employed.—*Dose*, of Juice, ʒ ss. Also, Infusion.

In cases of large round worm.

The *C. Botrys*, Jerusalem Oak, and the *C. Ambrosioides*, also possess anthelmintic, but inferior virtues.

2. SPIGELIA MARILANDICA. Carolina Pink-root. *The root.*

Pentandria, Monogynia.

Hab. Southern United States.—*Herbaceous.*

Dose, of Powder, for a child two or three years of age, eight to sixteen grains; for an adult, ʒ j. to ʒ ij. An *Infusion* is best. ℞. Spigelia, ℥ ss.; Boiling Water, ℥ xvj.; M. Macerate two hours; strain.—*Doses*, ℥ ss. to ℥ j., and ℥ iv. to ℥ viij.

Exhibited, &c., as No. 1, or may be combined with an infusion of jalap or senna. Purges in excessive doses, and proves rather an acrid narcotic, deranging the health in such cases.

In cases of large round worm. Perhaps more certain than wormseed, but more likely to disturb the system.

3. OLEUM TEREBINTHINÆ. Oil of Turpentine.

Comp. Carbon, 88.23. Hydrogen, 11.76=99.99.

Dose. ℥ ss. to ℥ ij., in mucilage or mint water. Also, enema for ascarides. (See p. 138, No. 20.)

Employed for tape worm, especially, but useful for all others.

4. MUCUNA PRURIENS (*Dolichos Pruriens*). Cowage. Cowitch. *Hairs of the pods.*

Diadelphia, Decandria.

Hab. East and West Indies.—*Twining Herb.*

Mix the bristles with molasses to the consistency of thick honey.—*Dose*, for a child two or three years old, a small teaspoonful; for an adult, ℥ ss. Administered as No. 1.

In cases of large round worm, especially.

Also, *Mucuna Urens.*

5. Pulvis Stanni. Powdered Tin.

Dose. For a child two or three years old, twenty or thirty grains; for adult, ʒ ij., repeated morning and evening for twelve or twenty-four doses, and then followed by calomel, or castor oil, or jalap; or they may be occasionally interposed between the doses of tin.

The following amalgam is preferable:—℞. Melted Tin, ʒ v.; Quicksilver, ʒ ij.; Chalk, ʒ j.; M. Rub in a mortar, while melted, till the whole is perfectly reduced. Levigate when cold to an impalpable powder. *Dose*, &c., the same as of tin.

Also, *Sulphuret of Tin.*

In cases of round worm, and sometimes of tape worm.

6. Hydrargyri Chloridum. Calomel.

In full doses, followed soon by infusion of jalap. In cases of large round worm. (See p. 30, No. 1.)

7. Ipomæa Purga. Jalap.

A valuable anthelmintic, especially when associated with calomel, or exhibited after other anthelmintics.

See p. 34, No. 3.

8. Nephrodium Filix Mas. Male Shield Fern. *The root.*

Cryptogamia, Filices.

Hab. Europe; Asia; Africa; America.—*Herbaceous.*

Dose, of recent Powder, ʒ j. to ʒ iij., fasting, and in six hours after, a dose of calomel, castor oil, or jalap.

(*a.*) *Oil of Male Fern.* (An ethereal extract.) This is the active principle, and is preferable to the powder.—*Dose*, ʒ ss. to ʒ j., in mucilage or electuary.

Used for tape worm. A very ancient anthelmintic, but of declining reputation.

9. Brayera Anthelmintica. Worm Flower. *The flowers.*

Icosandria, Digynia.

Hab. Abyssinia.

Decoction. ℞. Flowers, ʒ j.; Water, ℥ xij.; Boil to ℥ viij. Strain.—*Dose*, ℥ iv., morning and evening.

In cases of tape worm.

10. Empyreumatic Oil of Chabert.

℞. Oil of Turpentine, ℥ vj.; Dippel's Animal Oil, ℥ ij.; M. Distil, ℥ v.—*Dose*, ———

For tape worm.

11. Oleum Animale Empyreumaticum (*Oleum Cornu Cervi*). Empyreumatic Animal Oil. Dippel's Animal Oil.

Elementary Composition. Carbon, Hydrogen, Nitrogen, Oxygen.

Dose, "a few drops, cautiously increased."

For tape worm.

12. Punica Granatum. Pomegranate. *Bark of root.*

Icosandria, Monogynia.

Hab. Northern Africa.—*Small Tree.*

℞. Root-bark, ℥ ij.; Water, ℔ iss.; Boil to ℔ j. Strain.—*Dose*, ℥ ij., every hour, till the whole is drunk. Afterward, Jalap, or Castor Oil.

For tape worm.

13. Sodii Chloridum. Common Salt.

Dose. ℥ j., for round worm; and a strong enema of,

for ascaris vermicularis, or small thread worm. (See p. 59, No. 27.)

Its use as a condiment is preventive of worms; destroying the ova, or the parasites in their early stages.

14. ARTEMISIA SANTONICA. Tartarian Southernwood. Tartarian Wormseed. *The tops and seeds.*

Syngenesia, Superflua.

Hab. Tartary and Persia.—*Herbaceous.*

Dose, and uses, the same as of Chenopodium.

Also, the proximate, *Santonine.*—*Dose*, grs. x. to xx. Should be followed by some cathartic of the present class.

15. MELIA AZEDARACH. Bead Tree. Pride of China. *Bark of root.*

℞. Bark of Root, ʒ ij.; Water, ℔ iss.; Boil to ℔ j. Strain.—*Dose*, for a child, ʒ ss. to ʒ j., once in four hours, till it produces vomiting or purging; or morning and evening.

In cases of round worm. Cathartic and emetic. (See p. 70, No. 53.)

16. COLCHICUM AUTUMNALE. Meadow Saffron.

See p. 67, No. 45, for *Dose*, &c. For tape worm.

17. ANDRIA INERMIS (*Geoffroya Inermis*). Cabbage Bark Tree. Worm Bark Tree. *The bark.*

Diadelphia, Decandria.

Hab. West Indies.—*Tree.*

Dose, of Powder, ℈ j. to ʒ ss. *Decoction.* ℞. The Bark, ʒ j.; Water, ℔ iss.; Boil to ℔ j. Strain.—*Dose*, ʒ ss. to ʒ ij. For adult.

Large round worm. An active cathartic. Emetic and narcotic in large doses. Poisonous in over-doses.

18. ARTEMISIA ABSINTHIUM. Wormwood. *The flower-heads and plant.*

Syngenesia, Superflua.

Hab. Europe.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ j., or infusion.

For large round worm. Tonic and anthelmintic.

19. PLOCARIA HELMINTHOCORTON (*Gigartina* and *Fucus Helminthocorton*). Corsican Moss. *The plant.*

Cryptogamia, Algæ.

Hab. Mediterranean Coast.—*Herbaceous.*

Dose, of Powder, ℈ j. to ʒ ij. A *Decoction* best. ℞. The Plant, ℥ j.; Water, ℔ j. Boil; strain.—*Dose*, ℥ j. to ℥ ij., twice or thrice a day; followed by a purgative.

20. JUNIPERUS SABINA. The Savin Juniper. *The oil.*

See p. 137, No. 18, for *Dose*, &c. For worms, generally.

21. COMPTONIA ASPLENIFOLIA. Sweet Fern. *The leaves.*

Monœcia, Triandria.

Hab. United States.—*Shrubby.*

Infusion. ℞. The Leaves, ℥ ij.; Boiling Water, ℔ j. Digest; strain.—*Dose*, ℥ j. to ℥ iv., three times a day. Afterward, a purgative of this class.

For tænia, especially. Tonic, astringent, aromatic. Not long in use as an anthelmintic, and placed here for farther observation.

22. Ruta Graveolens. Rue. Also, R. Sylvestris. Wild Rue.

See p. 343, No. 17, for *Dose*, &c. Large round worm.

23. Delphinium Staphysagria. Stavesacre. *The seeds.*

Dose, of powdered Seeds, grs. iij. to viij. Large round worm. (See p. 133, No. 8.)

24. Allium Sativum. Garlic. *The bulb.*

Dose, of Bulb, ʒ ss. to ʒ ij.; of Juice, ʒ ss. Large round worm. (See p. 167, No. 19.)

25. Asagræa Officinalis. Sabadilla.

See p. 132, No. 6, for *Dose*, &c. Thread worm and tape worm.

26. Hebradendron Cambogioides. Gamboge.

See p. 52, No. 18, for *Dose*, &c. Worms, generally.

27. Helleborus Niger. Black Hellebore.

See p. 63, No. 36, for *Dose*, &c. Worms, generally.

28. Helleborus Fœtidus. Bear's Foot. *The leaves and root.*

Polyandria, Polygynia.

Hab. Europe.—*Herbaceous.*

Dose, of powdered Leaves for a child, grs. iij. to x. Also, *Decoction*, in small quantities, till it purges.

Round and tape worm. A drastic cathartic and emetic. Poisonous in over-doses.

29. Fungus Rosarum. Bedeguar. Sweet Briar

Sponge. The morbid excrescence, or gall, on various species of Rosa.

Dose. Grs. x. to ʒ ij. Large round worm.

30. TANACETUM VULGARE. Tansy. *The plant, seeds, and oil.*

Syngenesia, Polygamia Superflua.

Hab. Europe.—*Herbaceous.*

Infusion. ℞. The Herb, ℥ ij.; Boiling Water, ℔ j. Digest; strain.—*Dose*, ℥ j. to ℥ iij.

(*a.*) *Oil of Tansy*, one to three drops in pill. Large round worm.

31. FERRI RAMENTA. Iron filings.

Dose. Grs. x. to ʒ ss. For small thread worm. (*Ascaris Vermicularis.*)

32. GENTIANA LUTEA. Yellow Gentian.

See p. 259, No. 2, for *Dose*, &c.

"For killing and expelling worms, Gentian is in the highest repute."—QUINCEY.

33. FERRI SULPHAS. Sulphate of Iron.

See p. 261, No. 13, for *Dose*, &c. Tape worm.

34. PETROLEUM. Liquid Bitumen. Mineral Oil. Rock Oil. Seneca Oil.

A product of the decomposition of coal.

Dose. ʒ j. to ℥ ss. Tape worm.

35. GALEGA VIRGINIANA. Goat's Rue. *The root.*

Diadelphia, Decandria.

Hab. United States.—*Herbaceous.*

A decoction of the root,

36. Cinchona Officinalis. Cinchona.
For round worm.

37. Hypericum Perforatum. St. John's Wort. *The flowers and leaves.*
Polyandria, Pentagynia.
Hab. Europe. Introduced.—*Herbaceous.*
Continues to be employed in Europe.

38. Silene Virginica. Wild Pink. Catchfly. Also, S. Pennsylvanica. *The root.*
Decandria, Trigynia.
Hab. United States.—*Herbaceous.*
A decoction of the roots.

Class IX.—ERRHINES,

In the order of their value.

These agents have very little value, excepting in cases of Syncope.

1. Ammoniæ Aqua. Spirits of Hartshorn.

2. Acidum Aceticum Camphoratum. Camphorated Acetic Acid.
Powerful.

3. Nicotiana Tabacum. Tobacco.
The immense varieties of snuffs found in the shops are reducible to two kinds, dry and moist snuffs.

a. Dry Snuffs.—These derive their characteristic property from being dried at a high temperature. *Scotch, Irish, and Welsh,* are well-known high-dried snuffs. The last contains lime, the particles of which may be usually distinguished by the naked eye. Hence its desiccating effect on the pituitary membrane. *Spanish* snuff is also a dry snuff.

b. Moist Snuffs; Rappees.—It is sometimes said that pearlash is added to these snuffs to keep them moist; but this is not usual. The rappees of the shops may be divided into three classes :

a, a. Simple Rappees.—Ex. *Brown*, *Black*, *Cuba*, *Carotte*, and *Bolangero*.

b, b. Mixed Rappees.—Ex. *Hardham's Genuine*, *No.* 37.

γ γ. Scented Rappees.—Ex. *Prince's Mixture*, and *Princenza*, &c.—PEREIRA.

4. HELENIUM AUTUMNALE. Sneezewort. False Sunflower.

Powerful. Leaves and flowers.

5. HELLEBORUS NIGER. Black Hellebore. *The root.*

Powerful.

6. VERATRUM ALBUM. White Hellebore. *The root.*

Powerful.

7. ASARUM EUROPÆUM. Asarabacca. *The root.*

Powerful.

8. CONVALLARIA MAJALIS. Lily of the Valley. United States. *The root.*

Also cathartic and emetic.

9. IRIS FLORENTINA. Florentine Iris. *The root.*

Active.

10. HYDRARGYRI SUBSULPHAS FLAVUS. Yellow Subsulphate of Mercury.

Active.

11. SEVERAL SPECIES OF EUPHORBIA.

Active.

12. Arnica Montana. Leopard's Bane. *The plant.*
Like tobacco.

13. Kalmia Latifolia. Mountain Laurel. *The dried leaves.*

14. Ptarmica Vulgaris. Sneezewort. *The powdered herb.*
Active.

15. Sanguinaria Canadensis. Bloodroot. *The root.*
Acrid.

16. Origanum Marjorana. Sweet Marjoram. *The plant.*
Mild.

17. Rosmarinus Officinalis. Rosemary. *The plant.*
Mild.

18. Dipterix Odorata. Tonka Bean. *The bean.*
Employed to flavor snuff.

Class X.—CHEMICAL AGENTS,

In the order of their value.

Employed to neutralize offending acids, and other substances, in the alimentary canal, and sometimes to operate subsequently, and partly in virtue of such new combinations as cathartics.

1. Sodæ Carbonas. Carbonate of Soda.

2. Sodæ Bicarbonas. Bicarbonate of Soda.

3. Magnesia Usta, *seu*, Calcinata. Magnesia.

4. Potassæ Liquor. Liquor of Potash.

5. Potassæ Carbonas. Carbonate of Potash.

6. Potassæ Bicarbonas. Bicarbonate of Potash.

7. Ammoniæ Liquor. Water of Ammonia.

8. Calcis Carbonas Præparatus. Carbonate of Lime.

9. Calcis Aqua. Lime Water.

10. Ligni Carbo. Wood Charcoal.

11. Sapo Durus. Soap.

12. Most of the Counter-Agents of Poisons. Not often required.

13. Acidum Tartaricum. Tartaric Acid.

TABLE OF CONTENTS.

CLASS I.—ANTIPHLOGISTICS 18–256

BLOODLETTING 18–25
CATHARTICS 25–73
EMETICS 74–89
ALTERATIVES 89–162, 204–231
EXPECTORANTS 162–170
SEDATIVES 170–185, 231–233
DIURETICS 186–194
CUTANEOUS AND OTHER LOCAL APPLICATIONS 194–251
DIET, REST, ETC. 251–256

Bloodletting.

General bloodletting 18, 21–25
Leeching 19
Cupping 21

Alteratives, Internal.

I. General alteratives 89–103
II. Alteratives, adapted to particular conditions of disease 103–162
1. Adapted to scrofulous and some other specific chronic inflammations 104–118
2. Adapted to syphilis and certain other chronic inflammations 118–126

3. Adapted to syphilis complicated with scrofula, 126–127
4. Adapted to rheumatic inflammation and gout. 127–138
5. Adapted to intermittent fever and intermittent inflammations 139–157
6. Adapted to obstinate and chronic cutaneous diseases, etc..... 157–162

Cutaneous and other local applications.

Vesicants 195–198
Rubefacients 198–199
Suppurants 199–200
Escharotics 200–202
Potential cauterants 202–203
Actual cauterants 203–204
Alteratives 204–231
Sedatives 231–233
Astringents 233–236
Simple 237–239

Subdivisions of Cutaneous Alteratives.

I. Constitutional alteratives 204–206
II. Local alteratives 206–231

(*a.*) Adapted to cutaneous diseases 207–216
(*b.*) Adapted to scrofulous and other indolent tumors, chronic enlargement of joints, etc..... 217–218
(*c.*) Adapted to rheumatic inflammation..... 218–220
(*d.*) Adapted to neuralgia and neuralgic inflammation 220–222
(*e.*) Adapted to certain conditions of erysipelas, spreading, and sloughing, ulcers, etc..... 222–223
(*f.*) Adapted to sprains and contusions, etc..... 223
(*g.*) Adapted to piles..... 224–225
(*h.*) Adapted to burns and scalds..... 225–226
(*i.*) Adapted to phagedenic, tuberculous, indolent venereal, scrofulous, and other unhealthy ulcers..... 227–231

Injections 239–246
Enemas 239–241
Uterine 241–242
Vaginal 242–243
Urethral 243–245
For abscesses, encysted tumors, hydrocele, etc..... 245–246

Gargles, etc 246–248
Collyria, etc 248–251

Class II.—TONICS 257–273

Class III.—STIMULANTS 274–282

Class IV.—CEREBRO-SPINANTS, OR NERVOUS AGENTS 283–316

Narcotics, Anodyne and Soporific 283–297
Antispasmodics 297–304
Tetanics 304–309
Moto-Paralysants 310
Senso-Paralysants 311–315
Cerebro-Spino-Depressants 315–316

Class V.—ASTRINGENTS, INTERNAL 317–335

Class VI.—UTERINE AGENTS 335–343

Class VII.—GENITO-URINARY AGENTS 344–349

Class VIII.—ANTHELMINTICS 350–358

Class IX.—ERRHINES 359–361

Class X.—CHEMICAL AGENTS 362

INDEX.

Abies balsamea....347
Absinthium....355
Acacia catechu....230, 248, 324
" vera....239
Acetate of ammonia....193, 214
" copper....201, 226, 229
" iron....263
" tincture of....263
" lead....232, 242, 243, 248, 321
" mercury....96
" morphia....286
" opium....288
" potash....186
" soda....187
" strychnia....122
" zinc....242, 243
Acetic acid....202
" " camphorated....359
Acetic ether....302
Acida mineralia. See Acidum.
Acids. See Acidum.
Acidum Aceticum....202
" " camphoratum....359
" aromaticum sulphuricum....265
" arseniosum....146, 157, 203, 228, 302
" benzoicum....167
" carbonicum....153
" hydriodicum....108
" hydrochloricum....245, 246, 265

Acidum hydrocyanicum....182, 215, 233, 250, 303, 315
" hydro-sulphuricum....134, 159
" muriaticum....245, 246, 265
" nitricum....121, 127, 160, 203, 209, 228, 246, 265
" nitro-hydrochloricum....122, 127, 205, 209
" nitrosum....209
" sulphuricum....203, 265, 329
" sulphuricum aromaticum....265
" sulphurosum....212, 219
" tartaricum....41, 362
Aconite. See Aconitum.
Aconitina....134, 220
Aconitum napellus....134, 184, 219, 220, 232, 311
Acorus calamus....279
Acupuncturation....220
Adeps bovis tauri....237
" ovis arietis....238
" suis....238
Adiantum capillus-veneris....170
" pedatum....170
Æsculus hippocastanum....155
Æther aceticus....302
" hydrocyanicus....303
" sulphuricus....278, 295, 298
Ætheris nitrici spiritus....189
Æthiops, mineral....96
" vegetabilis....109
Agaric of the oak....204
Agathotes chirayta....151, 260
Agrimony....333
Agrimonia eupatoria....333
Alcohol ammoniatum aromaticum....275
Alder....156
" black....270
Aletris farinosa....271
Alkanet....169
Alliaria officinalis....168
Allium sativum....167, 356
Allspice....280

Almond, bitter....185, 316
Alnus glutinosa....156
" serrulata....156
Aloe socotrina, etc....39, 102, 240, 341
Aloes. See Aloe.
Alteratives....89–162, 204-231
" cutaneous....204–231
" definition of....12, 89
" distribution of....90
" general antiphlogistic....89–103
" internal....89–162
" limited antiphlogistic....103–162
" local, or external....204–231
Alum....201, 234, 247, 251, 323
" dried....201
" compound solution of....230, 234, 251, 323
Alumen. See Alum.
Alumina....334
Aluminæ et Potassæ sulphas....201, 234, 247, 251
Alum root....235, 327
Amber, oil of....304
Ammoniac plaster....218
Ammoniacum....164, 218, 223
Ammoniæ acetatis liquor....193, 214
" arsenias....148, 158
" aqua....199, 219, 274,359
" aromaticus spiritus....275
" bicarbonas....275
" carbonas....274
" cupro-sulphas....228, 243, 244, 250, 301
" ferro-tartras....263
" et hydrargyri chloridum....207, 249
" hydrochloras....223
" hydrosulphas....184
" iodidum....210, 217
" linimentum....199
" murias....223
" sesquicarbonas....274
Ammoniated copper....228, 243, 244, 250, 301

Ammoniated liniment....199
" lotion, mild....196, 199
" strong....196
" mercury....207, 249
" tincture of opium....296
Ammoniatum alcohol aromaticum....275
Ammonio-chloride of iron....263
Amomum cardamomum....275
Amygdalus communis....185, 316
Amyli iodidum....109
Amyris gileadensis....167, 349
Anacardium occidentale....202
Anacyclus pyrethrum....247
Anamirta cocculus....214
Anchusa italica....169
Andria inermis....354
Anemone pratensis....214
" pulsatilla....161, 214
Angelica, garden....282
Angelica tree....136
Angustura bark....151, 191, 266
" " false....151
Anise....277
" star....277
Anodynes....283–297
Antacids....362
Antennaria margaritacea, etc....169
Anthelmintics....350–358
Anthemis cotula....197
" nobilis....266
" pyrethrum....197
Antidotes. See the poisonous substances.
Antimonial powder....99
Antimonii et potassio-tartras....77, 97, 128, 163, 181
" oxysulphuretum....99
" pulvis compositus....99
" sesquichloridum....201, 202
" sesquioxydum....99
" sesquisulphuretum....99, 161

Antimonii sulphuretum præcipitatum....99
" sulphuretum præparatum....99, 161
" tartras....77, 97, 128, 163, 181
" vitrum....100
Antimony ore....99, 161
" tartarized....77, 97
Antiphlogistics....18–256
Antirrhinum linaria....224
Antispasmodics....297–304
Apocynum androsæmifolium....84
" cannabinum....69, 86, 191
Aqua ammoniæ....199, 219, 359, 362
" calcis....226, 362
" chlorinii, etc. See the substances.
" mentharum. See the substances.
Aquæ minerales naturales....57, 109, 112, 134, 267
Aquæ minerales cum salibus....57
Aquæ minerales cum brominio....112, 267
Aquæ minerales cum acido-hydro-sulphurico....58, 134, 159
Aquæ minerales cum iodinio....109, 267
Aquæ minerales ferruginosæ....267
Aralia hispida....193
" nudicaulis....137
" spinosa....137
Arbutus uva-ursi....347
Archangelica officinalis....282
Arctostaphylos uva-ursi....347
Argemone mexicana....52
Argenti chloridum....125
" cyanidum....126
" et ammoniæ chloridum....125
" iodidum....125
" nitras....200, 202, 209, 222, 224, 227, 235, 242, 243, 245, 246, 249, 273, 302
" oxydum....126
Argilla pura....334
Aricina....142
Aristolochia serpentaria....152, 264, 342
Armenian bole....334

Arnica montana....308
Aromatics....272–284
Arrangement, general....5–7, 12–18, 27, 28
Arrow-root....253
Arsenic....146, 157, 228, 302
Arseniate of ammonia....148, 158
" iron....203
" soda....148, 158
Arsenici iodidum....158, 203, 227
Arsenious acid....146, 157, 203, 228, 302
Arsenite of potash, solution of....147, 158
" quinine....145
Artanthe elongata....235, 330
Artemisia absinthium....355
" chinensis, etc....204
" santonica....354
Asafœtida....165, 241, 298, 342
Asagræa officinalis....132, 219, 311, 356
" various preparations of....132
Asarabacca....87, 360
Asarum canadense....270
" europæum....87, 360
Asclepias incarnata....86
" tuberosa....164, 191
Ash, European flowering....61
" prickly....134
Asiatic pills....158
Aspidium filix mas....352
Astringents, internal....317–335
" local....233–236
Atropa belladonna....183, 221, 232, 312
Aurantii cortex....267
Auri ammoniaretum....125
" iodidum....124
" pulvis....123, 125
" stanno paratum....125
" terchloridum....123, 124
" tercyanidum....124
" teroxydum....123

Auro-terchloride of sodium....123, 124
Avena sativa....254
Avens, American....330
" European....331

B.

Ballota lanata....189
Balm of Gilead....349
Balneum. See Bath
Balsam, Canada....347
" of copaiva....344
" Gilead....167
" Peru....166
" Tolu....166
" weed....224
Balsamodendron myrrha....246, 247, 264, 341
Barbadoes nuts....70
Barii chloridum....112, 212, 250
" iodidum....109
Bark, Peruvian....145
" " varieties of....140
Barosma crenata....190, 271, 346
Barytes. See Barii.
Bath of ioduretted iodide of potassium....205
" nitro-muriatic acid....205
" sulphur....212, 219
" shower, local and general....223, 273
" warm....223, 231
Bead tree....70, 354
Bean of St. Ignatius....308
Bearberry....347
Bear's-foot....63, 356
Beaver tree....149
Bedeguar, or sweet briar sponge....356
Beef-suet....237
Belladonna....183, 221, 232, 312
Benzoic acid....167
Benzoin....167
Biborate of soda....247, 334

Bicarbonate of ammonia....274
" potash....41, 362
" soda....41, 362
Bichloride of mercury....94, 116, 120, 127, 158, 210, 229, 245, 247
" " with iodine....115, 126, 157
Bicyanide of mercury....95, 116, 119, 159, 205
Bindweed....63
Biniodide of mercury....115, 119, 126, 157, 205, 209, 244
Bismuth....212, 272
Bismuthi trisnitras....212, 272
Bistort....332
Bisulphate of potash....56
Bisulphuret of mercury, with sulphur....96, 116
Bitartrate of potash....56, 189
Bitter almonds....185, 316
" cucumber....48
" polygala....268
" simaruba....269
Bitter-sweet....136, 159
Bitumen, liquid....160, 199, 213, 220, 357
Black alder....270
" elder....68
" sulphuret of mercury....96
" drop....289
" hellebore....63
" oxide of iron....260
" pitch....161, 213
" snake-root....137
" wash....228
Blackberry root....332
Bladder wrack, or fucus....109
Blessed thistle....271
Blister beetle. See Cantharides.
" leaf....197
" plant....198
Blisters....195–198, 219, 222
Bloodletting....18–25, 32, 127, 163, 181, 222, 223, 224
" general....18, 163
" local....19–21, 163, 219, 222, 223, 224

Blood, loss of, general conclusions upon 23–25
Blood-root 82, 103, 164, 201, 216
Blue mercurial ointment 94, 118, 205, 210, 218, 227
" pill 33, 92, 118
" vitriol 83, 201, 228, 244, 245, 246, 249, 272, 302, 323
Boletus igniarius 204
Boneset 60, 82, 156, 268
Bonplandia trifoliata 151, 191, 266
Borago officinalis 169
Borax 247, 334
Boswellia serrata 216, 218
Bougie 244
Brandy 274
Brayera anthelmintica 353
Brimstone 60
Bromide of iron 112, 262
" mercury 119, 126
" mineral waters 112
" potassium 111, 190, 210, 217, 341
Bromidum. See Bromide.
Bromine 111, 112
" compounds of. See Bromide.
Brominium 111, 112
Broom, common 187
Brucia 251, 306
Brucine. See Brucia.
Bryonia alba 66
Bubon galbanum 165, 218, 300
Buchu 190, 271, 346
Buck-bean 66, 85, 270
Buck-thorn 62
Bugle-weed 297
Burdock 122
Butter of antimony 201, 202
" zinc 117, 201, 202
Buttercup 80, 197
Butterfly-weed 164, 191
Butternut extract 55
Button snake-root 166

C.

Cabbage-bark tree....354
Cajuput oil....199, 280
Calcii chloridum....115
Calcined magnesia....47
" mercury....96
Calcis aqua....226, 362
" bichloridum....231
" carbonas præparatus....330, 362
" hypochloris solutio....210, 215, 226, 229, 241, 246
" linimentum....226, 233
Calomel....30, 91, 118, 352
" pills, compound....121, 159
Camphor....219, 298, 315, 348
Camphora officinarum. See Camphor.
Camphorated acetic acid....359
" tincture of opium....290
Canada balsam....347
" snake-root....270
Canella alba....267
Cannabis sativa....297
Cantharides. See Cantharis.
Cantharis vesicatoria....160, 191, 195, 199, 200, 222, 339, 345
" vittata....196
Caper, or spurge oil....53
Capsicum annuum....199, 279
Caraway....280
Carbo ligni....238, 362
Carbonate of ammonia....274
" iron, prepared....261
" lime....330, 362
" magnesia....47, 362
" potash....41, 362
" soda....41, 362
" zinc, prepared....232
Carbonic acid....144, 153
Carbonis ligni cataplasma....229, 238
" sesqui-iodidum....215
" terchloridum....229

Carburet of sulphur....220
Cardamom....275
Carolina pink....351
Carum carui....280
Caryophyllus aromaticus....277
Cascarilla....152, 266
Cashew-nut....202
Cassava....253
Cassia cinnamomum....276
" fistula....64
" senna, etc....51
Castor....299
Castor fiber....299
Castor oil....37, 102, 240
Cataplasms. See the substances.
Catchfly....358
Catechu, acacia....230, 248, 324
" gambir....325
Cathartics....25–73
" groups of....27–29
" operation of....25–27
Caustic potash....22
" lunar. See Argenti Nitras.
Cauterants, actual....203
" potential....202
Cayenne pepper....199, 279
Cebadilla, or cevadilla....132, 219, 311, 356
Cedar, red....342
Celandine....53, 202
Centaurea, or cnicus benedictus....271
Centaury, American....154, 268
" European....154, 264
Cephaelis ipecacuanha....75, 100, 163, 272, 327
Cera....238
Cerasus lauro-cerasus....185, 301, 316
" serotina....154, 268
Cerates. See the substances.
Cerebro-spinants....283–316
" spino-depressants....315–316

Cerebro-spino-excitants 304–309
Ceroxylon andicola 239
Cetraria islandica 168
Chalk, prepared 330, 362
" mercury with 33, 93, 118
Chalybeates. See Ferrum, Iron, etc.
Chamomile 266
Charcoal 362
" cataplasm 229, 238
Chelidonium majus 53, 202
Chemical agents 14, 362
Chenopodium ambrosioides 350
" anthelminticum 350
" botrys 350
" olidum 342
Cherry bark 154, 268
" laurel 185, 301, 316
Chimaphila umbellata 117, 160, 191, 269, 349
Chiretta, or chirayta 260
Chironia centaurium 154, 264
Chloride of barium 112, 212
" calcium 115
" gold and sodium 123, 124
" lime 211, 215, 226, 229, 243, 250
" mercury 30, 91, 118, 352
" soda 211, 215, 226, 229, 243
" sodium 59, 84, 223, 240, 243, 332
" zinc 117, 201, 202
Chlorine water 215, 229
Christmas rose 63, 343, 356
Churrus 297
Cicuta 117, 160, 181, 221, 232, 294, 310
Cimicifuga racemosa 137, 302
Cinchona 140, 145, 230, 258, 349, 358
Cinchonæ tinctura 146
Cinchonas 140
" false 141
" various preparations of 145, 146
Cinchonia 142, 143

Cinchoniæ disulphas....143
" kinas....144
" tannas....144
Cinnamon....276
" wild....267
Cinnamomum, cassia....276
" zeylanicum....276
Cissampelos pareira....348
Citrine ointment....207, 244, 249
Citrullus colocynthis....48
Citrus aurantium....267
" vulgaris....267
Classes, &c....15–18
Classification of medicines....5–7, 12–18, 27, 28, 89, 103
Clematis virginica....216
Clothing, exercise, air, &c....251–256
Clove....277
Clysters....239–241
Cnicus benedictus....271
Cobweb....150
Cocculus palmatus....259
Cochlearia armoracia....86, 192, 198
Cod's liver oil....110
Cohosh, or black snake-root....137, 302
Colchicum autumnale....67, 129, 190, 303, 354
" various preparations of....129
Cold water, ice, &c....183, 223, 241
Collyria....248–251
Colocynth....48, 240
Colombo, or columbo....259
" wild....264
Coltsfoot....168
Colutoria, or gargarismata....246–248
Combination of medicines....6, 7, 11
Comptonia asplenifolia....355
Confections. See the substances.
Conium maculatum....117, 160, 182, 221, 232, 294, 310
Conserves. See the substances.
Contra-stimulants....170–185

Convallaria majalis....360
Convolvulus jalapa. See Ipomæa purga.
" orizabensis....62
" panduratus....65
" scammonia....50
" sepium....63
Copaiba, or copaiva....344
Copaifera multijuga, etc....344
Copper. See Cuprum.
Copperas....250, 261, 333, 357
Coptis trifolia....271
Coriander....281
Coriandrum sativum....281
Cornus florida, etc....150, 264
Corrosive sublimate .94, 116, 120, 127, 158, 210, 229, 244, 245, 247
" " with iodine....115, 126, 157
Cotton, common....223, 225
Cowhage, or cowitch....351
Cratæva gynandra....198
Cream of tartar....56, 189
Creasoton, or creasote....214, 222, 235, 301
Creta præparata....330, 362
Croton cascarilla....152
" eleuteria....152, 266
" oil....53
" tiglium....53, 200
Crow-foot, or buttercup....80
Cubebs....345
Cucumber, bitter....48, 240
" squirting....63
" tree....149
Cucumis colocynthis....48, 240
Cupping....21
Cupri acetas....201, 226, 229
" ammoniaretum....228, 243, 244, 250, 301
" ammonio-sulphas. See Cupri ammoniaretum.
" liquor....228
" subacetas....201, 226, 229
" sulphas....83, 201, 228, 244, 245, 246, 249, 272, 302, 323

Cupri sulphas compositus....234
Cupro-sulphas ammoniæ....228, 243, 244, 250, 301
Curcuma angustifolia....253
Cusparia, galipea....151, 191, 266
Cutaneous, and other local applications....194–251
Cut-weed....110
Cyanide of gold....124
" iron....149, 271, 300
" mercury....95
" potassium....136, 182, 215, 222, 233, 299, 315
" zinc....183, 300, 316
Cyanuret; cyanodide; cyanuretum; cyanodidum. See Cyanide.
Cytisus scoparius....187

D.

Dandelion....62
Daphne mezereum, etc....71, 122, 135, 197
Datura stramonium....184, 221, 223, 226, 232, 249, 303, 312
Deadly nightshade....183, 221, 232, 312
Decoctions. See the substances.
Delphia, or delphinia....133, 219, 221
Delphinium staphysagria, etc....133, 309, 312, 356
Diacetate of lead....232
Diet, clothing, exercise....251–256
Digitalis purpurea....183, 192, 316
Diosma crenata....190
Diospyros virginiana....153, 334
Dippel's animal oil....353
Dipterix odorata....361
Dirca palustris....197
Diuretic salt....186
" Siberian....189
Diuretics....186–194
Dock....65, 160, 216, 330
Dog's bane....84
Dog's tooth violet....87
Dogwood....150, 264
Dolichos pruriens....351
Dorema ammoniacum....164, 218, 223

Doses of medicines....6, 14, 35
Dover's powder....102, 290, 321
Dracontium fœtidum....299
Drift-weed....109
Drimys winteri....268
Dyer's oak....234, 241, 329

E.

Ecbalium elaterium....63
Elaterium....63
Elder, black....68
" dwarf....193
Elecampane....162, 168
Electricity....206
Electro-acupuncturation....220
Electuaries. See the substances.
Elettaria cardamomum....275
" major....275
Elixir paregoric....290
" proprietatis....40
" salutis....52
" vitriol....265
Elm....160
Emetic tartar....77, 97, 128, 163, 181
" weed....84, 165
Emetics....74–89
" groups of....75
" obsolete....89
Emmenagogues....335–343
Emplastra. See the substances.
Emulsions. See the substances.
Enemata....54, 239–241
Epispastics....195–198
Epsom salts....42
Ergot....328, 346
Erigeron canadense, etc....192
Errhines....359–361
Eryngium aquaticum....166
" maratimum....166

Erysimum alliaria....168
Erythræa centaurium....154, 264
Erythronium americanum....87
Escharotics....200–202
Essences. See the substances.
Ether. See Æther.
Eucalyptus resinifera....324
Eugenia caryophyllata....277
" pimenta....280
Eupatorium perfoliatum....60, 83, 156, 268
" purpureum....60, 192
" teucrifolium....60
Euphorbia antiquorum....72
" corollata....85, 197
" hypericifolia....334
" ipecacuanha....85
" lathyris....53
" officinarum....72
Euphorbium....72
Exostemma....141
Expectorants....162–170
Extracts. See the substances.

F.

Faba Sancti Ignatii....308
False angostura bark....151
" colombo....264
Febrifuges....139–156
Fern, male shield....352
" sweet....355
Ferri acetas....263
" ammonio-chloridum....263
" " ferro-tartras....263
" " ferro-citras....263
" arsenias....203
" bromidum....111, 262
" carbonas præparatus....261
" cyanuretum....149, 271
" et potassæ tartras....260

Ferri ferrocyanas 149, 261
" ferro-sesquicyanidum 149, 271, 300
" iodidum 108, 127, 262
" lactas 263
" limatura 357
" mistura composita 261
" muriatis tinctura 116, 260
" nitras 262
" oxydum nigrum 260
" " rubrum 261, 314
" phosphas 261
" ramenta 357
" sesquichloridi tinctura 116, 260, 301, 327, 349
" sesquioxydum 261, 314
" sesquinitras 262, 327
" sulphas 250, 261, 333, 357
" " compositus 261
Ferrocyanide of potassium 185, 314
" quinine 143
" zinc 183, 316
Ferro-sesquicyanide of iron 149, 271, 300
Ferro-citrate of iron 263
Ferro-tartrate of ammonia 263
Ferruginous mineral waters 59, 267
Ferrum 357
" candens 203
Ferula asafœtida 165, 241, 298, 342
" persica 165
Feverfew 271
Fever-root 61, 84
Fir, balsam of 347
Flag, sweet 279
Fleabane 192
Flies, Spanish and potato 160
Florentine iris 72, 200
Fomentations 219, 223, 231, 237
Formulæ, explanation of 6
Fowler's arsenical solution 147, 158
Foxglove 183, 192, 316

Fraseri walteri....264
Fraxinus ornus....61
Frigorific mixtures....183
Fucus digitatus, loreus, and palmatus....109
" helminthocorton....355
" vesiculosus....109
Fuliginous preparations....214, 230
Fumaria officinalis....161
Fumitory....161

G.

Galangal root....358
Galbanum officinale....165, 218, 300
Galega virginiana....358
Galipea officinalis, etc....151, 191, 266
Galls....224, 234, 329
Galvanism....206, 250
Gambir catechu....325
Gamboge....51, 356
Garcinia cambogia....51
Gargles, etc....246–248
Garlic....167, 356
Gaultheria procumbens....282
General principles....9–14
Generalization of facts....14
Genito-urinary agents....344–349
Gentian, blue....259
" yellow....230, 259, 357
Gentiana catesbæi....259
" lutea....230, 259, 357
Geoffroya inermis....354
Geranium maculatum....325
Geum rivale....330
" urbanum....331
Gigartina helminthocorton....355
Gilead, balsam of....167
Gillenia trifoliata....77, 163
" stipulacea....77, 163
Ginger....278

Glauber salts 42
Glycyrrhiza glabra 169
Gnaphalium margaritaceum, etc. 169
Goat's rue 358
Gold, preparations of (See Auri) 118, 123
Golden rod 282
Gold thread 271
Goosefoot 342
Gossypium herbaceum 223, 225
Goulard's extract of lead 232
Gratiola officinalis 71
Green vitriol 250, 261, 333, 357
Griffith's myrrh mixture 261
Guaiacum officinale 118, 122, 127, 130, 159, 340
" various preparations of 131
Gums. See the substances.

H.

Hæmatoxylon campechianum 334
Hardhack 270, 332
Hebradendron cambogioides 52, 356
Hedeoma pulegioides 343
Hedge garlic 168
" hyssop 71
" mustard 170
Helenium autumnale 360
Helianthus annuus 204
Hellebore, American 133
" black 63, 343, 356, 360
" white 66, 87, 131
Helleborus fœtidus 63, 356
" niger 63, 343, 356, 360
" viridis 63
Helonias officinalis 132, 219, 311, 356
Hemlock, poison 117, 160, 182, 221, 232, 294, 310
Hemp, common 297
" Indian 69, 86, 191
Henbane 181, 222, 233, 293
Hepatica triloba 168

Heuchera americana....235, 327
Hoffman's anodyne liquor....295
Holly, American....155
" European....155
Hop....184, 233, 269, 294
Hordeum distichon....253
Horse-chestnut....155
Horse-radish....86, 192, 198
Humulus lupulus....184, 233, 269, 294
Hydrargyri acetas....96
" ammonio-chloridum....207, 249
" arsenici iodidum....121, 157, 213
" bichloridi et calcis lotio....228
" bichloridum....94, 116, 120, 127, 158, 210, 229, 244, 245, 247
" " cum iodinio....115, 126, 157
" bicyanidum....95, 116, 119, 159, 205
" biniodidum....115, 120, 126, 157, 205, 209
" binoxydum....96
" bromidum....119, 126
" chloridi pilulæ compositæ....121, 159
" " et calcis lotio....228
" chloridum....30, 91, 118, 207, 352
" cyanuretum. See H. bicyanidum.
" deuto-bromidum....116, 120
" emplastrum....218
" iodidum....115, 119, 126, 205, 208, 227
" murias. See H. bichloridum.
" nitras....207, 244, 249
" nitrico-oxydum....97, 210, 227
" pilula....33, 92, 118
" oxydum rubrum....97
" submurias. See H. chloridum.
" " et ammoniæ....207, 249
" subsulphas flavus....87, 96, 360
" sulphuretum cum sulphure....96, 116, 161
" unguentum....94, 118, 205, 210, 218, 237
Hydrargyrum cum calcis carbonate....33, 93, 118
" cum creta....33, 93, 118

Hydrargyrum cum magnesia....34, 93, 118
Hydriodate of baryta....109
" potash....107
Hydriodic acid....108
Hydrocele injection....245
Hydrochloric acid....245, 246, 265
Hydrocyanic acid....182, 215, 233, 250, 303, 315
" ether....303
Hydrocyanate of zinc....183, 300, 316
Hydrosulphate of ammonia....184
Hyosciamus albus....181, 293
" niger....181, 233, 293
Hypericum perforatum....231, 358
Hypochlorite of lime....210, 215, 226, 229, 241, 243, 246, 250
" soda....210, 215, 226, 229, 241, 243, 246
Hyssopus officinalis....282

I.

Ice....236, 241
Iceland moss....168
Ictodes fœtidus....299
Ilex aquifolium....155
" opaca....155
Illicium anisatum....277
Impatiens fulva....224
Indian hemp....69, 86, 191
" tobacco....84, 165, 185
Infusions. See the substances.
Injection....239–246
" urethral....243–245
" uterine....241, 242
" vaginal....242
Inula helenium....162, 168
Iodides. See Iodidum.
Iodidum ammoniæ....210, 217
" amyli....109
" arsenici....158, 203, 213, 227
" " et hydrargyri....121, 157, 213
" auri....124

Iodidum barii....109
" ferri....108, 127, 262
" hydrargyri....115, 119, 126, 210, 227
" plumbi....110, 217
" potassii....107, 134, 217, 245, 249
" " ioduretum....108, 227
" quiniæ....108
" strychniæ....308
" sulphuris....208, 218, 228
" zinci....217, 249
Iodine....104, 158, 190, 210, 217, 227, 241, 245, 248, 249, 309, 341
" with corrosive sublimate....115, 126, 157
" mineral waters....109, 267
" vapor....248
Iodinium. See Iodine.
Iodo-hydrargyras potassii....120
Ionidium ipecacuanha....77
Ipecacuanha....75, 100, 163, 272
" American....77, 163
" compound powder of....102, 190, 321
" false Brazilian....77
" pulvis compositus....102, 290, 321
" striated....77
" spurge....85
" undulated....77
" wild....61, 84
Ipomæa orizabensis....62
" pandurata....65
" purga....34, 342, 352
Iris florentina....72, 200, 360
" tuberosa....70
" versicolor....70
Iron. See Ferri.
" filings....357
Issues....72

J.

Jalap....34, 342, 352
" spurious....62

James' powder....99
Janipha manihot....253
Jatropha curcas....70
Jerusalem oak....350
Juglans cinerea....55
Juniper berries....187
Juniperus communis....187
" sabina....137, 200, 216, 230, 340, 355
" virginiana....342

K.

Kalmia latifolia....213, 361
Kentish's liniment....216, 226
Kermes mineral....99
Kinate of cinchonia....144
" quinia....144
Kinic acid....141
Kino....243, 245, 324
Krameria triandria....331

L.

Lactate of iron....263
Lactuca sativa....184, 294
Lactucarium....184, 294
Lappa minor....122
Lard....239
Laudanum....289
" Sydenham's....291
Laurel, common cherry....185, 301, 316
" mountain....213, 361
Laurus camphora....219, 298
" cinnamomum....276
" nobilis....281
" sassafras....281
Lavendula spica....277
Lavements....239-241
Lavender....277
Lead. See Plumbi.
Leatherwood....197

Leeches 19
" mode of applying 20
" " preserving 20
Leontodon taraxacum 62
Leopard's bane 308, 361
Leptandria virginica 69
Lettuce 184, 294
Lily of the valley 360
" white, sweet-scented 333
Lime, prepared carbonate of 330, 362
" chloride of 115
" hypochlorite of 210, 215, 226, 229, 241, 243, 246, 250
" muriate of 115
" water 226, 362
Liniment of ammonia 199
" camphor 219
" lime water 226, 233
" subacetate of copper 201, 229
" turpentine 216, 226
" other substances see.
Linum catharticum 70, 239
Liquidambar styraciflua 168
Liquor aluminis compositus 230, 234, 251
" ammoniæ acetatis 193
" arsenitis potassæ 147, 158
" cupri ammonio-sulphatis 228, 243, 244, 250
" cupri sulphatis cum acido sulphurico 323
" ferri per-sesquinitratis 262, 327
" hypochloris sodæ 210, 215, 226, 229, 241, 243, 246, 250
" other substances see.
Liquorice 169
Liriodendron tulipifera 152, 266
Litharge plaster 238
Liverwort 168
Lobelia inflata 84, 165, 185, 316
Logwood 334
Lotio flava 228
" " nigra 228
Lugol's solution of iodine 227

Lunar caustic ... 200, 202, 209, 222, 224, 227, 235, 242, 243, 245, 246, 249, 273, 362
Lupulin ... 184, 233
Lycopus virginicus ... 297
Lytta vittata ... 196

M.

Magnesia calcinata, or usta ... 47, 362
" calcined ... 47, 362
" carbonate of ... 47, 362
" mercury with ... 34, 93, 118
" sulphate of ... 42, 240
Magnolia glauca, etc ... 149, 264
Mahogany febrifuge ... 155
Male shield fern ... 352
Mandrake ... 36
Manganese, binoxide of ... 212
Manna ... 61
Mannite ... 62
Maranta arundinacea ... 253
Marjoram ... 282, 361
Marsh rosemary ... 326
Marsh trefoil ... 66, 85
Maruta cotula ... 197
Mastic ... 72
Matico ... 235, 330
May-apple ... 36
" weed ... 197
Meadow saffron ... 67, 129, 190, 303, 354
" various preparations of ... 129
Medicines, classification of ... 5–7, 12–18, 27, 28, 89, 103
" combination of ... 6, 7, 11
" doses of ... 6, 14, 35
" operation of ... 9–14, 25, 29, 31, 32, 38, 39, 41, 43, 74, 89, 101, 106, 113, 123, 127, 170–181, 252, 257, 269, 283, 285, 291, 295, 305, 311, 313
Melaleuca cajuputi ... 199, 220, 280, 303
Melia azedarach ... 70, 354
Mentha piperita ... 276
" pulegium ... 281, 343

Mentha viridis....278
Menyanthes trifoliata....66, 85, 270
Mercurial preparations. See Hydrargyrum, Iodidum, Unguentum.
Mercury. See Hydrargyri, and Hydrargyrum.
Mezereon....71, 122, 135, 197
Mimosa catechu....230, 248
Mineral acids. See Acidum.
" waters, natural....57, 109, 112, 134, 159, 218, 267
Mixtures. See the substances.
Modus operandi of remedies..{9–14, 25, 29, 31, 32, 38, 39, 41, 43, 74, 89, 101, 106, 113, 123, 127, 170–181, 252, 257, 269, 283, 285, 291, 295, 305, 311, 313, 317–321
Mohawk tassel....60, 192
Momordica elaterium....63
Monesia....231
Monkshood....134, 184, 219, 232, 311
Morphia....233
Morphiæ acetas....286
" bimeconas....286
" citras....286
" hydrochloras....286
" murias....286
" sulphas....284
" tartras....286
Moschus moschiferus....299
Moss, Corsican....355
" Iceland....168
Moto-paralysants....310
Mountain damson....269
" rhubarb....65, 216
Moxa....204
Mucuna pruriens, etc....351
Mullein....169
Murias. See Muriate.
Muriate of ammonia....223
" " and mercury....207, 249
" antimony....202

Muriate of baryta....112, 212, 250
" iron, tincture of....116, 260, 301
" lime....115
" mercury....94, 116, 118, 120, 127, 158, 244
" morphia....286
" quinine....143
" soda....59, 84, 223, 240, 243, 353
" strychnia....307
Muriatic acid....245, 246, 265
Musk....299
Mustard, black....86, 192, 198
" white....68, 192, 198
Mutton suet....238
Myrica cerifera....238
Myristica moschata....279
Myrospermum peruiferum....166
" toluiferum....166
Myrrh....246, 247, 264, 341
Myrtus pimenta....280

N.

Naphthaline....166
Narcotics....283–297
Narcotina....152, 216
Narthex asafœtida....165, 241, 298
Nephrodium filix mas....352
Nervous agents....283–316
Nicotiana tabacum, etc....88, 185, 191, 316, 359
Nightshade, deadly. See Belladonna.
" woody. See Solanum.
Nitrate of bismuth....212, 272
" iron....262, 327
" mercury....207, 244, 249
" potash....189
" silver....200, 202, 209, 222, 224, 227, 235, 242, 243, 245, 246, 249, 273, 302
" strychnia....307
" See other substances.
Nitre....189

Nitric acid....121, 127, 160, 203, 246, 265
" ether....189
Nitro-muriatic acid....122, 127
" " bath....122
Nutgalls....234, 241, 329
Nutmeg....279
Nux vomica....206, 305, 308
Nymphæa odorata....333

O.

Oak, black, white, etc....235, 241, 242, 333
" dyer's....234
" poison....309
Oat....254
Oil of amber....303
" cajuput....199, 220
" castor....37, 102, 240
" cod's liver....110, 213
" croton....53, 200
" Dippel's animal....353
" empyreumatic animal....353
" empyreumatic of Chabert....353
" euphorbia....53
" flaxseed....239
" mineral. See Petroleum.
" olive....237, 243
" rock. See Petroleum.
" savin....340
" seneca. See Petroleum.
" skate's liver....110, 213
" spurge....53
" turpentine. 138, 191, 199, 216, 219, 226, 240, 314, 326, 347, 351
Oils, aromatic. See the plants.
Ointments. See Unguentum.
Olea europæa....237
Oleum. See Oil and Oils.
Olibanum....216, 218
Operation of remedies. See Modus Operandi, etc.
Opii acetum....288

Opii extractum purificatum 289
" tinctura 289
" " ammoniata 296
" " camphorata 290
" vinum 291
Opium 181, 233, 240, 250, 287, 318
" compounds of 288
Opoponax chironium 165
Orange peel, bitter 267
Orchis mascula 254
Orders of Remedies 15–18
Origanum marjorana 361
" vulgare 282
Ornus europæa 61
Orris root 72, 200, 360
Oryza sativa 253
Ox-gall 54

P.

Palma Christi 37, 102, 240
Papaver somniferum 233, 243, 250, 286
Pareira brava 348
Partridge berry 282
Peas, issue 72
Pellitory of Spain 247
Pennyroyal 281, 334
Pepper, black 151
" Cayenne 279
Peppermint 276
Persimmon 153, 334
Peru, balsam of 166
Peruvian bark 145, 258
" " various preparations of 145, 146
" " varieties of 140
Petroleum 160, 199, 213, 220, 357
Phloridzin 153
Phosphate of iron 261
" quinine 143
" soda 43

Physeter macrocephalus....237
Phytolacca decandria....69, 85, 138, 213, 225
Picræna excelsa....259
Pills. See the substances.
Pilula hydrargyri....33, 92
" " chloridi composita....121
Pimpinella anisum....277
Pinckneya pubens....153
Pink, Carolina....351
" wild....358
Pinus sylvestris, etc. See Turpentine, and Pix nigra.
Piper angustifolium....235, 330
" cubeba....345
" nigrum....151
Piperin....151
Pipsissewa....117, 160, 191, 269, 349
Pistacia lentiscus....72, 347
Pix nigra....161, 213
Plasters. See the substances.
Pleurisy root....164, 191
Plocaria helminthocorton....355
Plumbago zeylonica, etc....197
Plumbi acetas....232, 242, 243, 248, 321
" diacetatis liquor....232
" iodidum....110, 217
" subacetatis liquor....232
" semivitreum....238
" tannas....233
Podophyllum peltatum....36
Poke-root....69, 85, 138, 225
Polygala rubella....268
" senega....164
Polygonum bistorta....332
Pombelia itubu....77
Pomegranate....248, 353
Poplar....155, 271
Poppy....233, 243, 286
Populin....155, 271
Populus tremuloides, etc....155, 271

Porter....274
Potash....202
Potassa....202
" cum calce....202
Potassæ acetas....186
" alumino-sulphas....201, 323
" antimonio-tartras....77, 97, 128, 163, 315
" arsenitis liquor....147, 158
" bicarbonas....41, 362
" bisulphas....56
" bitartras....56, 189
" carbonas....41, 362
" ferro-tartras....260
" liquor....362
" nitras....189
" sodio-tartras....41
" sulphas....56
" " cum sulphure....59
" supertartras....56, 189
" tartras....44
Potassii bromidum....111, 190, 210, 217, 341
" cyanidum....136, 182, 215, 222, 233, 299, 315
" ferrocyanidum....185, 314
" iodidum....107, 134, 217, 245, 249
" iodidum ioduretum....108, 217
" iodo-hydrargyras....120
" sulphuretum....159, 208
Potato fly....196
Potential cauterants....202, 203
Potentilla tormentilla....235, 326
Pothos fœtida....299
Poultices....219, 223, 224, 231, 237
Powders, compound. See the substances.
Prickly ash....134
Pride of China....70, 354
Principles, general....9–14
Prinos verticillatus....270
Prunus virginiana....154, 268
Prussian blue....149, 271

Prussic acid....182, 215, 233, 250, 303, 315
Psychotria emetica....77
Ptarmica vulgaris....361
Pterocarpus erinaceus, etc....243, 245, 324
Pulsatilla....161
Pulvis antimonialis....99
" ipecacuanhæ compositus....102, 290, 321
" jalapæ compositus....35
Punica granatum....248, 353
Purgatives....25–73
Purging cassia....64
" flax....70
" nut....70
" oils....53
Pyrethrum parthenium....271

Q.

Quassia amara....260
" excelsa....259
Queen's root....161
Quercus alba, etc....235, 241, 242, 333
" infectoria....234, 241, 329
Quinia....142, 143
Quiniæ acetas....144
" arsenas....145
" citras....144
" disulphas....142
" ferro-citras....145
" ferro-cyanas....143
" iodidum....108
" kinas....144
" lactas....145
" murias....143
" nitras....144
" phosphas....143
" sulphas....142
" " cum acido carbonico....144
" tannas....144
" valerianas....144

Quinine....142, 143
Quinquino....166

R.

Ranunculus flammula, etc....80, 197
Red cedar....342
Red oxide of iron....261
" " mercury....96, 97
" precipitate....97
Remedies, classes of, etc....15–18
Resinous ointment....238
" plaster....237
Resins. See the substances.
Rhamnus catharticus....62
Rhatany....331
Rheum palmatum, etc....45, 101, 230, 267, 325
Rhubarb. See Rheum.
" mountain....65, 330
Rhus glabrum....247
" pumilum....309
" toxicodendron....309
" vernix....309
Rice....253
Richardsonia scabra, etc....77
Ricinus communis....37, 102, 240
Rochelle salts....41
Rosmarinus officinalis....196, 361
Rosarum fungus....356
Rosemary....196, 361
" marsh....326
Rubefacients....198–199
Rubia tinctorium....342
Rubus villosus, etc....332
Rue, common....199, 230, 343, 355
Rumex crispus, etc....65, 160, 216, 330
Ruta graveolens....199, 230, 343, 355

S.

Sabadilla....132, 219, 311, 356

Sabadillina....133
Sabbatia angularis....154, 268
Saffron, meadow....67, 129, 190, 303, 354
Sagapenum....298
Sago....254
St. Ignatius' bean....308
St. John's wort....231, 358
Sal ammoniac....223
" volatile....274, 275
Salep....254
Salicin....149, 155, 267
Saline cathartics....41
" mineral waters....57
Salix alba, etc....149, 230, 267
Salt, common....59, 84, 223, 240, 243, 332, 353
Salts. See the substances.
Sambucus nigra....68
Sanguinaria canadensis....82, 103, 164, 201, 216, 361
Sanguisugæ....19
Sanicle, American....235, 327
Sapo....72, 212, 224, 240, 362
Sarsaparilla....113, 121, 127, 159
" false....137
Sassafras officinale....281
Savin....137, 200, 216, 230, 340, 355
Scammony....50
" German....63
Scilla maritima....81, 163, 187
Scrophularia nodosa....225
Sea-onion....81, 163, 187
Sea-salt....59, 84, 240, 243, 332, 353
Sea-water....104
Sea-wrack....109
Secale cereale....328
" cornutum....328, 336
Sedatives, groups of....174
" general....170–185
" local....231–233
Seidlitz powder....41

Senega, or seneka 164
Senna 51
Senso-paralysants 311-315
Septfoil 235, 326
Serpentaria 152, 264
Sesqui-iodide of carbon 215
Sesqui-oxide of iron 261, 314
Setaceum 199
Seton 199
Shower bath 223, 273
Siberian diuretic 189
Silene virginica 358
Silver. See Argenti.
Simaruba amara 269
Simple local applications 237-239
Simple ointment 237
Sinapis alba 68, 192, 198
" nigra 86, 192, 198
Sisymbrium officinale 170
Skate's liver oil 110
Skunk cabbage 299
Smilax sarsaparilla, etc. 113, 121, 127, 159
Snake-root 137, 302
" black 270
" button 166
" Canadian 270
" seneka 164
" Virginia 152, 264, 342
Soap 72, 212, 224, 240, 362
Sodæ acetas 187
" arseniatis liquor 148, 158
" biboras 247, 343
" bicarbonas 41, 362
" carbonas 41, 362
" chloridum. See Sodii chloridum.
" hypochloris liquor 211, 215, 226, 229, 241, 243, 246
" murias 59, 84, 223, 240, 243, 332, 355
" phosphas 43
" potassio-tartras 41

Sodæ sulphas 42, 240
Sodii auro-terchloridum 123, 124
" chloridum 59, 84, 223, 240, 243, 332, 353
Sodio-tartrate of potash 41
Solanum dulcamara 136, 159
Solidago odora 282
Soluble tartar 44
Solutions. See the substances.
Soot, preparations of 214, 230
Soporifics 283–297
Southernwood, Tartarian 354
Spanish flies 160, 191, 195, 199, 200, 222, 339, 346
Spartium scoparium 187
Spearmint 278
Spermaceti 237
Spigelia marilandica 351
Spiræa tomentosa 270, 332
Spiritus ætheris nitrici 189
" " sulphurici compositus 295
" see other substances.
Sponge, burnt 100
Spongia officinalis 110
Spunk 204
Spurge, large flowering 85, 197
" oil 53
" olive 71, 122, 135, 197
Spurred rye 328, 346
Squill 81, 163, 187
Squirting cucumber 63
Stalagmitis cambogioides 51, 356
Stannum 352
Staphisagria 133, 309, 356
Star-anise 277
" grass 271
Starch, iodide of 109
Statice caroliniana 326
Stavesacre 133, 309, 356
Steeplebush 270, 332
Sternutatories 359–361

Stillingia sylvatica....161
Stimulants....274-282
Storax....167
Stramonium....184, 221, 224, 226, 232, 249, 303, 312
Strychnia....206, 250, 307, 346
Strychniæ acetas....122, 307
" hydrochloras....307
" iodidum....308
" nitras....307
" sulphas....307
Strychnos colubrina....306
" ignatia....308
" nux vomica....305
" tieuté....306
Styrax benzoin....166
" officinale....167
Submurias hydrargyri....30, 91, 118, 352
" " et ammoniæ....207, 249
Subnitrate of bismuth....272
Subsulphate of mercury....87, 96, 360
Succini oleum rectificatum....304
Succus spissatus. See the substances.
Suet, beef....237
" mutton....238
Sugar of lead....232, 234, 243, 248, 321
Sulphas aluminæ et potassæ....201, 234
" cinchoniæ....143
" cupri...83, 201, 228, 235, 244, 245, 246, 249, 272, 302, 323
" ferri....250, 261, 333, 357
" magnesiæ....42
" morphiæ....284
" potassæ....56
" quiniæ....142
" sodæ....42, 240
" strychniæ....307
" zinci....80, 156, 235, 243, 244, 247, 272, 302, 333
Sulphates. See Sulphas.
Sulphur....60, 160
Sulphuret of antimony....99, 161

Sulphuret of mercury, black....96
" " with sulphur....96, 116, 161
" potassium....159
Sulphuric acid....203, 265, 329
" " aromatic....265
" ether....278, 295, 298
Sulphuris carburetum....220
" iodidi vapor....228
" iodidum....208
Sulphurous acid gas....212, 219
" mineral waters....58, 134, 159
Sumach....247
" poison....309
Supertartrate of potash....56, 189
Suppurants....199–200
Sweet bay....281
" flag....279
" fern....355
" gum....168
" scented golden-rod....282
" spirit of nitre....189
Swietenia febrifuga....155
Symphitum officinale....170
Symplocarpus fœtidus....299
Syrups. See the substances.

T.

Tamarinds....65
Tamarindus indica....65
Tanacetum vulgare....357
Tannin, or Tannic acid....141, 234
Tannate of cinchonia....144
" lead....233
" quinia....144
Tansy....357
Tapioca....253
Tar, vapor of....248
Taraxacum dens-leonis....62
Tartaric acid....362

Tartar emetic. See Tartarized antimony.
Tartarized antimony....77, 97, 128, 163, 181, 315
" soda....41
Tartrate of antimony and potash....77, 97, 128, 163, 181, 315
" potash....44
" potash and iron....260
" potash and soda....41
Tela aranearum....150
Terchloride of gold....123, 124
" carbon....229
Tercyanide of gold....124
Terebinthinæ oleum....138, 191, 199, 216, 219, 226, 240, 314, 326, 347, 351
Terexide of gold....124
Tetanics....304–309
Thistle, blessed....271
Thorn-apple. See Stramonium.
Thoroughwort....60, 82, 156, 268
Tiglii oleum....53, 200
Tin, powdered....352
Tinctura cinchonæ....146
" " composita....146
" ferri sesquichloridi....116, 260, 301, 327, 349
" iodinii....107
" muriatis ferri....116, 260, 301, 327, 349
" opii....289
" " ammoniata....296
" " camphorata....290
" see other substances.
Toad flax....224
Tobacco....88, 185, 191, 216, 316, 359
" Indian....84, 185, 316
Tolu, balsam of....166
Tonics....257–273
Tormentil....235, 326
Tormentilla erecta....235, 326
Toxicodendron....309
Triosteum perfoliatum....61, 84
Trisnitrate of bismuth....252, 272

Tulip tree....152, 266
Turpentine, oil of. See Terebinthinæ.
Turpeth mineral....87, 96
Tussilago farfara....168
Typha latifolia....226

U.

Ulmus campestris....160
Umbrella tree....149
Uncaria gambir....325
Unguentum acidi hydrochlorici....209
" acidi nitrici....209
" " nitrosi....209
" " sulphurici....208
" aconiti extracti....221
" aconitinæ....220
" ammoniæ....199
" iodidi....210, 218
" ammonio-hydrargyri chloridi....207
" anamirtæ....214
" anemones....214
" antimonii tartratis....200
" antirrhini....224
" arsenici....203
" " iodidi....203, 227
" belladonnæ....221, 232
" bismuthi trisnitratis....212
" boswelliæ....216
" cantharidis....200
" carbonis sesqui-iodidi....215
" catechu....230
" cetacei....237
" citrinum....207, 244, 249
" clematidis....216
" conii....224
" creasoti....214
" cupri subacetatis....201, 213
" delphiniæ....219, 221
" fuliginis....214, 230

Unguentum gallarum 224
" hydrargyri 94, 118, 205, 210, 218, 227
" " ammoniati 207
" " ammonio-chloridi 207
" " bicyanidi 205, 228
" " biniodidi 205, 209, 228
" " binoxydi 227
" " chloridi 207
" " " et ammoniæ 207
" " iodidi 205, 208, 227, 248
" " " sulphuris 208
" " nitratis 207, 244, 249
" " nitrico-oxydi 209, 227
" " submuriatis 207
" impatientis fulvæ 224
" iodinii 210, 217, 227, 241
" kalmiæ 213
" manganesii binoxydi 212
" nicotianæ 216
" phytolaccæ 213, 225
" picis 213
" plumbi acetatis 232
" " iodidi 217
" potassæ antimonio-tartratis 200
" potassii bromidi 210, 217
" " iodidi 217, 227
" præcipitati albi 207
" pulsatillæ 214
" resinosum 239
" rumicis 216
" sabadillæ 219, 221
" sabinæ 200
" scrophulariæ 225
" simplex 237
" stramonii 224, 226, 249
" submuriatis hydrargyri 207
" submur. hydrarg. et ammoniæ 207
" sulphuris 208
" " compositum 208

Unguentum sulphuris iodidi 208, 218
" typhæ 226
" veratriæ 206, 219, 221
" veratri 209
" zinci carbonatis præparati 232
" zinci iodidi 217
" " oxydi 232
" " " impuri 232
Urinary agents 344–349
Uterine agents 335–343
Uva ursi 347

V.

Valerian 300
Valeriana officinalis 300
Valerianate of quinine 144
" zinc 144
Vapor of ether 295
" iodine 248
" tar 248
Vegetable ethiops 109
" salt 44
Veratria 132, 206, 219, 309
Veratrum album 66, 87, 131, 209, 360
" officinale 132
" viride 133, 209
Verbascum thapsus 169
Vesicants 195–198
Vinegar of opium 288
" squills 81
Vinum 274
" aloes 41
" antimonii-tartratis 79
" colchici 129
" ipecacuanhæ 77
" opii 291
" tabaci 88
" veratri 131, 133
Viola odorata 82

Violet, sweet....82
Virginia snake-root....152, 264, 342
Vitriol, blue....83, 201, 228, 241, 245, 246, 249
" green....250, 261, 333, 357
" white....80, 156, 235, 243, 244, 247, 272, 302, 333
Vitriolated magnesia....42
" tartar....56
Vitrum antimonii....100
Volatile alkali....199, 219, 274, 359

W.

Warm bath....223, 231
Wash, black....228
" yellow....228
Water, barley....253
" boiling....197
" of ammonia....199, 219, 274
" chlorine....215
" rice....253
" toast....253
Waters, mineral....57, 109, 112, 134, 267
Wax, bees....238
" myrtle....238
" palm....239
Whey....254, 274
White bryony....66
" hellebore....66, 87, 131, 360
" mustard....68, 192, 198
" oxide of arsenic....146, 157, 203, 228, 302
" precipitate....207, 249
" vitriol....80, 156, 235, 243, 244, 247, 272, 302, 333
" wood....152, 266
Wild cherry bark....154, 268
" cinnamon....267
" colombo....264
" ginger....270
" horehound....60
" ipecacuanha....61
" potato....65

Willow 149, 230, 267
Wine 274
" of colchicum 129
" opium 291
" whey 274
Wintergreen 117, 160, 191, 269
Winter's bark 268
Wolfsbane 134, 184, 219, 220, 232
Woody nightshade 136
Worm flower 353
Worm-seed 350, 354
Wormwood 355

X.

Xanthorhiza apiifolia 269
Xanthoxylum fraxineum 134

Y.

Yeast cataplasm 229
Yellow root 269
" wash, phagedenic 228

Z.

Zinci acetas 242, 243
" carbonas præparatus 232
" chloridum 117, 201, 202
" cyanidum 183, 300, 316
" ferro-cyanidum 183, 300, 316
" iodidum 249
" murias 117, 201, 202
" oxydum 232, 303
" " impurum 232
" sulphas 80, 156, 235, 243, 244, 247, 272, 302, 333
" valerianas 222
Zingiber officinale 278