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ECLECTIC MANUAL, No. 1.

SYLLABUS

OF

ECLECTIC MATERIA MEDICA

AND THERAPEUTICS.

COMPILED

FROM NOTES TAKEN FROM THE LECTURES OF

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EDITED,

WITH PHARMACOLOGICAL ADDITIONS,

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WITH NOTES ON SPECIFIC MEDICINES,

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P R E F A C E.

THE urgent demands, repeated from year to year by the students and graduates of the Eclectic Medical Institute who have listened to the lectures on *Materia Medica* in that institution, that Professor Locke should prepare a work on this subject is the only apology offered for the advent of this book. A short time since, an imperfect, limited edition of "*Notes on the Lectures of Prof. Locke*" was issued by members of the class, and since it has become necessary to supplant that work with this one. These notes have been corrected and are embodied in this work, with many additions. This book is therefore offered merely as a series of notes upon the drugs herein considered.

In many instances it was found necessary to crowd much material into one short paragraph, consequently the matter is merely presented as fragmentary notes, as few words as possible being employed to express the fact in question. The effort has been to make the subject-matter correct and of use to the student rather than a striving after literary effect. Therefore many of the notes stand as they were gleaned from the lecture.

In addition to the therapeutical matter, pharmacological notes, including botanical origin, constituents, composition, solubilities, etc., together with a preliminary section on forms of medicine, have been added by the editor. Our thanks are hereby extended to Prof. J. U. Lloyd, who has kindly furnished authoritative descriptions of such specific medicines as differ markedly in physical properties from other fluid preparations of similar drugs. Fluid preparations herein mentioned, when not otherwise specified, refer to the Eclectic Specific Medicines.

H. W. F.

Cincinnati, O., April 15, 1895.

INTRODUCTION.

Materia Medica treats of medicines in all their relations — their origin, modes of preparation, and their action on the animal economy.

Therapeutics treats of the application of medicines for the prevention or cure of disease. Therapeutics may be *empirical* or *rational*.

When we administer a remedy in a given pathological condition, because we have known it to succeed in like conditions, while at the same time the manner in which it acts is not well understood, we give it *empirically*.

When we give a remedy with a knowledge of its physiological action, to antagonize a certain morbid condition, we give it on the *rational* plan.

Therapeutics and pathology are so intimately connected, that unless the latter be well understood, theoretically as well as practically, it is almost impossible to be a good therapist; hence the therapist takes cognizance of the morbid processes existing—the pathology of the disease—and the physiological and therapeutical effects of remedies.

Action of Medicines.—The action of all medicines is physical, vital, or chemical; or a medicine may act in all three of these ways. The influence of all medicines is, to

a great extent, vital, for their action could only be exerted in a living body. Medicines have also a *primary* and a *secondary* action, the one often being the opposite of the other. Thus, the first action of opium is stimulant; the secondary, narcotic.

Disease.—“Disease is a departure from health. The first study of medicine—*anatomy*—gives us a knowledge of healthy structure. The second study of medicine—*physiology*—notes all the activities of this healthy structure under normal conditions, and gives us a standard of healthy function. From this standard of structure and function we make the measurement of disease.

“It may be well to understand first of all, that the diseased man is in a worse condition than the well one. To the extent of his disease he is incapacitated for his work, and his sensations are painful instead of pleasurable. He loses his flesh, his strength, his functional activities, and is below the normal condition. He who fails to recognize that disease is a wrong life, and that impairment and debility are its essential features, has no business to practice medicine.

“We say of the healthy man that he is able to do a man’s work in the world, and do it pleurably. We say of the healthy part, it is able to do the work of the part, and do it pleurably. When a man can not do his work he is sick; to the extent that he cannot do his work, is the gravity of his sickness. When his efforts to do the things he has been accustomed to are unpleasant or painful, he is sick, and the extent of the unpleasantness is frequently the measure of the disease. When an organ or part can not do its work, it is sick, and the extent of the impairment is the measure of the wrong. When an organ or part gives unpleasant or painful sensations, it is sick, and these are also the measure of disease in some cases.

“In thinking of disease as a wrong life, rather than something that has taken possession of a man—that he has caught, or that has caught him—we have made an important advance. It is his life that we have to deal with, and it is his life impaired. It is death that we meet in the sick chamber. To the extent and gravity of the disease, death is taking the place of life. Death comes in the impairment of structure and function; life comes with its restoration to the normal condition. We should be conservers of the life, and to do this we should restore the conditions of health, in so far as we have control over them.”—*Scudder's Materia Medica*, pp. 33, 34.

Expression of Disease.—“It is a fact that disease has definite expression, which may be studied and learned. The same condition of disease will give the same expression, so that, having learned the language of disease, we have a certain guide in diagnosis. It will not be amiss in this connection to remind the reader of the absolute law that like causes produce like effects. If the symptom or expression is the effect, like symptoms must show like conditions.

“It may be urged that the symptoms of disease are sometimes masked, or that the evidence of grave disease may be covered up by symptoms of minor wrongs (usually of the nervous system), or that patients and nurses may mislead the physician. This may be the case, but knowing the many deceptions which may lead him astray, the doctor guards himself against them. “He who is forewarned is thrice armed.”

“The common methods of diagnosis, which names diseases and classifies them, does not serve our purpose in therapeutics, however useful it may be in studying the natural history of disease. In this method the most diverse conditions of disease may be covered by the same name, and he who prescribes for or at names is sure to go wrong.

In modern therapeutics we associate certain remedies with certain expressions of disease, the remedy proving curative in such cases. Thus we say that a broad, pallid, and dirty tongue indicates a condition of disease which will be met by sodium sulphite ; a dusky red, with brown coating, indicates a condition which will be met by hydrochloric acid ; a bluish appearance of the face, like one who has been long exposed to cold, is met by baptisia ; a pallid mucous membrane, with pultaceous or fibrinous deposit, is met by phytolacca ; a small, frequent pulse is met by aconite ; a full, frequent pulse is met by veratrum ; a small, sharp pulse, with nervous hyperæsthesia, is met by rhus ; dullness, disposition to sleep, coma, dilated pupils, are met by belladonna ; distinct periodicity in disease is met by quinine, etc., etc.

How this relation between disease expression and drug action has been determined might be made an interesting study, if we had time. Suffice it to say, that much of it has grown from observation of the effects of medicine when given in the ordinary empirical way. Careful observers have noticed that in some cases the medicine was markedly curative, whilst in others it was not. They would remark some peculiarity or special symptom in the cases benefited, and would afterward give the medicine where that peculiarity or symptom was observed ; and thus the relation between such expression or symptom and the drug could be established. In other cases the relation has been established by careful experimentation on the sick. Some peculiar action of the drug, or some peculiar want of the patient, would suggest a peculiar drug. It would be used again and again, until the relation between disease expression and drug action was established. In still other cases the relation has been established by proving the remedy on healthy persons, and determining by this its quality of action, and its affinity for special parts. This is the homœopathic method, and

the law they insist upon is, *similia similibus*. But it is also the physiological method ; for, the influence of a drug having been determined, as to its quality and selection of special organs, parts or functions for its action, the agent is employed when such action is required. A remedy being something which *opposes* disease, we are quite correct when we say it is *antipathic*.

“It is well to bear in mind that a remedy is a force which opposes disease. It may not seem so when we take the material in our hands, and to all our senses it may seem inert. But locked up in its molecules is a wonderful power, sometimes in the smallest compass, which is sufficient to change the entire current of life, and make it flow in a different direction.”—*Scudder's Mat. Med.* pp. 42, 44.

Therapeutic Axioms.—Regarding the treatment of disease Prof. J. M. Scudder lays down the following axioms:—

“In disease there is always impairment of life, therefore remedies should always conserve the life, and increase the patient's power to resist disease, and regain his normal condition.”

“If the cause of disease is present it should be removed or neutralized, unless such removal by remedies is more dangerous to the life of the patient than its continued presence.”

“We do not use remedies because they have been ‘highly recommended,’ or have been found useful in named diseases, by writers or teachers of medicine ; we use them because in the particular case there are evidences of disease calling for the particular remedy. We do not prescribe at names, but for conditions ; we are not governed by authority, but by observation and the simple rules of reason.”—*Scudder's Materia Medica*, pp. 34, 37, 38.

Application of Medicines.—Medicines are applied chiefly to the skin and mucous surfaces ; to the subcutaneous areolar tissues ; occasionally to serous tissues, wounds, ulcers, etc.; and rarely by intravenous injection.

I. TO THE SKIN, OR EXTERNAL INTEGUMENT.

There are three general methods of applying remedies to the skin : *enepidermatic*, *epidermatic*, and *endermatic*.

a. By the *enepidermatic method*, the medicine is applied to the skin *without friction*. *Examples* : Baths, fomentations, sinapisms, poultices, blisters, etc.

b. By the *epidermatic method* the medicine is applied to the skin *with friction*. *Examples* : Ointments, liniments, etc.

c. By the *endermatic method*, the medicine is brought in direct contact with the denuded derma, the epidermis having been first removed by means of a blister, cantharides or ammonia generally being employed. The medicine subsequently sprinkled upon the raw surface is quickly absorbed. *Examples* : Morphine, quinine, etc.

II. TO THE MUCOUS SURFACES, OR INTERNAL INTEGUMENT.

a. To the *Nasal or Pituitary Membranes*, by means of *insufflations*, *douches*, and *atomization*.

b. To the *Tracheo-bronchial Membranes*, by *insufflation*, *inhalation*, and *atomization*.

c. To the *Gastro-intestinal Membranes*, by *ingestion*. *Examples* : Powders, pills, tablets, triturations, mixtures, extracts (solid and fluid), infusions, decoctions, vinegars, wines, tinctures, solutions, lozenges, etc.

d. To the *Rectocolic Membranes*. Medicines are applied to these parts both in solid and liquid form : (1) *solid*, suppositories and ointments ; (2) *fluid*, enemas, lavements or clysters.

e. To the *Urino-genital Membranes*, by means of *bougies*, *medicated ointments*, and *injections*.

f. To the *Utero-vaginal Membranes*, by means of *ointments* and *injections*.

III. BY WAY OF THE SUBSCUTANEOUS AREOLAR TISSUES.

Medicines to take effect quickly are applied to these parts hypodermically, *i. e.*, by the injection of small quantities of solutions, by means of the *hypodermatic syringe*.

IV. BY INTRAVENOUS INJECTION.

By means of *transfusion*, and by the injection of medicinal substances directly into the veins. This is too dangerous a method to require consideration on our part.

Forms of Medicine.—Medicines are divided into three classes, *viz.*: *Solids*, *Liquids*, and *Gases* or *Vapors*.

The chief solid forms are the *powder*, *trituration*, *tablet*, *pill*, *extract*, *resin*, *oleoresin*, *confection*, and *lozenge*. For external use are the *poultice*, *ointment*, *cerate*, *plaster*, and *suppository*.

The principal liquids are the *aqua* (medicated water), *infusion*, *decoction*, *vinegar*, *mixture*, *elixir*, *glycerite*, *mucilage*, *collodion*, *solution*, *spirit*, *fluid extract*, *specific medicine*, *tincture*, *syrup*, *honey*, and *wine*. For external use, the *liniment*, *lotion*, and *bath*.

Gaseous medicines are usually employed as *inhalations*, or as *vapors*, produced by means of atomization, with a spray-apparatus, or other means.

POWDERS (*pulveres*) are medicines reduced to various degrees of fineness, by means of mechanical force, or by such means of precipitation as elutriation and levigation. The degrees of fineness in powders are usually designated

by numbers, as No. 40, 60, etc., the numbers having reference to the number of meshes to the linear inch in the sieve through which the powder has been passed. According to the U. S. P., powders are designated as follows :

A very fine powder—No. 80.

A fine powder—No. 60.

A moderately fine powder—No. 50.

A coarse powder—No. 20.

Powders are also, (1) *simple* and (2) *compound*. *Examples* : (1) Powdered Rhubarb. (2) Dover's Powder.

TRITURATIONS (*triturationes*) are made by triturating (rubbing) a medicinal substance with sugar of milk, the latter being employed simply as a diluent. Triturations containing one part in ten, are denominated *first decimal triturations* (1x); one part of the foregoing with nine parts of milk sugar, *second decimal* (2x), and so on.

TABLETS are moulded or compressed medicated candies, usually prepared from triturations, with the addition of some excipient to cause the ingredients to adhere together. For permanent chemicals, they form convenient and reliable forms of medicine, but when made of delicate plant constituents, no dependence can be placed upon them.

PILLS (*pilulæ*) are small, ovoid, spherical, or lenticular bodies, composed of a medicine, or medicines, combined with substances termed excipients, which cause them to retain their shape and firmness. Pills are usually composed of active substances; are generally sugar or gelatin coated, and are intended to be swallowed whole. A very large pill is denominated a *bolus*.

EXTRACTS (*extracta*) are prepared by evaporating the solutions, alcoholic or otherwise, of vegetable medicines. They are either solid or semisolid in consistence. They

may be (1) *simple* or (2) *compound*. *Examples*: (1) *Extractum Aconiti*, (2) *Extractum Colocynthis Compositum*.

RESINS (*resinæ*) are the solid resinous constituents of vegetable substances, usually prepared by precipitation of an alcoholic solution of the drug in simple or acidulated water. *Example*: *Resina Podophylli* (podophyllin).

OLEORESINS (*oleoresinæ*) consist generally of oils (fixed and essential) associated with resins, and extracted from the crude drug by means of ether, the latter being subsequently evaporated. *Example*: *Oleoresina Capsici*.

CONFECTIONS (*confectiones*), which also include *electuaries* and *conserves*, are soft solids, composed of vegetable bodies preserved by means of sugar or honey, or both. *Example*: *Confectio Rosæ*.

LOZENGES (*troches—trochisci*) are solid, candy-like masses, usually discoid or round in shape, composed of powdered drugs combined with sugar and mucilage, and sometimes flavored. *Example*: *Trochisci Acidi Tannici*.

POULTICES (*cataplasmata*) are formed of such substances as, when wet, will be more or less tenacious, and will accommodate themselves to parts to which they are applied. They are employed to soften and relax the tissues, and at the same time exclude the air. They may or may not be medicated.

OINTMENTS (*unguenta*) are fatty preparations of about the consistence of cold lard, which substance (or vaseline) usually constitutes their bulk. When applied to the skin they are softened and rendered fluid by the heat of the body. They may be medicated or unmedicated, and are applied generally by inunction, hence their name.

CERATES (*cerata*) are unctuous bodies intermediate in consistence between the ointment and plaster. They are sufficiently soft to be easily spread upon muslin with a

spatula, and when applied to the skin adhere, but do not become soft enough to liquefy at the body temperature. Their most abundant constituent is wax, hence their name. They are (1) *simple* and (2) *medicated*. *Examples* : (1) Ceratum, (2) Ceratum Cantharis.

PLASTERS (*emplastra*) are substances usually spread upon some kind of skin or fabric, and intended to be applied to the exterior of the body. They require heat to spread them. When applied to the body they adhere but do not become soft. They are composed chiefly of lead plaster (oleate of lead) or some resinous body, and may be simple or medicated.

SUPPOSITORIES (*suppositoria*) are rolled, moulded, or pressed solid bodies, usually prepared from cacao butter and some medicinal agent, and intended for introduction into the pelvic orifices. Sometimes wax or spermaceti is added to give them hardness, so as to prevent them from melting during hot weather.

The fluid preparations are the following :

MEDICATED WATERS (*aqueæ*) are solutions of volatile substances, usually oils or camphors, in water. They are prepared by several methods, as by direct solution in hot or cold water, or by filtering water through some inert powder or cotton impregnated with the volatile body. They are employed chiefly as vehicles.

INFUSIONS (*infusa*) are solutions of the soluble constituents of vegetable drugs prepared by pouring upon the drug usually hot water, and allowing the product to macerate and cool. They are usually prepared of the strength of one part of the material to sixteen of water ; the U. S. P. directs one in twenty, for ordinary infusions. The strength of infusions of powerful drugs, like digitalis, should always be indicated

in the physician's prescription. They differ from decoctions in not being prepared by boiling.

DECOCTIONS (*decocta*) are also aqueous solutions of the soluble principles of vegetable drugs, but, unlike infusions, are prepared by *boiling* the drug in water. The same remarks regarding the strength of infusions apply to decoctions. Decoctions are usually boiled from ten to fifteen minutes. Remember that the process is the opposite to that for preparing infusions. In the latter, hot or cold water is employed, and if hot, the product is allowed to *cool*; in the decoction, cold or warm water is employed and the preparation is *boiled*.

VINEGARS (*aceta*) are solutions of the active constituents of drugs in vinegar, or preferably dilute acetic acid. As many alkaloidal principles are best dissolved in these menstrua, these preparations (of certain drugs, as lobelia, sanguinaria, etc.), are very excellent medicines.

MIXTURES (*mistura*) are aqueous fluid preparations, holding in suspension insoluble powders, or other substances. When the substance held in suspension is an oil, the preparation is termed an *emulsion*. As an example of the first, we have chalk mixture; of the last, emulsion of cod-liver oil. Mixtures are intended for internal use.

ELIXIRS (*elixiria*) are sweetened, aromatic and spirituous solutions, designed as vehicles for small amounts of active medicines. As a class they are very unsatisfactory, though pleasant, preparations.

GLYCERITES (*glycerita*), or *glycerines*, are mixtures or solutions of medicines in glycerin. They are intended for both external and internal exhibition.

MUCILAGES (*mucilagines*) are more or less viscid, thick, and adhesive fluids, prepared by extracting the mucilaginous constituents of plants with water, or aqueous solutions

of gums, or starch. Some are prepared with heat, while others are not. Mucilage of slippery elm, and some others, are best prepared with ice-cold water.

COLLODIONS (*collodia*) are fluid solutions of gun-cotton (pyroxylin), in a mixture of alcohol and ether. They may be (1) simple or (2) medicated. *Examples*: (1) Colloidium; (2) Colloidium cum Cantharidi.

SOLUTIONS (*solutio*), or LIQUORS (*liquores*) are such solutions of non-volatile materials, as are not included in decoctions, infusions, syrups, and mucilages. Liquor Gutta-perchæ, or solution of Gutta-percha, is, however, an exception; this solution being effected by means of chloroform instead of water.

SPIRITS (*spiritus*) are solutions of essential oils and other volatile substances in alcohol. They are practically the same as *essences*, though the latter are usually stronger, though prepared in the same manner.

FLUID EXTRACTS (*extracta fluida*) are fluid alcoholic preparations of vegetable drugs, prepared by percolation, and subsequent concentration of a portion of the percolate by evaporation. Alcohol constitutes the bulk of the menstrua, though water and glycerin, in varying proportions, are often used with it. Ether is also employed, as in Fluid Extract of Lactucarium. Fluid Extracts of Triticum and Castanea are prepared with boiling water.

Fluid extracts are so constructed as to represent one grain of the crude drug in each minim of fluid extract. As a part of this one grain is made up of the extracted inert matter—plant dirt—the preparation can not be said to represent the active constituents of the drug, grain for minim. They are made from *dried* crude drugs, hence they necessarily vary in actual medicinal strength. They are, as a rule, concentrated tinctures. They may be simple or compound.

SPECIFIC MEDICINES are concentrated liquids, and mostly alcoholic plant preparations. They are made of materials in their best condition, and are designed to be their exact medicinal representatives.

The most exhaustive investigations, in a pharmaceutical way, have been applied to this class of remedies, the aim being to make them exceptionally clean and high in quality.

They are for the most part very light in color, and are, generally, nearly free from plant dirt and colored impurities.

Specific Medicines are employed in very small doses, and physicians using them can carry much medicine in a very small compass. These remedies are exclusively *Eclectic*, having been evolved by the united efforts of their manufacturers, and the foremost Eclectic physicians. They are now used by physicians of all schools of medicine.

TINCTURES (*tinctura*) are alcoholic solutions of vegetable (and sometimes mineral) substances. They are prepared by maceration or percolation, generally the latter. They are practically identical with fluid extracts, though their *degree of strength* is much lower than that of the latter. Tinctures are extensively used. Like fluid extracts they contain their relative proportion of plant-dirt and other colored impurities. Tinctures made from fresh bruised or crushed herbs, by maceration, are known as TINCTURES OF FRESH HERBS, or *tincturæ herbarum recentium*.

HOMŒOPATHIC MOTHER TINCTURES are prepared (1) by expressing the juice from freshly-gathered plants, and mixing that juice with an equal bulk of alcohol, allowing it to stand eight days in a dark, cool place, and finally filtering the product; (2) by mixing two parts of alcohol with three parts of the comminuted plant, straining the liquid through new muslin, and proceeding further as above directed; (3) by taking two parts of alcohol to one part of the comminuted

plant and macerating them together for eight days in a well-filled bottle, and lastly, decanting, straining, and filtering : (4) by taking alcohol, five parts, to the comminuted drug (vegetable or animal), one part, macerating eight days, shaking twice daily, and lastly, decanting, straining, and filtering the product.

SYRUPS (*syropi*) are concentrated aqueous solutions of sugar, or thick solutions of sugar in aqueous medicated solutions. They are (1) *simple*, (2) *medicated*, or (3) *flavored*. *Examples* : (1) Simple Syrup ; (2) Syrup of Iodide of Iron ; (3) Syrup of Lemon.

HONEYS (*mellita*) are preparations related to the syrups, but differing in the substitution of honey for syrup.

MEDICATED WINES (*vini medicata*) are fluid preparations, in which the soluble medicinal principles are dissolved in wine.

LINIMENTS (*linimenta*) are fluid, or semifluid preparations, usually oleaginous, though alcohol or even water may be employed as the base, intended for external use, and to be applied with friction. Cotton seed or olive oil is usually preferred as a base. Some liniments are perfect solutions, while others are mere mixtures ; certain soft solids, which will liquefy at the temperature of the body, are also denominated liniments.

LOTIONS (*lotiones*) or *washes* are solutions of medicinal bodies in water or other menstrua, designed chiefly to be applied to localized regions for their topical influence.

BATHS (*balnea*) are general washes designed to be applied to the whole surface of the body. They may be *simple* or *medicated*.

Classification of Remedies.—Though no absolute classification can be made for remedies, we have adopted the following, from *Scudder's Materia Medica*, page 97, as that which best serves our purpose in this work :

1. Eliminatives,	{ Emetics, Cathartics, Diaphoretics, Diuretics, Sedatives, Narcotics, Stimulants, Anæsthetics,	Agents that evacuate the stomach. Agents that evacuate the bowels. Agents that increase the secretion of the skin. Agents that increase the secretion of the kidneys. Agents that lessen nervous sensibility. Agents that produce sleep. Agents that increase nervous energy. Agents that produce insensibility. Agents that diminish the heat of the body.
2. Neurotics,	{ Tonics, Alteratives,	Agents that give tone to the system. Agents that modify organic action. [tation.
3. Refrigerants,	-	Agents that cure by producing a new point of irri-
4. Hematics,	-	Agents that cause condensation of the tissues.
5. Revulsives,	-	Agents that increase and favor expectoration.
6. Astringents,	-	Agents that counteract putrefaction.
7. Expectorants,	-	Agents that promote the menstrual secretion.
8. Antiseptics,	-	Agents that excite contraction of the uterus. Agents that produce abortion.
9. Uterina,	{ Emmenagogues, Parturients, Abortives,	Agents that counteract spasms. Agents that remove worms.
10. Antispasmodics,	-	Agents that increase the secretion of saliva.
11. Anthelmintics,	-	Agents that increase the nasal secretion.
12. { Sialagogues, Erhines.	{ Antacids, Antilithics,	Agents that neutralize acidity. Agents that prevent calculous formations. Agents that shield the tissues.
13. Chemica,	{ Demulcents, Emollients, Diluents,	Agents that soften and relax them. Agents that increase the fluidity of the blood. Agents that counteract the action of poisons.
14. Mechanica,	-	
15. Antidotes,	-	

EMETICS

Emetics are agents, which, by their action upon the terminal filaments of the gastric nerves, or upon certain nerve centers, excite vomiting. Emetics are divided into two classes—*specific* and *mechanical*, or *irritant*.

The *mechanical* (irritant) *emetics* act by their bulk, or by the irritation they produce.

Specific emetics are absorbed and act by stimulating the vomiting center in the brain; or, having an affinity for the mucous membrane of the stomach, act on the terminal branches of the pneumogastric nerve.

The action of the *mechanical emetic* is confined principally to the stomach, which is emptied of its contents.

The *Specific emetic* not only evacuates the stomach, but it influences the muscular, nervous and vascular systems, and produces general relaxation.

Mechanical Emetics are indicated when we desire simply to evacuate the stomach, as in cases of poisoning, etc., or to dislodge foreign bodies from the respiratory tract. In this class we have such agents as mustard, zinc sulphate, common salt, etc.

Specific Emetics are indicated when we desire to produce general relaxation, arrest spasm, and in the early stage of fever, for their local and constitutional effects. To this class belong such agents as lobelia, ipecac, and apomorphine hydrochlorate.

SPECIFIC INDICATIONS.—Emetics, says Prof. John M. Scudder, are specifically indicated where “the tongue is broad, full, dirty, and especially coated at its base. There is sometimes nausea, disgust for food and drink, and everything taken seems to stop at the stomach. The patient complains of sensations of weight and oppression at the epigastrium.”—*Materia Medica*, page 112.

CONTRAINDICATIONS.—Emetics are contraindicated, as a rule, where there is a marked determination of blood to the brain, as in cerebral congestions, apoplexy, and phrenitis; in pregnancy, hernia, aneurismal or other organic diseases of the circulatory organs; marked gastro-intestinal irritation or inflammation; and in advanced inflammations or fevers, and in all cases where there is marked debility.

ZINCI SULPHAS.

Zinc Sulphate.

SYNONYMS.—*Sulphate of Zinc, White Vitriol.*

DESCRIPTION.—Zinc sulphate is produced by the action of sulphuric acid on metallic zinc. It occurs in commerce in the form of transparent, odorless, colorless crystals, having a metallic, astringent taste. Upon exposure to air, it effloresces, becoming whitish, and, for this reason, should be kept in well stoppered containers. Soluble in water (0.6), boiling water (0.2), and glycerin (3). Alcohol does not dissolve it. Its aqueous solution is acid in reaction.

This is a salt having the appearance of sulphate of magnesium. Its properties are emetic, astringent, tonic, antispasmodic, and escharotic. It is an active emetic, and even when injected into the veins produces emesis.

It is a valuable remedy in diseases of the larynx.

R. Sulphate of Zinc, grs. ij. to x.
 Aqua, fl $\frac{3}{4}$ j. M.
 Sig.—Use as a wash or gargle.

It serves an excellent purpose when applied to the remains of a nasal polypus after removal by the surgeon. It is a good escharotic when made into a paste with glycerin.

The following formula provides a good injection for gonorrhœa in the chronic form :

R. Sulphate of Zinc, grs. iv.
 Sulphate of Morphine, gr. j.
 Aqua, fl $\frac{3}{4}$ iv. M.

It is a good remedy, used for its emetic action, in cases of narcotic poisoning; also in some cases of membranous croup, and other spasmodic affections.

If applied to ulcers, it stimulates the tissues, lessens the discharge, and promotes granulation. For this purpose—

R. Sulphate of Zinc, grs. ij. to v.
 Aqua, fl. $\frac{3}{4}$ j. M.

For ulceration of the rectum—

R. Sulphate of Zinc, grs. vj.
 Tinct. Opii (Laudanum), gtt. xx.
 Aqua, fl. $\frac{3}{4}$ viij. M.
 Sig.—Inject fl. $\frac{3}{4}$ j.

For vaginal leucorrhœa—

R. Sulphate of Zinc, grs. iv.
 Aqua, fl $\frac{3}{4}$ viij. M.
 Sig.—Use as an injection.

A strong solution ($\frac{3}{4}$ j. to aqua Oj.) forms an excellent dressing for wounds where gangrene threatens.

DOSE.—To produce emesis, from 10 to 15 grs. in water. This may be repeated two or three times.

Its use is contra-indicated if irritant poisons have been taken.

IPECACUANHA,***Ipecac.***

BOTANICAL ORIGIN.—The root of *Cephaelis Ipecacuanha*, A. Richard, Nat. Ord., *Rubiaceæ*. Brazil, New Granada, and Bolivia.

CHIEF ACTIVE CONSTITUENT.—*Emetine*, the emetic principle, exists in the root in combination with *ipecacuanhic acid*.

SPECIFIC IPECAC.—This has a dark, brown-red color, being one of the few dark, cloudy Specific Medicines. It is capable of mixing clear with water, or mixtures of water and alcohol, being, for this reason, a great improvement on such preparations as the fluid extract. Being very concentrated, care must be taken in its administration.

This is a wild plant, growing in rich, damp woods in Brazil, etc. The root is the part used. In the market it comes in the form of annulated stick-like roots, their color being gray or yellow. Its properties are imparted to water or alcohol, but the solution is precipitated by tannic acid. It enters into the combination known as DOVER'S POWDER, as follows:

R. Ipecacuanha,
Opium, *aa.* in fine powder, ʒj.
Sugar of Milk, ʒj. M.
Sig.—Dose, from three to ten grains.

This relieves pain and induces sleep.

A tincture and a syrup are also in use. To prepare the latter—

R. Tincture of Ipecac, fl ʒ ij.
Simple Syrup, fl ʒ xiv. M.

This may be used as an emetic or an expectorant.

Powdered Ipecac mixed with lard will produce an eruption on the skin if applied to it. In the form of a powder it is an irritant to mucous surfaces—so much so that some persons can not handle it on that account. It produces in them symptoms resembling those of spasmodic asthma. Given in doses of from five to twenty grains, it is an emetic. In doses of

two grains it is diaphoretic. In doses of a half-grain to a grain it is a good expectorant. In doses of from five to fifteen grains it loosens the bowels. Its first effect is stimulant; after which it produces nausea and emesis.

Ipecac may be used in every case where an emetic is needed, being the mildest of the specific emetics. In cases of narcotic poisoning it may be used with good results, though it is not so rapid in its action as zinc sulphate. Its action is marked upon the pneumogastric nerve. While it is a specific emetic, it may also act as a topical emetic.

Ipecac is the most suitable emetic when the stomach is to be unloaded of undigested aliment. Acute indigestion, bilious attacks, accompanied with sick headache, and other forms of headache, depending upon difficult digestion, may often be cut short with an emetic dose of the powdered drug. It is used as an anti-emetic in cases of nausea from sympathetic troubles, for which—

R. Ipecac, grs. v.
Aqua, fl $\frac{3}{4}$ iv. M.

Sig.—Take a teaspoonful every hour.

This agent makes a good combination with cathartics as podophyllin. It renders them less irritating, and favors their absorption, besides exerting a favorable impression upon the liver.

It is contraindicated in nausea from organic diseases of the stomach. It is indicated by a constricted and elongated tongue in connection with other symptoms indicating an emetic.

In nausea, with a broad, flabby, and slimy tongue, give ipecac in full emetic doses. In such doses it influences the circulation and the secretions, and is a good agent in most cases where a revulsive is needed. It relieves congestion, equalizes the circulation, and clears the stomach for the reception of other remedies.

In intermittent fever, where quinine has not been sufficient, Ipecac will give good results. In chronic ague it is especially efficient. Begin treatment with emetic doses and bring the system slowly under its influence, after which give smaller doses with warm water until complete emesis results. This cures many times when quinine utterly fails. It is useful in stomach troubles dependent upon malarial influence, and may be used freely to give relief. If the disease returns give quinine. Ipecac is also used as a diaphoretic. For this purpose it is valuable in many cases of acute rheumatism. It is an excellent remedy in the stomach and bowel troubles of children. In convulsions arising from irritation of the bowels in children, it should be given in powder—one teaspoonful of Ipecac in a half teacupful of sweetened warm water—the dose of the mixture being a teaspoonful one after another, allowing but a very short interval to elapse between doses, until emesis is effected.

Ipecac is also a good remedy in troubles of the respiratory organs, such as acute bronchitis, difficult breathing, and in croup (combined with Aconite). It may be given with good results to women troubled with difficult respiration during pregnancy.

R. Spec. Ipecac, gtt. v. to x.

Aqua, fl $\frac{3}{4}$ iv. M.

Sig.—Teaspoonful every one to four hours.

In spasmodic affections of the throat, as croup, if fever is present, give Ipecac in alternation with Aconite; if a membrane is present, alternate it with Bryonia. It is not as good as Lobelia in catarrhal affections of the throat. Given in small doses it is stimulant; in large doses depressant. If dryness of the membranes is a marked feature, the syrup is a good form of administration. Ipecac is beneficial in many kinds of cough. If it be a dry form of cough give nauseant

doses ; if secretion is abundant give a small (stimulant) dose. In that form of spasmodic cough in which the expectoration is bloody, the dose should be neither large nor small, say one drop of specific Ipecac in a teaspoonful of water every ten or fifteen minutes.

Combined with Aconite or Bryonia it is an excellent remedy in pneumonia. In whooping cough it also serves a good purpose, but is inferior to Lobelia. It is also an excellent remedy to remove hoarseness or congestion of the vocal cords, the result of colds.

R. Specific Ipecac, gtt. v. to vj.

Aqua, fl $\frac{3}{4}$ j.

Sig.—Vaporize and inhale, or use it in a spray atomizer.

This gives almost instant relief.

In full doses it relieves spasmodic asthma, though it is inferior to Lobelia if the spasm is severe. Combined with Aconite it serves a good purpose in cholera infantum ; likewise in other diarrhœas. It may be used with Nux vomica in bowel troubles, especially of teething children, provided the face and tongue are pale and there is pain in the abdomen, with nausea and vomiting. If fever is present use it with Aconite. If the child is nervous and there is marked pain give it with Chamomile. If there is a tendency to spasm give it with Gelsemium. Ipecac is especially valuable in the diarrhœa of teething, in which the tongue is coated white, and the stools are offensive, green and bloody, and accompanied with marked nausea. In chronic diarrhœa, accompanied with gastric irritability, belching of gases, etc., Ipecac, in small doses, may be alternated with bismuth subnitrate (five grains) every hour. In dysentery it is truly a specific.

R. Specific Aconite, gtt. x. to xv.
 Specific Ipecac, gtt. x to xv.
 Magnesium Sulph., ʒ j.
 Aqua, fl ʒ iv. M.

Sig.—Take a teaspoonful every 1 to 3 hours.

If desirable it may be combined with Opium.

Ipecac is good in some cases of hemorrhage. In hemorrhage from the uterus in abortion give it in doses of one drop every few moments, pushing it to nausea, but just short of emesis, and it will arrest the flow. It is a good agent in bleeding from the nose (epistaxis) in doses of one drop. In case nausea is produced it is not objectionable. When given to arrest hemorrhage of the stomach or bowels give it in doses of one drop. Ipecac may be employed in bleeding piles or bleeding from the urethra, with difficult urination. It is a first-rate drug in controlling difficulties after parturition. Use Aconite with it if fever is present.

Ipecac is indicated by the following symptoms in addition to those previously given: Irritation of bronchial mucous membranes, irritation of stomach or small intestines, nausea and dysentery.

SINAPIS.

Mustard.

SYNONYMS.—(1) *White Mustard*; (2) *Black Mustard*.

BOTANICAL ORIGIN.—The seed of (1) *Brassica alba*, (Linne) Hooker filius et Thompson, and (2) *Brassica nigra*, (Linne) Koch; Nat. Ord., *Cruciferae*. Indigenous to West Asia and South Europe, but naturalized throughout the United States and greater part of Europe and Central Asia.

CHIEF ACTIVE CONSTITUENT.—The most active body is the *Volatile Oil of Mustard*.

These are common, well-known plants. The seed is the part used in medicine. Mustard is emetic, stimulant, laxative, diaphoretic, rubefacient and vesicant.

The dose ranges from one-half to thirty grains.

In doses of a teaspoonful, it is prompt and efficient in its action, producing speedy emesis. As a counter-irritant it is speedy but temporary in its effects. It blisters the skin if applied for any great length of time. When used as an emetic, warm water should be given to assist its action, and emesis *must* be secured before leaving the patient. If this does not result, the quantity taken may poison the individual. Mustard poisoning produces burning pain in the stomach, and inflammation of the mucous coat, which, if severe, causes the peeling off of this membrane.

It is a good emetic to employ in cases of delirium tremens and in narcotic poisoning; in both cases a stimulant emetic is demanded.

As a draught applied to the skin, ten minutes is generally long enough if the skin is tender. It should never be left on more than forty minutes. If the parts are blistered by it, treat it as you would any other burn. It should be used with caution on children.

It may be employed in coma and febrile affections; in aches and pains, as earache or toothache, it serves a valuable purpose. The mustard draught is a good agent to arouse a patient from insensibility, stupor, or syncope.

A tablespoonful or more may be added to sufficient water to bathe in, and get its medicinal effects in this way. For this purpose its use is advisable in the *exanthemata*, in cases where the eruption is tardy, or where there is retrocession of the same.

Make a sinapism of it with vinegar, if a slow action is desired, but if a rapid action is wanted, use black mustard, with enough cold or tepid water to make it into a paste; spread it on a cloth, covering the mustard with another cloth to prevent its coming in contact with the skin. A mustard plaster should never be made with hot water, as the latter destroys the effectiveness of the drug. After the removal of

a mustard draught, always thoroughly wash and dry the parts to which it has been applied

If long action is wanted, mix it with vinegar. This is a good application to relieve sudden and severe pain, as neuralgia, acute pain in lungs or other parts. A sinapism applied between the thighs will re-establish suppressed menses.

Cramps are relieved by the application of a sinapism applied to the part affected. It should not be forgotten for this purpose in cramps of the limbs in cholera.

Mustard is of value in chronic rheumatism and dropsy. Use from one to three tablespoonfuls of it to a pint of water. Apply locally.

DOSE.—The emetic dose is a teaspoonful, repeated every ten or fifteen minutes till the desired result is obtained. As a diuretic, take one-half a wineglassful three times a day of the following preparation :

R. Mustard Seed, $\bar{3}j$.
Cider, Oj. Macerate.

LOBELIA.

Lobelia.

SYNONYMS.—*Indian Tobacco, Emetic Weed, Vomit Weed, Puke Weed*, etc.

BOTANICAL ORIGIN.—The leaves, tops, and seeds of *Lobelia inflata*, Linne. Nat. Ord., *Lobeliaceæ*. Common throughout the United States.

CHIEF ACTIVE CONSTITUENT.—*Lobeline*, combined in the plant with *lobelic acid*, is the active principle.

SPECIFIC LOBELIA.—This preparation is made of *Lobelia* seed, and not the herb. It contains the oil of the seed, and when it is dropped into water a milky liquid results. The odor of specific *Lobelia* reminds one of an oil, and its mixture with water is to some persons disagreeable. Very small amounts are sufficient to give the effects of *Lobelia*, and large doses act as an emetic.

Lobelia is an annual plant growing wild in old fields. It grows one or two feet high, and bears many small blue flowers. It possesses an irritating odor, dependent upon a volatile oil, and a peculiar burning taste when first taken into the mouth. The entire plant, except the root, is employed. It should be gathered in August and September, and dried in the shade.

Lobelia is, perhaps, the most important emetic in the materia medica, being more thorough in its action, though less mild, than Ipecacuanha. The burning taste imparted continues long in the fauces, and the impression made very much resembles that produced by tobacco.

A tincture may be made with alcohol, but it also imparts its virtues to water and acetic acid. It is best administered in tincture, or aqueous infusion; a decoction should not be employed, as boiling impairs its virtues. The therapeutic action of this drug depends upon the size of the dose administered. Given in sufficient doses it is emetic, but in small doses it is stimulant. It acts also as a sedative (in nauseant doses) and antispasmodic. As an antispasmodic it has no superior outside of the anæsthetics. It is a local irritant, but does not produce inflammation. It makes a decided impression on the nervous system, acting particularly on the parts supplied by the pneumogastric nerve. In small doses it affects the muscles, both voluntary and involuntary, acting first upon the latter. It stimulates the nerves controlling digestion and secretion, and makes the whole sympathetic system more sensitive. Its effects, however, are transient.

Used when there is slowness of pulse resulting from want of innervation, it remedies this defect by its stimulating influence upon the nervous system. It corrects this abnormal circulation more readily than any other agent.

Lobelia, in small doses, increases the flow of urine, and augments the other secretions, animates the countenance,

brightens the eyes, and renders the senses more acute. Large doses are powerfully depressant. If given in sufficient doses it is narcotic, being classed by some as only second in power to tobacco. As a sedative it ranks between Aconite and Veratrum. It has been used since about 1793, when Thomson introduced it to the profession.

In addition to its other properties, it is a good alterative, and as such is employed in syphilis. On account of its antispasmodic qualities, it is a very valuable agent in the treatment of spasmodic asthma. Allopaths, as a rule, know very little about this remedy, and, though using more dangerous agents, they seem to be afraid of this drug. Poisoning may result from an overdose of this agent, though such cases are very rare. When it does occur there are symptoms of great burning in the fauces and stomach, gastric distress, purging and vomiting, great anxiety, pronounced muscular relaxation, profuse sweating with great debility, convulsions, and death.

As compared with Ipecac it is more thorough and less mild. When an intense antispasmodic effect is wanted, Lobelia is preferable. As an antispasmodic it is equalled by few, and excelled by no other agents. For this effect it may be given by mouth or rectum. For an emetic use one or two teaspoonfuls of Lobelia to three or four tablespoonfuls of warm water.

In all kinds of spasmodic action it is valuable, using it as follows: Take of Lobelia leaves and seed enough to fill any convenient sized vessel. Cover this with alcohol. Let it stand two weeks and it is ready for use. Dose, from one drop to one teaspoonful. Use dilute alcohol for this tincture.

Use the following in whooping cough :

R. Tinct. Lobelia, fl ʒj.

Syr. Simplex, fl ʒij. M.

Sig.—Dose, from half to one teaspoonful.

It may be employed even where vomiting is an accompaniment of the disease, for it will assist in clearing the air passages of mucus. This prevents the spasmodic fits of coughing and exerts a stimulant action. The syrup is a good form of administration for small children.

For spasmodic asthma use the following :

R. Tr. Lobelia, fl ʒ ij. to fl ʒ j.
Simple Syrup, fl ʒ j.

Sig.—Dose, one-half to one teaspoonful, or give specific Lobelia, gtt. v. every 15 minutes.

Lobelia is useful in all forms of croup. By its action the air passages are cleared and respiration becomes easier. Lobelia is a good remedy in respiratory diseases. In cough with constriction of the chest, or præcordial oppression, no other remedy equals it. Congestion of the heart, lungs, etc., is relieved by it. In colic, due to an overloaded stomach, by its cleansing action on the stomach and the muscular relaxation it produces, Lobelia is a very good agent when given to emesis.

The following treatment will cure anything in the way of colic : Give ten drops of the tincture at a dose until the patient vomits freely. If this is not sufficient give a hypodermic injection of morphine. Lobelia is a good drug in the treatment of angina pectoris. Give in sensible doses or carry to complete emesis if necessary. In hysteria, Lobelia with Capsicum will generally relieve, unless the disease be due to uterine troubles.

Administered in the eruptive diseases, Lobelia promotes determination of blood to the surface and rapidly develops the eruption on the skin. In topical poisoning, especially by Rhus, apply cloths dipped in a solution of specific Lobelia one part and water six parts, and give small doses of the drug internally. It may likewise be applied to poisoned wounds.

It may be beneficially employed in cases of delayed labor

to promote relaxation of the os uteri, when the latter is thick and rigid, and to prevent laceration.

Lobelia is indicated by a small and feeble, or full oppressed pulse, labored action of the heart, with pain and difficult respiration. To sum up, it is specific in spasmodic asthma, angina pectoris, rigidity of the os uteri, vagina or perinæum, with thickening. It is our best muscle relaxant and is indicated where there is excessive secretion and accumulation of mucus within the bronchiæ.

SANGUINARIA.

Bloodroot.

SYNONYMS.—*Red Puccoon, Indian Paint, Bloodwort, etc.*

BOTANICAL ORIGIN.—The rhizome of *Sanguinaria canadensis*, Linne, Nat. Ord., *Papaveraceæ*. Common in the United States.

CHIEF ACTIVE CONSTITUENT.—The alkaloid *sanguinarine*, a white principle which combines with nitric acid to form *Sanguinarine nitrate*, a red powder, soluble in water, syrup, and alcohol.

SPECIFIC SANGUINARIA has a deep red color and a sharp acrid taste. It leaves a scratching sensation in the throat and a peppery taste in the mouth. When dropped into water made alkaline with ammonia, the red color disappears, a milky liquid resulting. Any sour acid added to this liquid in excess produces a red or yellow solution.

This is a small, well-known plant, a native of America. It grows in rich, moist woods and is among the earliest of our plants to blossom. The rhizome is the part used in medicine. It should be collected in autumn and carefully dried in the shade.

The tincture, syrup, and Sanguinarine nitrate are in common use.

Prepare a tincture by macerating eight ounces of the drug in sixteen ounces of sixty per cent. alcohol. Let stand two

weeks. A syrup may be made by macerating two ounces of the rhizome in cider vinegar, one pint. To this add loaf sugar, two pounds. Another syrup may be made by taking Sanguinarine nitrate gr. j. simple syrup fl $\bar{3}$ j. Dose, one to thirty drops.

Constriction of the throat is relieved by doses of five drops. Sanguinaria is emetic, stimulant, tonic and emmenagogue. It forms an ingredient of some escharotic pastes. It is a good stimulant to the mucous surfaces, especially of the respiratory organs.

It stimulates the sympathetic nervous system and thus improves nutrition and secretion. This agent is seldom used alone as an emetic, but forms a good combination with other emetics by its stimulant influence. Used alone it is too harsh. Employ it when a stimulant expectorant is wanted, and it will give relief. It is good in chronic troubles when cold feet and hands, with a feeble circulation, is a marked symptom. Here the patient will be benefitted by its use, given in alternation with iron. It is a good agent in chlorosis.

Sanguinaria acts upon the bronchial membranes as a stimulant and expectorant. Furthermore it acts well as a stimulant upon all mucous surfaces. In membranous laryngitis it is an excellent remedy. By its action, when given first in small doses, the membranes become detached, and its alterative influence favors the cure of the disease. In this case give :

R. Acetous (Vinegar) Tr. Sanguinaria, fl $\bar{3}$ ss.
 Syr. Simplex, fl $\bar{3}$ iiss. M.
 Sig.—Dose, from a few drops to a teaspoonful.

Do not give often enough to produce emesis. At least emesis should not be brought on before the membrane has loosened. Wrap the throat in a flannel wrung out of hot water. From three to five drop doses of Sanguinaria act as a stimulant to mucous surfaces with increased secretion from

the bronchiæ. It likewise acts beneficially in diseases of the stomach with increase of mucus. Upon the vegetative system of nerves and upon the circulation its action is direct, hence it is useful in pulmonary and bronchial affections, croup, rheumatism, diseases of the liver, scrofula, amenorrhœa and passive dropsy.

For difficult expectoration :

R. Vinegar Tr. Sanguinaria,
 Tr. Prunus Virginiana, aa. fl ʒ ij.
 Syr. Simplex, fl ʒ iiss. M.
 Sig.—Dose, teaspoonful every two or three hours.

This forms a valuable stimulant tonic and alterative.

Sanguinaria is a good remedy in pulmonary phthisis to aid expectoration. By its influence on the mucous surface it is a good remedy in nasal catarrh where there is much sneezing attended with an acrid discharge. In spasmodic conditions it is not equal to Lobelia, but where secretion is profuse it is just the remedy. In pneumonia first give specific Aconite or specific Veratrum, and after the inflammatory stage has passed give specific Sanguinaria, in drop doses, as an expectorant and stimulant.

In small doses Sanguinaria is a reliable cholagogue. It is a good agent in chronic affections of the liver when there is pain in this region accompanied with constipated bowels and bad taste in the mouth. Use equal parts of Sanguinaria and Podophyllum, one or two drops on sugar three or four times a day.

Sanguinaria, in small doses, is a good alterative. In chronic skin diseases and dropsical affections it is valuable, for by its stimulant action it promotes absorption, betters innervation and places the stomach in a good condition. It is of value as a local application to ulcerated conditions of the orifices of the body. With zinc chloride it is used in a paste for cancers. In diluted form it is stimulant ; in con-

centrated form it is escharotic. Its use is indicated by a sense of burning and constriction in the fauces, with free secretion. It will be found a valuable agent, given either alone or in alternation with other remedies, in many conditions accompanied with feeble circulation and cold extremities. With these indications, together with chilliness, it is a good remedy for sick headache. Give one drop of specific Sanguinaria every half or one hour.

APOCYNUM.

Canadian Hemp.

SYNONYMS.—*Indian Hemp* (improperly), *Bitter Root*.

BOTANICAL ORIGIN.—The root of *Apocynum cannabinum*, Linne, Nat. Ord., *Apocynaceæ*. Common in the United States.

SPECIFIC APOCYNUM CANNABINUM.—This preparation is of a dark whisky color and when first made is clear and transparent. By age it usually deposits a white, flocculent precipitate which is of no consequence as it is a kind of rubber and not of any value in therapy. The clear liquid can be used in confidence after filtration or decantation. In very cold weather large crystals of cane sugar have been deposited.

This is a perennial plant, a native of America, growing two or three feet high, having a milky juice and a root somewhat resembling that of Ipecac. The root is the part used in medicine. Its properties are emetic, cathartic, diuretic, alterative and tonic. In doses of forty to sixty drops it is emetic and cathartic. In small doses it is diuretic, tonic and expectorant; in large doses it is a hydragogue-cathartic.

In bronchitis, pharyngeal catarrh and laryngitis it assists to remove the secretions. For cough, if dry and short, give one drop of specific Apocynum.

It is a good remedy in syphilis and chronic skin diseases, and in scrofula, acting as an alterative and tonic.

It may be employed with advantage where there is slight losses of blood—passive hemorrhages. In passive menorrhagia where the flow is too frequent it may be advantageously employed. Chronic metritis and rheumatism are relieved by its use.

Its use is indicated by an œdematous condition of the tissues and a puffy condition of the eyelids. In rheumatism with these indications it will assist other anti-rheumatics.

Apocynum is *the* remedy in dropsy. It is suited to atonic conditions of the system, as in anæmia, but it should not be given when the pulse is full and strong. By its use the absorbent system is stimulated and tone given to the blood vessels, thus removing the œdematous infiltration and preventing further exudation. In the dropsy following scarlet fever it is a good agent, and may be employed alone or with other remedies that will act upon the heart and kidneys, as Digitalis and Squill. It is especially good in dropsy following ague. Dropsical affections with heart trouble, as dilatation of the ventricles, will be benefitted by the following: One to ten drops every hour, or an infusion of the root (℥j. to aqua Oj.) in doses of one to two teaspoonfuls every hour, or:

R. Digitalis Infusion, fl ℥ iv.

Specific Apocynum, fl ℥ss. M.

Sig.—Dose, a teaspoonful every three hours.

This acts as a heart tonic. This remedy is helpful in hydrocephalus and anasarca.

It is of value in any dropsy of an atonic character; sometimes, in this condition, it is employed as an emetic. More often, however, small doses are to be preferred.

In atonic dyspepsia when there is puffiness of the eyelids and constipation.

R. Specific Apocynum, gtt. v. to xij.
 Aqua, fl $\frac{5}{8}$ iv. M.

Sig.—Take a teaspoonful at bed-time, or take one drop of specific Apocynum in a little water after each meal.

The dose of specific Apocynum is from the fraction of a drop to five drops.

APOMORPHINÆ HYDROCHLORAS.

Apomorphine Hydrochlorate.

DESCRIPTION.—This salt occurs in very small, white, or grayish-white, shining needle crystals. It has no odor, and to the taste is feebly bitter. Upon exposure to air and light it acquires a greenish tint. Soluble equally in water and alcohol (about 45), and but very sparingly soluble in chloroform or ether.

This is an alkaloidal salt made by heating together, in a closed tube, hydrochloric acid and morphine. It is a powerful emetic, producing vomiting in from two to five minutes when given hypodermatically in doses of one-fifteenth grain in water. Its maximum dose ($\frac{1}{8}$ gr.) should be administered only in extreme cases, as in narcotic poisoning.

Apomorphine reduces the force and volume of the circulation and stimulates the respiratory centers. In large doses it may produce inflammation. This agent is very good for hypodermatic use, and very rapid in its action. In cases of narcotic poisoning it is useful if given early, but if not given early its effects are not produced. By way of stomach one-tenth grain may be used as a dose. In doses of one-sixteenth grain, by mouth, it is expectorant. The solution must be fresh or it is not good. Tetanus and hiccough may be treated with it.

CUPRI SULPHAS.**Copper Sulphate.**

SYNONYMS.—*Blue Stone, Blue Vitriol, Cupric Sulphate, Sulphate of Copper.*

DESCRIPTION —This salt is produced by acting on copper with sulphuric acid. It forms large, deep-blue, transparent, odorless crystals, having a metallic and nauseous taste. Exposed to the air, the crystals part with the water of crystallization, becoming coated with a whitish powder. Soluble in cold water (2.6), boiling water (0.5), and nearly insoluble in alcohol.

As an emetic Sulphate of Copper is valuable in cases of narcotic poisoning, working more quickly than sulphate of zinc. From three to five grains is an emetic dose. It makes a good application in purulent ophthalmia. For this purpose :

R. Sulphate of Copper, gr. j.
 Aqua, fl ʒj. M.
 Sig.—Use as eye drops.

Apply the solid stick (*blue-stone pencil*) to granulations in the treatment of granular conjunctivitis.

In gonorrhœa use the following :

R. Sulphate of Copper, gr. j.
 Aqua, fl ʒj. M.
 Sig.—Inject once or twice daily.

The same preparation may be used in the same way in leucorrhœa.

Copper Sulphate makes a good application for indolent ulcers. It removes dead tissue, and by its stimulant effect promotes healthy granulations.

Use the following to remove warts :

R. Sulphate of Copper, grs. xx.
 Aqua, fl ʒj. M.
 Sig.—Apply to the warty growth.

For ulceration of the mouth or gums :

R. Sulphate of Copper, grs. v. to x.
 Aqua, fl $\bar{3}$ j. M.
 Sig.—Apply to the ulcerated surface.

SODII CHLORIDUM.**Sodium Chloride.**

SYNONYMS.—*Common Salt, Table Salt, Sea Salt.*

DESCRIPTION.—Pure sodium chloride occurs in permanent, transparent, colorless, cubical crystals, or as an odorless, white, crystalline powder, of a pure saline (salt-like) taste. Soluble in cold water (2.8), and in boiling water (2.5); insoluble in chloroform and ether, and nearly so in alcohol.

Common salt, in large doses, is emetic and cathartic; in small, stimulant, tonic, anthelmintic, styptic, and refrigerant.

Salt has given good results when administered in cholera infantum and dysentery. It is a good antiseptic to add to poultices to be applied to gangrenous ulcerations. Applied to glandular swellings, sprains, and bruises, it acts as a discutient. A hot salt pack is of value in many painful conditions. It gives relief in after-pains, pain in the chest, pneumonia, pleurisy, toothache, etc. Salt water and vinegar, locally applied, sometimes arrest brain troubles, if used early. In this form it is a valuable counter-irritant in throat affections. It may also be used as a gargle. It is particularly applicable where there are flabby fauces.

Douche for nasal catarrh :

R. Sodium Chloride, $\bar{5}$ j.
 Aqua, Oj. M.
 Sig.—Use at blood temperature as a douche.

In hæmoptysis, administer salt in bulk, small quantities at a time. In protracted fevers, where but little nourishment can be taken, give an occasional pinch of salt.

Salt is a good emetic to use in cases of narcotic poisoning. Sick headache is often relieved also by an emetic dose of salt. For these purposes give four drachms of the drug in some

warm water. Some cases of constipation yield to the continued use of small doses of salt.

In chronic granular ophthalmia, dissolve about twenty grains of salt in the water used to bathe the eye.

Remember that salt is the antidote to nitrate of silver. A solution of salt should always be at hand when a solution of silver nitrate is to be applied to the conjunctiva.

ANTIMONII et POTASSII TARTRAS.

Antimony and Potassium Tartrate.

SYNONYMS.—*Tartar Emetic, Tartarated Antimony, Tartarized Antimony.*

DESCRIPTION.—This compound is produced when oxide of antimony and bitartrate of potassium (cream of tartar) are boiled together. This salt forms transparent, colorless crystals, which, on exposure to air, become opaque and white; or it may be had in a granular white powder devoid of odor, but possessing a taste at first sweet and afterwards disagreeably metallic. Soluble in cold water (17) boiling water (3). Alcohol, in which it is insoluble, precipitates it as a crystalline powder from its solution in water.

This agent is emetic, but is never so employed by members of our school of medicine. Its specific use is in that form of broncho-pulmonary disease known as capillary bronchitis. It should be employed only in minute doses. The 2x or 3x homœopathic triturations, given in about two grain doses every two hours, are about the proper forms of administration; the stronger trituration for adults, the weaker for children. It is specifically indicated by the increased secretion from the broncho-pulmonary mucous surfaces, with lack of power to expectorate. Breathing is difficult, suffocative and

wheezing, the bronchial *rales* loudly subcrepitant, the cough rattling, the pulse feeble, and the extremities cool. A pallid surface covered with cold, clammy sweat, frequent urging to empty the bladder and bowels, with uneasiness in hypogastrium, are also indications. With this disease-picture before us, it will be found of value in croup, asthma, bronchitis, bronchorrhœa and pneumonia, all with free secretion, but difficulty in raising the sputa, the effort being feeble and attended with a feeling of faintness.

EUPHORBIA COROLLATA. *Large Flowering Spurge.*

BOTANICAL ORIGIN.—The bark of the root of *Euphorbia corollata*, Linne, Nat. Ord., *Euphorbiacæ*. United States, growing in meadow lands; abundant in the South.

This agent is emetic, cathartic, diaphoretic and expectorant. It is powerfully emetic in large doses; smaller doses produce hydragogue catharsis; small doses are expectorant and diaphoretic, and relieve irritation. As an emetic, give from ten to twenty grains of the powdered root with warm teas. Judgment must be used in its employment, for it is a harsh drug, and may produce, in injudicious doses, gastrointestinal inflammation.

In medicinal doses it relieves gastric irritation and assists digestion. Use it where the tongue is furred and there is a bad taste in the mouth, loss of appetite and constipation. Small doses are beneficial in dysentery and diarrhœa with large evacuations, accompanied by tenesmic pains. It is a remedy also for cholera morbus and cholera infantum. It relieves aphthous conditions in children, the trouble being associated with vomiting and diarrhœa. Administer it in the diarrhœa of consumption.

For all of the above conditions employ it as follows :

R. Specific Euphorbia cor., gtt. v. to x.
 Aqua, fl \bar{z} iv. M.
 Sig.—Dose, a teaspoonful every three hours.

It is a good remedy when indicated. Its range of action is chiefly confined to the gastro-intestinal mucous membranes, relieving irritation and increasing the activity of the parts. Properly used, as above directed, it controls intestinal irregularities, cures constipation, and improves both gastric and intestinal digestion.

As an emetic it is sometimes employed in dropsy.

EUPHORBIA IPECACUANHA.

American Ipecac.

SYNONYMS.—*Ipecacuanha Spurge, Wild Ipecac.*

BOTANICAL ORIGIN.—The root of *Euphorbia Ipecacuanha*, Linne, Nat. Ord., *Euphorbiaceæ*. Sandy soils of the United States near the Atlantic shores.

This drug is emetic, cathartic, diaphoretic and expectorant. Its action is the same as that of *Euphorbia corollata*, though it is much milder in its effects. It must not, however, be given in overdoses. Twenty-five grains of it have produced prolonged and alarming hypercatharsis. Its medicinal uses are the same as those of the preceding drug.

Small doses relieve irritation of the gastro-intestinal mucous surfaces. It acts, in part at least, like *Ipecac*, and in stomach and bowel disorders, may sometimes be substituted for that drug. Its diaphoretic and expectorant qualities likewise resemble those of *Ipecac*.

This drug is indicated by persistent gastric irritation, irritative dysentery or diarrhoea, and in dropsies with the mucous surfaces greatly irritated. It is reputed a sure cure for bilious colic.

As an emetic it may be useful sometimes in fevers—bilious and malarial—and in dropsy.

The usual prescription for this drug for its specific effects will be :

R. Spec. Euphorbia Ipecac. gtt. v. to x.

Aqua, fl $\frac{2}{3}$ iv. M.

Sig.—A teaspoonful every one or two hours.

CATHARTICS.

Cathartics are agents, which, by their action upon the intestinal tract—by increasing peristalsis and stimulating the mucous coat—cause alvine evacuations.

Cathartics may be divided into several kinds, as *purgative*, *drastic*, *hydragogue* and *cholagogue*.

Laxatives, or *aperients*, though generally classed with the cathartics, may be considered as forming a separate class, so mild is their action, which is the causation of but feeble or at most gentle evacuation, with but little or no increase of the intestinal secretions. *Examples*: Sulphur, rhubarb, magnesia, manna, etc.

Cathartics, as a rule, act briskly, evacuating the bowels, and, at the same time, so impressing the intestinal and neighboring glands that their secretions are augmented and thrown into the intestinal canal. As a rule, the whole system is pronouncedly impressed by their action. *Examples*: Podophyllin, Iris, Jalap, etc.

Purgatives are the milder cathartics. *Examples*: Senna, Cascara sagrada, castor-oil, rhubarb.

Drastics operate harshly, often provoking emeto-catharsis, and occasionally inducing gastro-intestinal inflammation. *Examples*: The resinous cathartics, as a rule, such as Podophyllin, scammony, Gamboge, Euphorbium, etc.

Hydragogues are those cathartics which induce a free exhalation from the intestinal glands and produce copious,

watery stools. *Examples*: Elaterium, magnesium sulphate, Jalap, etc.

Cholagogues impress the liver, stimulating hepatic secretion and freely induce bilious evacuations. *Examples*: Podophyllin, Colocynth, Iris, etc.

There are also minor subdivisions, such as :

Emeto-cathartics, which induce both emesis and catharsis. *Example*: Colocynth.

Emmenagogue cathartics, those which act indirectly upon the pelvic viscera of the female, promoting thereby the menstrual flow. *Example*: Hellebore.

Refrigerants have a tendency to reduce bodily heat. *Examples*: Potassium bitartrate, magnesium and sodium sulphates.

While several drugs have been mentioned above as exhibiting the action of each class, it must be borne in mind that many of them might partake of the qualities of several classes, according to the peculiarity of the drug and the dose administered. Thus, while Podophyllin is a drastic cathartic, it may also be a cholagogue ; while castor-oil is a laxative, it may also be a purgative ; Hellebore, though a hydragogue, is indirectly emmenagogue.

Cathartics may, with much propriety, be divided into *mechanical (irritant)* and *specific cathartics*. In this respect they resemble the emetics.

The *mechanical cathartic* irritates the mucous surfaces, and causes an increase of secretion and peristaltic action. *Example*: Common salt in large doses.

Specific cathartics, like the same class of emetics, may produce their effects without entering the stomach, as when absorbed from an abraded surface. They are usually administered by stomach, however. *Examples*: Aloes, rhubarb, Colocynth, etc.

Some cathartics act *both* as irritant and specific agents. *Examples*: Gamboge, Podophyllin.

PODOPHYLLUM.*May Apple.*

SYNONYMS.—*Mandrake, Indian Apple, Wild Lemon, Raccoon Berry.*

BOTANICAL ORIGIN.—The rhizome and roots of *Podophyllum peltatum*, Linne, Nat. Ord., *Berberidaceæ*. Plentiful in the United States.

CHIEF ACTIVE CONSTITUENT.—The active principle is the *Resin of Podophyllum*, better known as *Podophyllin*. There are two kinds of Podophyllin in commerce—a light yellow and a dark gray, almost brown, powder. The last is the kind originally prepared by Prof. John King, and is the only kind that should be employed. The yellow powder is produced by means of alum, and is much more liable to gripe than the brown preparation. Podophyllin has a strong May-apple odor, is soluble in alcohol and partially in ether and boiling water.

SPECIFIC PODOPHYLLUM is of a brown-yellow color and preserves the odor and taste of the drug. A few drops in water dissolve colorless, but a large amount makes the water milky, and a still larger amount precipitates white flocculi. For this reason aqueous mixtures should be well stirred before being administered.

This is a well-known native plant growing in nearly all parts of the United States. Podophyllin is the best cathartic in use. Its action reaches every portion of the body. Podophyllum imparts its virtues to alcohol and partially to water. To make a tincture of Podophyllum take eight ounces of the root and macerate it two weeks in a pint of alcohol, strain, and it is ready for use; dose, from one to ten drops. A second decimal trituration of resin of Podophyllum is also used. A higher trituration may be used if desirable. This is convenient and the best form for its administration.

The remarks in this lecture refer to Podophyllin, the resin, and not to Podophyllum, the root, unless otherwise stated.

There are various opinions regarding Podophyllin ; some regard it like Jalap, while others think it is too harsh to be given. It is not like Jalap in action, but in a concentrated form it is exceedingly drastic. In a diluted form it is not drastic. It differs from every other cathartic in that it is slow in action and its effects are prolonged, making a permanent impression. It may operate the second twenty-four hours more than during the first.

It is cathartic, emmenagogue, cholagogue, eliminative, and emeto-cathartic. In large doses it produces watery discharges, pain in the abdomen, and cramps in the bowels.

It is a powerful irritant to the entire intestinal canal, and by its intense action may even destroy life ; some agents increase and others lessen its action. Both Hyoscyamus and Leptandrin modify its griping. It never acts very gently when there is excess of acid in the stomach ; in that case give bicarbonate of sodium before the Podophyllin to neutralize the acid. Salt is to be avoided while using it.

Given in full doses it checks digestion, so if full doses are required, give one-fourth to one-half grain of Ipecac or Hyoscyamus in connection with it to lessen its severe action. It works very nicely with Leptandrin. It is contraindicated when there is irritation of the intestinal tract. In doses of one-tenth grain Podophyllin is a stimulant to the sympathetic nervous system, especially affecting the solar plexus.

This is a good agent in atonic dyspepsia. It is indicated where there is hepatic torpor, bad taste, heart-burn, flatulence and vomiting after meals. If constipation is present give doses of one-tenth grain ; if not, one-twentieth grain. It is useful also in the treatment of headache when there is a feeling of fullness, weight, and vertigo. Give doses of one-tenth grain every two hours ; this generally overcomes the trouble.

With biliousness, constipation, and high-colored urine, bitter taste and bilious vomiting, give doses of one-twentieth to one-eighth grain four or five times a day.

In liver troubles, acute and chronic, it is indicated by a sense of fullness in that region, pain in the back of the neck and in the left shoulder, and high-colored urine. Use twenty grains of the trituration in half a glass of water ; give of this a teaspoonful every three hours.

It is a good remedy in jaundice in children. Use of the trituration ten to fifteen grains in half a glass of water ; take a teaspoonful of the mixture every three hours. If the stools are white give it till colored stools appear.

The clay-colored stools indicate that it should be used. Specific *Chionanthus* may be employed with it if desired.

It is the very best remedy we possess for constipation in children. We must use it for its mild effects, and so that it will act slowly, therefore, use the 2x trituration, grs. xxx, with a full teaspoonful of brown sugar in half a glass of water ; let the child take a teaspoonful three or four times a day. No matter how young the child, this is a safe and successful remedy. Its effects, however, may not be apparent until the second day. Do not give cathartic doses of *Podophyllin* if you wish it to overcome constipation or to act as a cholagogue. All cholagogues act best when the stomach contains but little food.

For colic in children, with hard and dry stools and flatulent distension of the abdomen, give it as just recommended. It is useful in sore mouth, where mouth washes are inefficient, and is indicated by excessive salivation. The washes are to be employed and *Podophyllin* given internally. It is a good remedy in diarrhœa, both acute and chronic, with watery, frothy, and painful evacuations. Give doses of one-fourth grain every four hours, and after its action subsides the diarrhœa is over. For chronic diarrhœa use one one-hundredth

grain two or three times a day. It is equally good in dysentery, using one-third grain or less at a dose. Constipation of the upper part of the intestinal tract is removed by it. In bilious fever, with yellow coat on the tongue and intestinal torpor, use one-fourth to one-half grain every three or four hours. Use it in ague in connection with Cinchona.

Podophyllin is a good remedy in the treatment of piles when resulting from a torpid liver, impeding the portal circulation. If great straining occurs at stool give doses of one-fourth grain twice a day. Sulphur is excellent in this condition. Podophyllin is useful in dropsy. Use one grain triturated with five drachms of cream of tartar. Make four or five powders and give one every three or four hours. It is valuable in some cases of cough, and where there is dark color around the eyes and the skin sallow or yellow, give Podophyllin. It may be employed in cases of rheumatism, in some heart troubles, and in some brain disorders, with dizziness and pain in the head. Podophyllin is a good alterative and as such is used in syphilis. It is also indicated by full tissues, full veins, full abdomen, headache and dizziness, weight in the head and imperfect control of the muscles.

Podophyllin acts upon the whole glandular apparatus. It restores the secretory power to the kidneys. There is one condition in which Podophyllin should be given in large doses, and that is to remove gall stones. This is indicated by bad taste, dull pain in the right hypochondrium, or sharp, tearing pain, with diarrhœa, and sometimes constipation with vomiting of bile. Here give two grains of Podophyllin at night. When it begins to operate, which it usually does by morning, give six fluid ounces of olive oil. Specific Podophyllum, or the common tincture, may be employed in the foregoing conditions, though Podophyllin is generally preferred.

In apthæ do not forget borax : R. Sage tea, one cup, borax, one drachm, and sweeten with honey or sugar. Use as a wash and give in connection with it small doses of Podophyllin.

Podophyllin should be given in doses of from one one-hundredth to one-half grain. It is best used in trituration.

RHEUM.

Rhubarb.

BOTANICAL ORIGIN.—The root of *Rheum officinale*, Bailon, Nat. Ord., *Polygonaceæ*. Indigenous to China. Other species furnish a portion of the commercial root. They are all placed in two classes, however—the European and Chinese (East Indian). Russian or Turkey rhubarb is no longer an article of commerce.

SPECIFIC RHEUM has a dark red color, and by age is inclined to throw down a yellow sediment. When this occurs the bottle should be well shaken before its contents are used. When added to water a yellow coloration results, accompanied with turbidity. The addition of an alkali or of sodium or potassium bicarbonate turns the aqueous solution red.

Several varieties of rhubarb root are on the market. Chinese rhubarb is most used, and constitutes the official species. The European is the poorest grade. In Tartary the plant grows spontaneously. The root should be sound, moderately heavy, compact, of a good color, and free from worms, to be fit for use. Its properties are cathartic, laxative, stomachic, and astringent. Make a tincture as follows : Use sixteen ounces of 60 per cent. alcohol to eight ounces of the root. Macerate two weeks, filter, and it is ready for use. It may also be used in the form of a syrup. To simple syrup eight ounces, add one ounce of the tincture ; or, specific Rheum, fl ℥ j., to simple syrup, fl ℥ xv. Combine with this a few drops of the essence of anise. Doses of one-half to one drachm may be given to infants.

In doses of from thirty to sixty grains of the powdered root to adults, it is a purgative, but in doses of five grains it is stomachic. A cordial may be made as follows :

R. Ground Rhubarb Root, coarse,
Peppermint Herb,
Bicarbonate of potassium, *aa*, \bar{z} iij. M.

On this pour four pints of boiling water, and let it macerate in a warm place two hours ; then strain it and while still warm add two pounds of white sugar. After the sugar has melted and the liquid is cold, add one pint of diluted alcohol and one-half ounce of essence of peppermint. The dose of this is from one teaspoonful to a tablespoonful. This is my favorite cleansing remedy, and the agent for undue acidity of the *prima viæ*.

A similar preparation may be made in dry form (comp. powder of rhubarb and potassa), by using equal parts of ground rhubarb root, peppermint herb, and bicarbonate of potassium. Rhubarb acts primarily as a cathartic, but secondarily it is astringent. It does not produce watery evacuations, and is tonic, in small doses. Its astringency is lessened by adding a carbonated alkali. It acts on the muscular coat of the whole intestinal tract, but especially on the duodenum. It may be given to a mother to influence the bowels of a nursing child. Its beneficial effect comes from its tonic action on the bowels. It leaves no tendency to diarrhoea, and hence it is an excellent cathartic in cases of great debility, as in low forms of fever. It is valuable in the constipation of dyspeptics, with hepatic torpor. The cordial may be used in such cases.

R. Neutralizing Cordial, fl \bar{z} ij.
Specific Podophyllum, \bar{z} ss. M.
Dose, one teaspoonful.

Or, aloes may be added to it in pill to move the bowels. In dysentery it is a good agent. It may be given to unload the

upper bowel. When a gentle evacuant and stimulant is wanted, rhubarb is a very good drug. For this use the following :

R. Rhubarb Root,
 Leptandra Root,
 Gentian Root, *aa.* $\bar{5}$ j.
 Cardamom Seed, $\bar{3}$ j.
 Dilute Alcohol, Oj. Macerate.

Sig.—Dose, one or two fluidrachms.

This makes a very good laxative tonic. Rhubarb is of service in gout or rheumatism, if the patient is constipated.

When a gentle laxative is needed it may be given during parturition. The cordial may be given in the nursing sore mouth of children. In cases of indigestion rhubarb may be employed, using the cordial. As a purgative in the bowel complaints of children, it is a very good remedy. It is indicated by irritation of the stomach, with vomiting, nervous irritation, debility, and convulsive contraction of the muscles, especially of the abdomen. Its non-irritating properties make it suitable for use when a stronger remedy is objectionable.

Rhubarb, in connection with specific Leptandra, may be employed when a laxative is required after typhoid fever. It is a good laxative and stomachic for those accustomed to alcoholic stimulants. During convalescence from delirium tremens, use the following :

R. Leptandra, Rhubarb, Gentian, all in powder, *aa.* $\bar{3}$ j.
 Ginger, $\bar{5}$ ij.
 Dilute Alcohol, Oj. Macerate.

Sig.—Dose, a teaspoonful.

A red, pointed tongue, evidencing gastro-intestinal irritation, indicates rhubarb as the remedy.

For its specific use, add from thirty to forty drops of specific rhubarb to four ounces of water. Dose, one teaspoonful.

COLOCYNTH.**Bitter Apple.**SYNONYMS.—*Bitter Cucumber, Bitter Gourd.*BOTANICAL ORIGIN.—The peeled fruit of *Citrullus Colocynthis*, Schrader; Nat. Ord., *Cucurbitaceæ*. Southern Europe, Asia, and Africa.

This is a trailing plant with an annual root. The prostrate stem resembles a cucumber vine, and the fruit is about the size of an orange. It is grown in Europe, especially in Spain. The fruit is white, full of seeds, and bitter. Alcohol or ether fully, and water imperfectly, extract its virtues.

Colocynth is a powerful drastic, hydragogue cathartic. It causes dryness of the throat, and decreases the frequency of the heart's action. As a cathartic it is seldom given alone, but may be combined with other agents to increase their action.

The compound extract of Colocynth is composed of Ext. Colocynth 16 parts, Aloes 50 parts, Cardamom Seed 6 parts, Resin of Scammony 14 parts, Soap 14 parts, Alcohol 10 parts.

In doses of from five to ten grains, this is an active cathartic. It is a good derivative to employ in cerebral congestion, coma, and apoplexy. One part of Podophyllin, five parts of powdered Colocynth, and fifteen parts of Aloes, may also be used in combination. Colocynth is a good remedy in passive dropsy from visceral obstruction, provided the patient is not debilitated. By its hydragogue action it draws a great amount of serum from the blood and tissues.

Paralysis of the bladder may be relieved by this agent, since such a condition is sometimes relieved by irritation and stimulation of the rectum.

Colocynth is a specific cathartic. It is always contraindicated by inflammation and debility. When taken by the mouth in large doses, it produces severe colic, nausea, and vomiting. This effect is produced by its irritation of the rectum, and the vomiting is a sympathetic action. The best

preparation to use is the first decimal solution, *i. e.*, one part of specific Colocynth to nine parts of alcohol.

It is a good agent in dyspepsia, when there is a bitter taste in the mouth, bloating of the stomach after eating, and colicky, or sharp, cutting pains in the region of the umbilicus.

For this purpose mix one part of the specific Colocynth with nine parts of alcohol. Add of this from one to ten drops to water fl $\bar{3}$ iv. ; the dose being a teaspoonful every three or four hours ; or, a teaspoonful after meals will work wonders. Used in this manner, it is much more efficient than in large doses.

For bilious or worm colic, it is a very important remedy. It is a good remedy in many diseases of the liver. Use it when the patient complains of sharp, darting pains in the region of the liver, with constipated bowels and abdominal distension. Colocynth acts quickly. If it does not give relief in a half hour, it will not help at all. Give it in small doses frequently repeated. It makes a decided impression upon the nervous system. It is a good agent in some cases of difficult breathing, when the trouble is from derangement of the pneumogastric. It does good service in chronic diarrhoea, when the stools are slimy and attended with sharp, cutting pain, and distension of the abdomen. In this condition use one or two drops in water, fl $\bar{3}$ iv. Dose, a teaspoonful.

It is serviceable in some cases of dysentery. Dose, a teaspoonful of the above mixture every three or four hours. If fever is present, give it with Aconite. Neuralgia, especially of the fifth nerve, is sometimes relieved by this agent. It is a remedy for sciatica, or other forms of rheumatism, when the pain is sharp and cutting. In these troubles it has cured when other drugs have failed.

It acts specifically upon the reproductive organs of the

female. Give it when colicky pains precede or accompany menstruation. It must not be administered to pregnant women, or abortion is likely to result. Give teaspoonful doses of a mixture of from five to ten drops in four ounces of water, for menstrual wrongs.

LEPTANDRA.**Black Root.**

BOTANICAL ORIGIN.—The rhizome and roots of *Veronica Virginica*, Linne; Nat. Ord., *Scrofulariaceæ*. A plant common in the United States.

SPECIFIC LEPTANDRA has a brown, nearly black color, and possesses the peculiar odor of the drug. This odor is strengthened when a little specific Leptandra is mixed with water, and such mixtures are always turbid, and throw down resinous precipitates. Mixtures of specific Leptandra and water should be shaken before being administered.

This is one of our best known indigenous plants, growing from three to four feet high, and flowering in July or August.

Its medicinal properties may be extracted by alcohol or water. A tincture is prepared by using two parts of 75 per cent. alcohol to one part of the root; the dose being from one to ten drops.

We use the tincture, extract, powdered root, and Leptandrin. The drug is cholagogue, laxative, cathartic, and tonic. The green rhizome is an active purgative, but not a good one; while the dried drug produces no great constitutional disturbances.

This agent is a very good one in chronic affections of the mucous surfaces. It increases the tone of and benefits the entire glandular system. In large doses it causes profuse secretion in and running off from the bowels. This comes from its action on the mucous surfaces. It also acts specifi-

cally on the liver, promoting its secretions. It is employed in dyspepsia when the latter results from atony of the stomach or liver.

Use a trituration of one part of Leptandrin to nine parts of sugar of milk. It increases the solid constituents of the bile. Podophyllin and Leptandrin occupy the same place with us that blue mass does with the Allopaths. Leptandra is a good tonic. It is useful in bilious troubles when the patient suffers from drowsiness, cold extremities, and hot and dry skin. Its use is further indicated by a dull, aching pain in the region of the liver and of the left shoulder, frontal headache, sallow skin, furred tongue, bitter taste in the mouth, and constipation. Use it until the glandular secretions of the intestines are freely discharged.

It is very efficient in bilious fever, when a remedy not depressing is wanted. It is a good drug in intermittent fever when there is great feebleness. Ague, after the disease has been broken with quinine, may be treated with Leptandra. It is a good cholagogue for children.

It is a valuable agent in diarrhœa when stools are watery, and contain much mucus, with dull pain in the region of the umbilicus. When food passes poorly digested it tones up the alimentary tract, and, at the same time, cleanses it. It is a good remedy in the diarrhœa of teething children with a sallow appearance of the skin and tenderness in the region of the liver.

Use it with the neutralizing cordial of Rhubarb as follows:

R. Neutralizing Cordial, fl ʒ ij.
Leptandra, fl ʒ iij. M.

Sig.—Teaspoonful every two or four hours.

Leptandra is of service in jaundice and chronic enteritis. In dysentery it is more valuable in the chronic than in the acute form, being best adapted to that form likely to terminate in chronic entero-colitis. The indications here are diz-

ziness, cold extremities, headache, pain in the bowels and liver, and great mental depression, amounting to gloominess. With these conditions it will be of service in any disease. Some cases of dropsy are improved by *Leptandra*. It stimulates absorption, and thus benefits in this disease. The dose of specific *Leptandra* ranges from ten to fifteen drops.

ALOE.

Aloes.

SYNONYMS.—(1) *Socotrine Aloes*, (2) *Barbadoes Aloes*, (3) *Cape Aloes*, *Hepatic Aloes*, etc.

BOTANICAL ORIGIN.—The inspissated juice of (1) *Aloe Perryi*, Baker; (2) *Aloe vera* (Linne), Webb; and (3) other species of *Aloe*; Nat. Ord., *Liliaceæ*. Chiefly natives of Africa and Asia.

CHIEF ACTIVE CONSTITUENT.—*Aloin*.

Aloe plants are grown in Africa and Asia. The leaves of the plant are cut and the juice exudes; this is collected and boiled down, forming the *Aloes* of commerce. This, however, is of an inferior grade. The best product, and that which is official, is that which has been dried by sun heat. Several varieties are in the market. *Barbadoes Aloes* are the strongest, but *Socotrine Aloes* are best for medicinal use. Purified *Aloes*, or that which should be employed in medicine, is prepared from *Socotrine Aloes*.

Aloes is cathartic, stimulant, stomachic, tonic, emmenagogue, and anthelmintic. As a cathartic it acts very slowly and exerts its influence upon the lower bowel, but produces no watery discharges. It acts on the muscles of the intestines, increasing peristalsis and the circulation in them by its stimulant influence. In small doses it is a tonic and general stimulant. If from five to ten grains are put on a raw surface it produces evacuations, or if given to a nursing female it purges the child. It also stimulates the stomach and sexual apparatus. It is contra-indicated in inflammatory con-

ditions, especially of the lower bowel. It quickens circulation and slightly increases temperature ; therefore, it should not be employed where there is much fever and inflammation. If Aloes are given at bed-time the action occurs the next morning, generally, it being slow in action. The amount required to produce catharsis varies, sometimes one or two grains purge, and again ten grains will not produce this result. If the liver is active, small doses are effective ; if not, larger doses are required. When the stools follow one another rapidly they usually contain bile. Aloes is not generally to be used in hemorrhoidal conditions of the bowels, but if no inflammatory conditions are present, and there is great torpor, constipation and plethora, the agent, in small doses, may sometimes be used. Aloes is a good agent in habitual constipation, especially if lack of tone is the most prominent feature.

R. Aloes, gr. j.
 Powd. Ipecac, gr. ss.
 Ext. Nux vom., grs. $\frac{1}{4}$. M. Make a pill.
 Sig.—Give after eating, 1, 2 or 3 per day.

Its purgative effect is not desired. Use small doses to begin with and increase the dose if necessary. After the bowels become loose, leave off the morning pill, then the evening pill, and lastly the dinner pill. In the constipation of anæmic females take from one to three pills (after each meal) composed of reduced iron, myrrh, and aloes, *aa.* gr. one. The greater the torpor of the bowels the more strongly Aloes is indicated. This pill will improve digestion.

Aloes is useful in some cases of amenorrhœa with torpor and constipation. Use Aloes, grains five or six, alone or in combination with other agents.

It is a good agent in great debility of the uterus. Give one drop of the tincture three or four times a day, or use the following :

R. Aloes, ʒ j.
 Castile Soap, ʒ j. M.
 Make thirty pills.
 Sig.—Dose, from one to three pills.

In amenorrhœa use the following :

R. Aloes,
 Myrrh, aa. ʒ j.
 Make thirty pills.
 Sig.—Give one to three pills.

Aloes with Ipecac does not produce so much irritation as when given alone. Using Hyoscyamus with it will accomplish the same result, the combination being less griping. Do not give Aloes to pregnant women, or an abortion may result. The cathartic dose of Aloes is from one to ten grains.

ELATERIUM.

Elaterium.

BOTANICAL ORIGIN.—The sediment deposited from the juice of the fruit of *Ecballium Elaterium* (Linne), A. Richard ; Nat. Ord., *Cucurbitaceæ*. This plant is the *squirting cucumber* of Northern Africa, Western Asia, and Mediterranean Europe. It is cultivated.

DESCRIPTION.—The best kind of Elaterium comes in flat or partly curled fragments or cakes, often exhibiting the imprint of the muslin upon which it is dried. It is light, easily broken, pale green, if fresh, becoming gray or pale buff in color with age, has a faint tea-like odor, and an acrid, very bitter taste. About fifty per cent. of it is dissolved by hot alcohol. It should contain twenty-five per cent. of Elaterin.

CHIEF ACTIVE CONSTITUENT.—*Elaterinum* or *Elaterin* forms colorless, shiny crystals, without odor, but possessing a very bitter, sub-acrid taste. Soluble in chloroform (2.4), ether (543), alcohol (337), boiling alcohol (34), boiling water (1820) and cold water (4250). As will be observed it is but very little soluble in water.

SPECIFIC ELATERIUM has a greenish color and is intensely energetic as a remedy. Mixtures of specific Elaterium and water must be well mixed each time they are administered, for any sediment that forms must be evenly commingled in order to avoid the danger of an overdose.

This is a twining plant having something of the appearance of a melon vine. In its native state it is perennial, but some cultivated varieties are annual.

The expressed juice of this fruit is used in medicine.

Elaterium is a drastic hydragogue cathartic, and is the purgative remedy for plethoric conditions of the body. Its action is very debilitating and hence it must not be employed in cases of debility, nor of acute intestinal inflammation. It is the most powerful drastic hydragogue cathartic in use.

Given in dropsy, if the patient does not vomit, it produces very good results. It causes profuse watery discharges from the mucous surfaces of the stomach and bowels. It is likewise eliminated partly through the kidneys, and thereby increases their secretions. In small doses it relieves irritation of the mucous surfaces, but in larger doses it is highly irritant to them.

It is good in those cases attended by a constant painful sensation in the neck of the bladder, the urine passing quickly, but leaving an uncomfortable feeling. Use the following :

R. Elaterium, grs. ij.
Alcohol, fl $\bar{3}$ j. M.

Sig.—Add five drops to water fl $\bar{5}$ iv. and give a teaspoonful every three hours.

If this affects the bowels too much lessen the dose. Its use as a specific for chronic inflammation of the neck of the bladder was first pointed out by Prof. King. Given in small doses (1 drop of the above tincture in a little water) it is a good remedy in chronic gastritis. In dropsy with liver trouble use the following :

- R. Elaterium, gr. j.
 Podophyllin, grs. ij.
 Powd. Ext. Colocynth Comp., gr. xvj.
 Ext. Hyoscyamus, q. s. to make a pill mass.

Make eight pills and give one every three hours until the bowels move freely. This favors the removal of the effused dropsical material.

In dropsy with heart complication use :

- R. Elaterium, gr. j.
 Powd. Digitalis, ʒss.
 Powd. Squill, ʒss.
 Ext. Hyoscyamus q. s. to make a pill mass.

Make twenty pills and give one or two every three hours until the bowels move freely; after that give one or two each day.

For uræmic convulsions, with general dropsy, especially after scarlet fever :

- R. Elaterium, gr. j.
 Powd. Ext. Colocynth Comp., gr. xv.

Make eight pills and give one every hour until the bowels move freely. Dropsy results from an inequality between absorption and exhalation, and Elaterium removes the accumulated surplus, thus restoring the normal equilibrium.

Be careful not to give it in too large doses or it will vomit. The usual dose of Elaterium is from one-twentieth to one-eighth grain; of Elaterin from one-thirty-second to one-sixteenth grain.

HELLEBORUS.

Black Hellebore.

SYNONYM.—*Christmas Rose.*

BOTANICAL ORIGIN.—The rhizome and rootlets of *Helleborus niger*, Linne; Nat. Ord., *Ranunculaceæ*. Southern Europe, blooming in the winter time, hence its name, Christmas Rose.

This is a perennial plant. Its root is about the size of a straw and very bitter. Its medicinal virtues may be extracted by alcohol or water, though more thoroughly with alcohol. It is cathartic, emetic, emmenagogue and acronarcotic. In large doses it is poisonous, but in small doses it increases the action of the bowels and organs connected therewith. It is used in cases of insanity, both maniacal and melancholic, when produced by disorders of the liver or stomach. It is likewise a good remedy in similar acute conditions when produced by menstrual troubles. It is stimulant to the female reproductive organs when given in small doses.

As a derivative it is a good agent.

It is a good remedy for dropsy resulting from atonic conditions of the bowels, though here it is inferior to Apocynum.

It is also a good drug in dropsical effusions into serous membranes (with deficient absorption), the result of inflammation.

Helleborus with Bryonia is a good combination in dropsy of the chest (hydrothorax).

In dropsy following measles or scarlet fever, Helleborus, Digitalis, Apocynum, and Bryonia are our best remedies. The dose of Helleborus ranges from the fraction of a drop to five drops.

JALAPA.

Jalap.

BOTANICAL ORIGIN.—The tuberous root or tubercles of *Ipomea Jalapa*, Nuttall; Nat. Ord., *Convolvulaceæ*. Eastern slope of the Andes of Mexico, and introduced into Jamaica and India.

CHIEF ACTIVE CONSTITUENT.—*Convolvulin*, or *Jalapurgin*, a compound resinous glucoside.

JALAP SPECIFIC has a dark brown red color, and when mixed with water forms at first a milky liquid and then precipitates. Such mixtures must be well stirred or shaken before being administered.

This is a very old remedy, having been in use since 1610. It is a twining, annual plant, growing in Mexico. Its root is the part used in medicine, being in the form of a pear-shaped tuber, and possessing a rather sweet, acrid taste.

The active principle of the plant is contained in its resin (*Convolvulin*). A good tincture is made by macerating three ounces of Jalap with a pint of 60 per cent. alcohol. Dose, one drachm.

It is also used in powder. Its action is rendered more agreeable by combining a small amount of ginger with it. Dose, fifteen to thirty grains.

An extract is also employed. Dose, five to twenty grains. Resin of Jalap is given in doses of five grains.

A compound powder of Jalap with cream of tartar is made thus :

R Jalap, $\bar{3}$ iij.
 Cream of Tartar, $\bar{3}$ vj.
 Ginger, $\bar{3}$ ij. M.

Sig.—Dose, 30 to 60 grs. in water every three hours.

ANTI-BILIOUS PHYSIC :—

R Jalap, powd., $\bar{3}$ viij.
 Senna, powd., $\bar{3}$ xvj.
 Ginger, powd., $\bar{3}$ j. Triturate.

Sig.—Dose, a large teaspoonful in sweetened water.

Jalap is a good cathartic, being rapid and safe in its action, and affecting the entire alimentary canal. It is a safe drug in fevers when an evacuation of the intestinal tract is needed. It is suited to excited conditions of the system, and may be employed whenever a cooling effect is desired. It is a good agent to use when the rectum is impacted with hard matter, for as it produces great secretion, the expulsion of the mass is favored. It is a good purgative in the early stage of gonorrhœa, especially if the patient is fleshy and plethoric. Use a teaspoonful of the anti-bilious physic every six hours until the bowels are thoroughly evacuated.

Anti-bilious physic, in moderate doses, is a good laxative to employ in inflammatory states of the biliary apparatus.

This agent does not produce any unpleasant uterine or hemorrhoidal troubles. In fact it is a good laxative in hemorrhoids where a stimulating physic is contraindicated. It is a good derivative in diseases of the brain. It is useful in some cases of constipation which result from dryness of the mucous surfaces due to deficient secretion from the intestinal glands. Give Jalap, five grains, in the morning from day to day.

Jalap is a good vermifuge. For this purpose use the following :

R. Santonine, grs. iij.
Jalap, grs. xxx. Triturate.

Make six powders and give one every six hours.

The usual dose of Jalap is from twenty to forty grains.

RHAMNUS PURSHIANA.

Cascara Sagrada.

SYNONYMS.—*Sacred Bark, Chitten Bark.*

BOTANICAL ORIGIN.—The bark of *Rhamnus Purshiana*, DeCandolle ; Nat. Ord., *Rhamnaceæ*. Indigenous to Pacific Coast of the United States.

This remedy is obtained from the bark of a small tree which grows on the Pacific Slope and in neighboring regions.

It is cathartic and tonic in its action. It is a valuable remedy for habitual constipation, toning up the entire intestinal tract. For the same reason it is a good remedy in dyspepsia with constipation. Give doses of ten drops of specific *Rhamnus* after each meal. It is a very good agent in hemorrhoids, with constipation, resulting from loss of tone. Give from ten to fifteen drops of specific *Rhamnus* three or four times a day. In habitual constipation it may be necessary to give doses of a teaspoonful for a time, and afterwards reduce the dose to a few drops three times a day.

COLCHICUM.**Meadow Saffron.**

BOTANICAL ORIGIN.—The corm (tuber) and seeds of *Colchicum autumnale*, Linne; Nat. Ord., *Liliaceæ*. Indigenous to Europe

CHIEF ACTIVE CONSTITUENT.—The alkaloid *Colchicine*, a powerful poison.

COLCHICUM SPECIFIC is made of *Colchicum* seed. It has a color near that of whisky, and when added to water causes milkiness.

This is a perennial plant flowering in August, September, or October, and yielding its fruits the following summer. The leaves are over a foot in length, and the flowers are pale purple, lilac, or rose-colored. The plant grows in rich soil both in Europe and America, where it is cultivated. Its root (corm), which is bitter and acrid, is the part used in medicine, as are also the seeds; the tincture from the latter is the best preparation. The activity of the root varies at different seasons of the year. It is best when gathered in July, when it is about a year old; the seeds should be collected about the middle of July or the first of August. It is one of the best blood medicines of the vegetable kingdom. It is the remedy for gout. *Colchicum* is a cathartic and general sedative. In large doses it is an irritant poison. Given in small doses it increases all the secretions—those of the skin, liver, bowels and kidneys. It is a good remedy in some cases of rheumatism. In doses of one-half ounce it is an acro-narcotic poison, producing symptoms of cholera, headache, pain in the bowels, muscles and feet, with loss of consciousness and decreased circulation. Death has been caused by it.

Colchicum in small doses is stimulant. In gout it is specific; on account of its eliminative action it removes from the body the morbid material upon which the disease depends. It should be given in large or small doses as the

case may indicate. Begin with twenty drops in four ounces of water ; dose, a teaspoonful every hour. If this is not enough give doses of five drops.

Wine of Colchicum is sometimes best, being given in doses of from thirty to forty drops. When this acts upon the bowels freely its use should be stopped.

The best results come from its slow and silent action. In rheumatism of the heart, when there are indications for alkalies, this remedy may be given in alternation with an alkali. Here the wine may be used in ten-drop doses, or thirty drops of specific Colchicum may be added to four ounces of water ; dose, a teaspoonful every three hours.

This agent is a good one to employ in chronic rheumatism with effusion into the joints and pain of a tearing character. The joint is swollen, and the pain aggravated by heat. It is also useful in rheumatic iritis. It gives good results in gonorrhœa, dysmenorrhœa, and enlargement of the liver. Give it in any of these conditions when associated with a gouty diathesis. Large doses are very depressing, and should not be given in cases of debility. Remember that its principal value is in the treatment of gout.

Dose of the ordinary tincture of the root is from ten to sixty drops ; dose of the ordinary tincture of the seed, ten to forty drops ; of specific Colchicum, from one to ten drops. The smaller doses are always to be preferred, and the action of the drug should be carefully watched.

TARAXACUM.

Dandelion.

BOTANICAL ORIGIN.—The recent root of *Taraxacum officinale*, Weber ; Nat. Ord., *Compositæ*. This root should be collected in the autumn. Common throughout the world.

This is a small plant with yellow blossoms, irregular leaves and stem with milky juice, common in our country, and flowering in early spring, and again in late autumn. This

root is used in medicine and must be recent ; the dry root is practically valueless.

Its principal effect is exerted on the duodenum. It increases the flow of bile into the intestines.

It is cholagogue, laxative, diuretic and alterative. It is not a very active remedy, and is better adapted to chronic than to acute diseases. It is a good alterative in some skin diseases, scrofula, syphilis, and rheumatism, especially when some liver trouble is present. In fact all diseases depending upon derangements of the liver will be benefited by its use. For chronic jaundice :

R. Leptandrin, gr. j.

Ext. Taraxacum, gr. ij. M.

Make into a pill. Dose, one or two daily.

In gout and dropsy from three to five grains of extract of Dandelion may be given several times a day.

It is a very useful remedy in many cases of atonic dyspepsia with debility and liver trouble. A saturated tincture of the green root is made with alcohol (sixty-five per cent.) Dose, from ten to twenty drops.

The dose of specific Taraxacum is from five to fifteen drops.

JUGLANS.

Butternut.

SYNONYM.—*White Walnut.*

BOTANICAL ORIGIN.—The bark of the root of *Juglans cinerea*, Linne ; Nat. Ord., *Juglandaceæ*. The *U. S. P.* directs the bark collected in Autumn. Indigenous to the United States.

The inner bark of the root of the Butternut is obtained in the Spring, and its medicinal virtues may be extracted by water or alcohol. In large doses it is emetic and cathartic, but in small doses it is a mild intestinal stimulant and laxative.

To prepare the extract, fill a vessel with the bark, boil with water, strain, boil again till it is in a syrupy condition,

remove to a water-bath, and continue to boil until the product assumes an extract consistence. Dose, from one to five grains.

In minute doses, as teaspoonful doses of a mixture of thirty drops in water four ounces, *Juglans* influences the skin and mucous membranes. It is a good remedy in habitual constipation, for which use the following :

R. Extract of Butternut, ʒ j.
 Ext. *Nux Vomica*, grs. v. M.
 Make forty pills.
 Sig.—Two pills three times a day.

The same pill is serviceable in indigestion with gastric irritability, flatulence, acid eructations, and deficient gastric secretion, giving one after each meal. This remedy is a good one in dyspepsia, and in diarrhœa with tenesmus, offensive discharges, and a burning sensation. Give specific *Juglans* from one to ten drops. It is a good laxative in rheumatism when the bowels are constipated. It is a valuable remedy in scrofula and chronic skin diseases when used as an alterative, in doses ranging from one to ten drops of specific *Juglans*. It is indicated where skin disorders assume a vesicular or pustular character.

In such diseases of the respiratory organs as chronic pharyngitis, bronchitis, or laryngitis, with increased secretion, when a cathartic influence is needed, this remedy may be given. When a cathartic action is desired give the extract in ten grain doses.

SENNA.

Senna.

SYNONYMS.—(1) *Alexandria Senna*, (2) *India Senna*.

BOTANICAL ORIGIN.—The leaflets of (1) *Cassia acutifolia*, Delile; and (2) *Cassia angustifolia*, Vahl; Nat. Ord., *Leguminosæ*. East and Central Africa.

CHIEF ACTIVE CONSTITUENT.—*Cathartic acid*, an amorphous black, feebly acid, cathartic principle.

This plant is a native of Egypt, but it also grows in Europe. Alexandria Senna is the best kind. It is bitter, though somewhat fragrant, owing to the presence of a volatile oil. Its action is principally on the small intestines, and constipation does not follow its use. It is slightly stimulant and cathartic. It is not much used alone but generally in combination with some other agent. Given with sugar it makes a good mixture. Bitter substances assist its action; aromatics, sugar, ginger, and manna lessen its griping tendencies. For its cathartic effect use the following:

R. Senna.

Peppermint herb, *aa.* $\bar{\text{z}}$ j. M.

On this pour one pint of boiling water, let it stand until cold, filter and it is ready for use.

Sig.—Give a wineglassful every morning. Do not use a decoction.

Senna acts well in connection with Rhubarb. Use equal parts of Senna and syrup of Rhubarb. It is a good agent in both bilious and wind colic. It is a good purgative in the forming stage of bilious and other fevers, especially in children. It is contra-indicated by a gastro-intestinal inflammation, and even where there is but gastric irritation and general debility. The following are very good cathartics: Compound powder of Senna and Jalap (anti-bilious physic).

R. Jalap, $\bar{\text{z}}$ viij.

Senna, $\bar{\text{z}}$ xvj.

Ginger, $\bar{\text{z}}$ j. M.

Sig.—One teaspoonful.

R. Fl. Ext. Senna,

Fl. Ext. Rhei, *aa.* fl $\bar{\text{z}}$ j.

Oil of Menth Pip. gtt. ij. M.

Dose, one teaspoonful every three hours, until the desired action results.

Whenever a stimulant action is desired ginger or pepper may be added to Senna. Epsom salts increase its action and render it more efficient as a cathartic.

The dose of specific Senna is from thirty to sixty drops. The leaves of American Senna (*Cassia Marilandica*) have a similar, though feebler action, to that of Senna.

OLEUM RICINI.

Castor Oil.

BOTANICAL ORIGIN.—The fixed oil expressed from the seeds of *Ricinus communis*, Linne; Nat. Ord., *Euphorbiaceæ*. Indigenous to India.

DESCRIPTION.—A colorless, viscid, thick, odorless oil, of a mild and peculiarly nauseous taste, followed by a slightly acrid after-taste. It is freely soluble in alcohol (an equal part); in absolute alcohol (all proportions). Ether also dissolves it.

This oil is obtained from the seed of the *Ricinus communis*, raised in Asia for this purpose, and in the United States chiefly for ornament. Pure castor oil should not be yellow, and should be odorless until after having been exposed to the air, when it becomes nauseous. Always use a fresh oil. The seeds of the plant are poisonous; twenty of them, when swallowed, having produced death. The seed is a very violent emeto-cathartic, two or three being sufficient to purge, and cause inflammation of the mucous membrane of the stomach and intestines. In cases of poisoning by it, give morphine and bismuth internally, and apply a sinapism over the abdomen. In the process of manufacture of the oil, the poisonous principle is removed, so that the former is very bland and safe to use.

Castor oil is employed as a cathartic and laxative. If it be applied to the abdomen of children, with brisk friction, it will purge, or if introduced under the skin the same result

may be obtained. Very delicate children are purged by the smell of it. In doses of two or three ounces, it will produce uneasiness of the stomach and vomiting. In doses of half an ounce every two hours, it acts as a cathartic. It relieves uneasiness in the bowels, and induces a tendency to sleep. The evacuations produced by it are generally liquid after the collected fecal matter is discharged.

Its continued use destroys the appetite, owing to its irritant influence on the stomach. It is a good cathartic in the diseases of children when an evacuant of the bowels is needed. In diarrhœa resulting from the presence of irritating substances in the intestinal tract, this is a good remedy. It is an excellent agent for the removal of undigested and unwholesome food. It is useful in those cases where the secretions of the bowels are mucous or bloody. It is a good remedy in some cases of dysentery. If in a mild form, this disease is generally relieved by giving a tablespoonful, with tincture Opium, ten to fifteen drops, once or twice a day.

After the administration of a vermifuge, castor oil promotes the expulsion of the worms. After parturition, if an evacuant is needed, castor oil is a very good means, if given in tablespoonful doses. It is a very good remedy in the diarrhœa of phthisis. The greatest objection to its use is its unpleasantness. It may be disguised somewhat by giving it with warm milk, coffee, or lemon juice, but the best thing for this purpose is the froth of ale. Water should not be given after the oil, as it increases the disagreeable taste. After giving the oil, wipe the mouth and teeth with a clean cloth. The ordinary dose of castor oil is a tablespoonful.

OLEUM TIGLII.***Croton Oil.***

BOTANICAL ORIGIN.—The fixed oil which is obtained by expressing the seeds of *Croton Tiglium*, Linne; Nat. Ord.,

Euphorbiaceæ. A native of India and the Phillippine Isles. It is cultivated.

DESCRIPTION.—Croton oil is viscid, varies in color from light yellow to reddish brown ; has a peculiar feeble odor, and hot, acrid taste, leaving an unpleasant after-taste, which persists for many hours. It is soluble in alcohol (60), ether, chloroform, essential and fixed oils.

This oil is a very powerful drastic, hydragogue cathartic, very speedy in action, and producing purgation in one or two hours. One seed has been known to destroy life. It may be employed when a powerful derivative action is needed, as in some cases of inflammation of the brain, or when a very rapid action is desired. In cases of poisoning it may be given with castor oil. This lessens its severity and gives it a free access to the alimentary tract. Dose, one drop of croton oil in a teaspoonful of castor oil. Because of the small amount needed to act it is a good agent in some cases where the patient refuses to take medicine. This is sometimes the case in acute mania with furious delirium. One drop placed on the tongue will produce catharsis. Generally one or two drops will be given in soup or gruel. In lead colic, one drop may be given every two or three hours. It may be employed in dropsy and in extremely bad cases of obstinate constipation. It should never be administered if inflammation is present.

Croton oil is used locally as a counter-irritant, as in spinal neuralgia and dangerous cerebral disease from retrocession of measles or other cutaneous diseases.

In chronic inflammation of the respiratory organs, in rheumatism or lumbago, its use as a local application is beneficial. Use the following :

R. Croton Oil, Oil of Amber, *aa.* fl ʒ ij.
Oil of Turpentine, fl ʒ iv. M.

A small amount of this embrocation is to be applied over the affected part every three hours until it becomes pustu-

lated. The oil may be given in the form of pills made with bread crumbs. Use two drops of the oil, and enough of alcohol to dissolve it. Make four pills.

Croton oil should be employed only in extreme cases.

Keep the oil out of the eyes.

OLEUM OLIVÆ.

Olive Oil.

BOTANICAL ORIGIN.—The expressed fixed oil from the ripe fruit of *Olea europæa*, Linne; Nat. Ord., *Oleaceæ*. Asia and Mediterranean Europe. Cultivated.

DESCRIPTION.—A pale yellow or greenish yellow oil, pleasant in odor, sweetish in taste, becoming slightly acrid with age, but not easily acquiring rancidity. Alcohol but sparingly dissolves it; ether and chloroform, however, dissolve it freely.

This oil is made from the fruit of the Olive, a native of Asia. It is odorless, rather sweet and pleasant to the taste. It is nutritious and is used as food in some places, though not so extensively as formerly. It is cathartic and laxative, though it is seldom given as a cathartic. To produce the cathartic effect it must be given in doses of two or three ounces. It is laxative in doses of from one to two ounces. Administer to infants in from one to four drachm doses. It is a good agent to use in case of poisoning with concentrated caustic alkalies. Give the patient all the olive oil he can swallow. It unites with the alkali, forming a neutral soap, which is inert.

It is a good agent to prevent poisoning by lead in persons who work with that article. In bites or stings of insects use a compress containing warm olive oil on the wounded part.

If a bug or insect gets in the ear, tip the head over sideways and fill the ear with oil. This brings it out dead or alive.

This oil is a good remedy in consumption and colliquative sweating. It is also a desirable lubricant for surgical instruments. Use it on specula and catheters. If the latter can not be introduced inject the oil into the urethra. This produces sufficient relaxation so that the instrument will enter freely.

MAGNESII SULPHAS.***Magnesium Sulphate***

SYNONYMS.—*Epsom Salt, Sulphate of Magnesia.*

DESCRIPTION.—Magnesium sulphate occurs in small prismatic or needle-like crystals, colorless, and without odor, but possessing a saline, cooling, and bitter taste. The crystals resemble those of zinc sulphate, and somewhat those of oxalic acid, both of which have been mistaken for Epsom salt, serious consequences resulting therefrom. Not soluble in alcohol. Soluble in cold water (1.5) and in boiling water (0.7).

This salt is found native of many localities, but the manufacture of it is extensively carried on. It is a safe, mild purgative. If given on an empty stomach it increases the flow of urine, being eliminated partly by the kidneys. It is a good refrigerant and its action in fevers with great heat, is very good for this reason. The amount of fluid in which it is given determines to some extent its action. If the dose given is large the more it is diluted the more efficient it will be. It should be given the first thing in the morning and always well diluted. A concentrated dose of two ounces has produced death. It also answers a good purpose as an evacuant in fevers.

It is one of the very best remedies for dysentery. Give it in large or small doses as indicated. If the patient has been constipated give it in full doses with a little Ipecac, but in dysentery following diarrhœa give it in small doses.

R. Magnesium Sulphate, gr. xxx.
 Specific Aconite, gtt. v.
 Specific Ipecac, gtt. x.
 Aqua, fl $\frac{3}{4}$ iv. M.

Sig.—Dose, one teaspoonful every one or two hours.

Dose for constipation, one or two drachms of the salt ; for dysentery following diarrhœa, one or two grains.

The action of this remedy is principally exerted upon the upper portion of the digestive tract. It is valued as a hydragogue cathartic, as its use may be continued for a great length of time with no evil effects. In fact, it may be given for a longer period than any other hydragogue cathartic in the materia medica. This fact makes it a good agent in the treatment of dropsy, for which use the following :

R. Magnesium Sulphate,
 Potassium Bitartrate, aa. $\frac{3}{4}$ j.
 Sulphur, $\frac{5}{8}$ j.
 Oil of Peppermint, gtt. iij. M.

Sig.—One teaspoonful in water every two or three hours.

After it has acted freely give it in smaller doses. When the bowels are obstructed by impacted feces do not forget that this agent will remove the trouble. Here it may be given in doses of from ten grains to one drachm. If other remedies are being vomited give it in doses of ten grains until the bowels are evacuated.

It is the remedy for painter's colic (lead colic). Use from a teaspoonful to one ounce in four ounces of water, and add enough sulphuric acid to make it pleasantly sour. It is a good agent, when combined with Podophyllin or Leptandrin, in jaundice. It is contra-indicated in great debility brought about by old age or wasting disease.

Epsom salt is not to be given in cholera. It is also a dangerous remedy to administer to one suffering from chills.

A dose of this agent is usually from a half drachm to a drachm.

POTASSII BITARTRAS.**Potassium Bitartrate.**

SYNONYMS.—*Cream of Tartar, Acid Potassium Tartrate.*

DESCRIPTION.—Bitartrate of potassium occurs in commerce in colorless or faintly opaque crystals; or more generally in retail trade as a permanent, white, gritty, odorless powder. Its taste is pleasantly acid. It is but very little soluble in alcohol, but is soluble in cold water (201), and more freely in boiling water (16.7).

This salt is formed from the juice of grapes and is obtained in the manufacture of wine when alcohol precipitates it, leaving it on the sides and bottom of the cask. It is originally in the form of large white crystals, but in market it occurs in white powder. It is both cathartic and refrigerant, increasing the secretion of the bowels. As a laxative it is mild and pleasant and must be given in doses of from half a drachm to a drachm. It can not be taken as long as Epsom salt. In doses of twenty grains it is diuretic.

If its use be continued too long it will produce disturbance of the digestive organs, causing flatulence and griping. The following preparation is a good one :

R. Cream of Tartar, $\bar{\text{z}}$ ss.
 One Lemon, sliced.
 White^e Sugar, lb ss.
 Water, O iij. M.

Let this stand an hour, filter, and it is ready for use. A dose of this is a wineglassful. It makes an excellent drink in fevers.

When used with sulphur this salt forms a good remedy for piles and constipation. Use equal parts of sulphur and cream of tartar. Dose, a teaspoonful. It is a good hydragogue for children. In dropsy after scarlet fever, use the following :

R. Cream of Tartar, $\bar{\text{z}}$ ss.
 Juniper Berry, $\bar{\text{z}}$ ss.
 Boiling Water, Oj . M.

Let stand one or two hours, filter, and give in doses of a wineglassful three or four times a day.

The usual dose of Cream of Tartar is from one to three drachms.

SODII PHOSPHAS.**Sodium Phosphate.**

SYNONYMS.—*Phosphate of Soda, Sodium Orthophosphate,*

DESCRIPTION.—This salt is in the form of large odorless and colorless crystals of a cooling and pure saline taste. Exposed to air the crystals effloresce, parting gradually with about twenty-five per cent. of their water of crystallization. Soluble in cold water (5.8), and boiling water (1.5). Not soluble in alcohol.

Sodium phosphate is cathartic only when given in large doses. It is not desirable, however, for this purpose on account of the griping it produces. In small doses it is laxative and cholagogue. It is a good remedy for diarrhoea of infants when the stools are white and green. In the jaundice of infants, with impaired nutrition, it is also a good remedy. It is indicated by a pallid tongue and mucous membranes. Administer to infants, five to six grains in warm milk. It is also a good agent in the jaundice of adults resulting from catarrh of the gall ducts. Use twenty or thirty grains of sodium phosphate three or four times a day. It will radically cure hepatic colic. Give twenty grains in a wine-glassful of water after each meal. Continue this treatment three months or longer. Administer an anæsthetic when very severe.

For habitual constipation take one drachm (in water) of sodium phosphate night and morning. Bilious headache (habitual or recurring) in nervous debilitated persons is benefited by ten or fifteen grains of this salt in milk or water four or five times a day.

This is a good remedy in obstinate constipation with colic and indigestion. Use one drachm in two ounces of water.

It is not a good cathartic ; it gripes and is not pleasant. It is a very good but slow agent in some obstinate cases of bilious headache. Twenty grains of it may be given in water after meals.

POTASSII ET SODII TARTRAS.

Potassium and Sodium Tartrate.

SYNONYMS.—*Rochelle Salt, Tartrated Soda, Sodæ et Potassæ Tartras.*

DESCRIPTION.—Transparent, colorless, prismatic crystals, or more generally found in commerce as an odorless, white powder, having a taste both cooling and saline. The crystals effloresce somewhat in a dry atmosphere. Practically insoluble in alcohol ; soluble in cold water (1.4), and in boiling water (less than 1).

Rochelle salt is originally in the form of crystals, but it generally appears in market as a powder. This drug forms the basis of so-called Seidlitz Powder. This popular powder varies much in proportion of contents unless the official directions be followed. One form of it may be prepared by using the following amounts :

R.	Rochelle Salt, grs. cxx.	}	Blue paper.
	Bicarb. of Sodium, grs. xl.		
	Tartaric Acid, grs. xxxv.		White paper. M.

This preparation makes a good laxative. It is of value to check nausea and vomiting. Dissolve the contents of each paper separately, pour the two solutions together, and drink while effervescing. Rochelle salt is laxative, cathartic, refrigerant, and diuretic. In doses of from twenty to thirty grains it does not purge, but in doses of from two to four drachms it is a cathartic.

It is a valuable remedy in rheumatism with undue acidity and constipation. It corrects the condition of both blood and bowels. Use from forty grains to two drachms as often as

may be necessary. It is useful in cases of excessive secretion of uric acid, but when the phosphates are deposited in the urine it is contra-indicated.

MAGNESIA.

Magnesium Oxide.

SYNONYMS.—*Calcined Magnesia, Light Magnesia, Magnesia Usta, Oxide of Magnesia.*

DESCRIPTION.—A light, white, odorless, and practically tasteless (or but feebly alkaline taste) powder almost insoluble in alcohol and water. Diluted acids dissolve, or rather produce salts which are soluble in them. Calcined Magnesia should not effervesce when treated with dilute acids, thus showing the absence of carbonates. It must be kept from the atmosphere in tightly stoppered bottles.

The properties of oxide of magnesium are laxative and antacid. Its action depends upon the amount of acid it may come in contact with. If no excess of acid is present, in the stomach or bowels, it may produce no visible effect, so in administering it follow the dose with lemonade. It is pleasant in both taste and action. It is not depleting. The evacuations produced by it are feculent, but if acid in considerable amount is present they are watery. It is slow in action, requiring five or six hours, and is mild, safe, and efficient. It is a good laxative in the bowel troubles of children, as follows. Where there are green stools and excoriations :

R. Oxide of Magnesium, grs. v.
Rhubarb, grs. ij. to iij. M.

If there be derangement of the stomach with undue acidity, give it in doses of from thirty to forty grains. It is a good agent in the vomiting of pregnancy with undue acidity. Sick headache, with the acid condition, is relieved by its use. Heartburn and sour taste in the mouth are also relieved by it. It is a good antidote to such poisons as acetic, hydrochloric, tartaric and other acids

Poisoning from Arsenic is partially antidoted by this agent. For this purpose it may be employed when hydrated sesqui-oxide of iron is not at hand.

In cases of poisoning with the acids give a teaspoonful of Magnesia in water every few minutes until the acid is neutralized. It is a good remedy in diabetes and in gravel, an acid condition of the urine being present. Use it in one or two drachm doses as a purgative. The dose of this drug for infants is from five to ten grains; for older children from ten to thirty grains. The same dose may be used as an antacid.

This form of Magnesia should be preferred to Carbonate of Magnesium for infants, from the fact that the latter, when in contact with acids in the stomach and bowels, liberates its gas (carbon dioxide), the distension produced thereby frequently inducing colic, an accident which should be avoided if possible in treating little children. Husband's Magnesia is an old and exceptionally fine Oxide of Magnesium. Heavy Magnesia (Magnesia Ponderosa, U. S. P.), is a more condensed form of Magnesium Oxide, with which it agrees in all respects except bulk.

SODII SULPHAS.

Sodium Sulphate.

SYNONYM.—*Glauber's Salt.*

DESCRIPTION.—Sodium sulphate occurs in large, transparent, colorless prisms, or in odorless, granular crystals, possessing a bitter and saline taste. Exposed to air it quickly effloresces, losing all its water. In hot weather (above 91.4° F.), it melts in its water of crystallization. It is not soluble in alcohol but is dissolved by glycerin. It is soluble in cold water (2.8) and more soluble in warm (93.2° F.) water (about 0.25) than in boiling water (0.47). It should be kept in close containers.

This salt is used more as a laxative than as a cathartic. It is a very plentiful compound, resulting as a by-product in the making of hydrochloric acid. It is cathartic if given in sufficient doses. In small doses it is diuretic. As a remedy in dysentery it is a very good one. Use some acid, as sulphuric or hydrochloric, with it. Give doses of a tablespoonful every hour or two in water. A favorite compound with many of our school for this complaint is the old WHITE LIQUID PHYSIC :

R. Sodium Sulphate, ℥. ss.

Water, O iss.

Dissolve and add :

Nitric Acid, fl $\bar{3}$ j.

Hydrochloric Acid, fl $\bar{3}$ j.

Dose, a tablespoonful every hour until free evacuations occur and then continue in smaller doses.

The waters of some springs contain much of this salt and are very efficient in the prevention of renal or biliary calculi. Some waters contain as much as half the weight of their solid constituents of this salt. The following forms a good artificial Carlsbad water for the same purpose :

R. Sodium Sulphate, $\bar{3}$ vj.

Sodium Bicarbonate, $\bar{3}$ iss.

Sodium Chloride, $\bar{3}$ iss.

Dissolve in a gallon of soft water.

Let the patient drink two or three glassfuls during the day. This is also a good agent in bilious headache. Let the patient drink half a glassful the first thing in the morning. If constipated take two or three glassfuls a day. This works on the bowels and thus removes the cause of the trouble.

It is of service in gout or rheumatism when an alkali is indicated. It may also be employed in habitual constipation when the mucous membranes are dry. Gall stones,

chronic jaundice, and chronic hepatic congestion, as well as chronic catarrh of the bladder and overactivity of the kidneys, often yield to this combination.

MAGNESII CARBONAS.***Magnesium Carbonate.***

SYNONYM.—*Carbonate of Magnesia.*

DESCRIPTION.—This compound occurs as a smooth, white powder. In commerce it is nearly always found in light, friable masses (square or oblong cakes) of a pure white color, odorless, and nearly tasteless. Exposure to air does not affect it. Water scarcely dissolves it; alcohol not at all. Dilute acids, however, effect its solution, or rather change it to a soluble salt, brisk effervescence accompanying the act of solution.

Magnesium carbonate acts much like magnesia, and may be employed where the latter is of service. It is not, however, so well suited for administration to small children, or, for that matter, to adults, where there is a hypersecretion of acid in the gastro-intestinal tract. When given in such a condition it rapidly liberates a gas which is likely to cause a painful distension of the stomach and bowels. It is a good remedy for adults for sickness at the stomach. A teaspoonful administered every night is said to be effectual in removing warts. Dose, as an antacid, grs. xv.; as a laxative, ʒj.; as a purgative, ʒij.

CAMBOGIA.***Gamboge.***

BOTANICAL ORIGIN.—The gum-resinous exudation from *Garcinia Hanburii*, Hooker filius; Nat. Ord., *Guttiferæ*. Indigenous to Cambodia, Siam, and Cochin China.

DESCRIPTION.—Gamboge comes in hollow cylindrical "pipes" externally striated lengthwise. It has a waxy, shell-like fracture, and is orange-red in color. When powdered

it is bright yellow. -It has no odor but a very acrid taste. Inhaled the powder produces sneezing. It dissolves partly in alcohol and in ether.

This gum-resin is at first almost tasteless but is quickly followed by a very acrid sensation. Water precipitates it from its solutions. Gamboge is a powerful hydragogue cathartic. In small doses, however, it acts as a stimulant to the abdominal organs, stimulating the glands. Five grain doses act as an emeto-cathartic in about two hours.

Gamboge may be employed in dropsy. Give two or three grains, triturated with sugar, three or four times a day. It is contra-indicated in inflammation of the gastro-intestinal tract.

SCAMMONIUM.

Scammony.

BOTANICAL ORIGIN.—The resinous exudation obtained by incision from the living root of *Convolvulus Scammonia*, Linne; Nat. Ord., *Convolvulaceæ*.

DESCRIPTION.—Irregular, angular fragments or circular cakes, porous, internally of a green-gray or blackish color, breaking with an angular, resinous fracture. It has a slightly acrid taste, and its odor is peculiar, somewhat resembling that of cheese. When powdered it is gray or green-gray. At least three-fourths of it should dissolve in ether. It is slightly soluble in water, but more freely in alcohol, and almost wholly in boiling dilute alcohol.

Scammony is cathartic, vermifuge and derivative. The commercial Scammony should be given in doses of from fifteen to twenty grains; *virgin* Scammony, five grains.

As a cathartic it may be employed in dropsy, when the strength of the patient will permit its use. It is always contra-indicated in debility and inflammations.

PRUNUM.**Prune.**

BOTANICAL ORIGIN.—The fruit of *Prunus domestica*, Linne; Nat. Ord., *Rosaceæ*. Indigenous to Western Asia. Extensively cultivated throughout most temperate countries.

Prunes are laxative and nutritious. As a laxative food they are very useful during convalescence from fevers. A sauce of prunes regularly taken at each dinner meal will overcome habitual constipation.

TAMARINDUS.**Tamarind.**

BOTANICAL ORIGIN.—The preserved pulp of the fruit of *Tamarindus indica*, Linne; Nat. Ord., *Leguminosæ*. Indigenous to India and the tropical portions of Africa; also naturalized in the West Indies. There are three grades: *East Indian*, preserved without sugar; *West Indian*, masses preserved with sugar; *Egyptian*, cakes preserved with sugar and often mouldy.

Tamarind is laxative, refrigerant, and antiseptic. It is a good laxative for fevers, when an acid, cooling drink is required. Give the pulp in water. It is employed in the preparation of confection of Senna.

MANNA.**Manna.**

BOTANICAL ORIGIN.—A concrete, saccharine exudation from *Fraxinus Ornus*, Linne; Nat. Ord., *Oleaceæ*. Mediterranean Basin.

DESCRIPTION.—Flattish, three-edged pieces; eight by two inches, though usually in smaller, irregular fragments, easily broken, porous, crystalline, and white internally, and yellow-white externally. It has a sweet taste, with some bitterness and acidity, and the odor of honey. There are four commercial grades: *Large Flake Manna*, large, yellow-white fragments; *Small Flake Manna*, smaller fragments,

often of a brownish color ; *Common Manna* (or *Sorts*), in small tears or glutinous pieces with a crystalline interior ; and *Fat Manna*, in viscid, brownish masses, devoid of crystals.

Good Manna should contain ninety per cent. of *Mannit*, the peculiar principle. Manna, when long kept, may deliquesce. It is soluble in both water and alcohol.

Manna is a good laxative for children and pregnant women. It is said to be cholagogue also. A large part of it is digested. It is not without good effects on the respiratory organs. The dose for an adult is one ounce ; for children from two to three drachms. It is usually administered with Senna.

DIAPHORETICS.

Diaphoretics are those agents which increase transudation from the skin. When they merely augment insensible transpiration they are known simply as *diaphoretics*, but when they cause free and copious perspiration they are denominated *sudorifics*. The action of these two classes differs only in degree.

Like emetics and cathartics, diaphoretics may be divided into *specific* and *indirect* agents.

Indirect diaphoretics are those which act upon the integumentary appendages indirectly, generally producing their effect through causing a determination of blood to the skin, or by relaxing the cutaneous structures. Nauseants and emetics generally produce diaphoresis through their property of relaxing the capillary walls, thus allowing the watery portions of the blood freer transudation, or by relaxing the tissues surrounding the sweat glands, thereby insuring freer action of those appendages.

Specific diaphoretics have a special affinity for the secreting apparatus, for by passing directly to the sudoriferous glands, they stimulate them, and are eliminated by them as well. *Asclepias* is probably the best representative of this class.

All diaphoretics act best when the surface of the body is well cleaned, and when the patient is kept warm. When possible the agent should be given in warm water. Should the skin be cool the drug intended to produce diaphoresis generally acts chiefly upon the renal organs, thus becoming a diuretic.

ASCLEPIAS.**Pleurisy Root.**

SYNONYMS.—*Butterfly Weed, Orange Swallow-wort.*

BOTANICAL ORIGIN.—The root of *Asclepias tuberosa*, Linne ; Nat. Ord., *Asclepiadaceæ*. United States, especially the Eastern half.

This is an indigenous plant growing in sandy soil in many parts of the United States. It is sometimes called Milk Weed. The root is tuberous and easily pulverized, and is the part used in medicine. Water and alcohol extract its virtues. It is diaphoretic, expectorant, sedative and laxative. As a diaphoretic it is very good, for it is not stimulant, and may be used no matter how great the fever. It does not produce profuse sweating, but is very active in inflammatory conditions. In large doses it is laxative. The amount of exhalation from the surface is not an index to the relief given ; as an example, phthisis and rheumatism will serve to illustrate, for the profuse sweating often present does not relieve these conditions. In these none of the elements of the disease are eliminated. *Asclepias* is a true diaphoretic, helping to a true secretion and influencing all the mucous surfaces as well as the skin. It is especially good in diseases of children and females. An infusion is made as follows : Use of the root one ounce, pouring upon it a pint of boiling water. Let it stand an hour or two, when it may be given in tablespoonful doses every hour.

To get its full effect keep the patient sweating several hours. Wineglassful doses are best for this purpose. It is a good remedy in diseases of the respiratory organs, with dryness of the mucous membrane. Give the specific in doses of five drops, or the infusion in doses of one to two ounces. In the early stage of pneumonia it is a good remedy, although *Aconite* may be of more importance.

Asclepias renders other remedies more efficient. It is even more valuable in the latter stage of the disease than in the

earlier. When breathing becomes difficult, and expectoration is stopped, use this remedy. It is a good agent in bronchitis when breathing and expectoration are difficult ; combine it with Aconite.

Cough, with dryness and constriction, is relieved by its use, as in Asthma, when not of spasmodic character. In such cases give it with specific Lobelia. Catarrhal troubles are benefited by it, if it be used early. It is very good in the acute nasal catarrh of children when the nose becomes obstructed. Chamomile is also a very good remedy in the same trouble. Give specific Aconite in connection, if fever is present. If the disease is very severe, put a muslin cap on the child's head, keep it warm, and give alternately Aconite and Asclepias. It is a good remedy in consumption, as it relieves the irritation of the mucous membranes and of the nervous system. It also lessens the cough and night sweats, changing the character of the secretions. It is never offensive to the stomach and may be given with any other agent. It is a good drug in pleurisy, and from this fact it has been called pleurisy root. It has formed a very prominent agent in domestic practice for a long time. In this disease, with a dry skin, difficult and dry cough, give it in infusion. In other cases give the specific Asclepias with Aconite and Bryonia.

It is useful in chronic cough with expectoration when no other marked sickness is present. When expectoration is stopped and pain comes in the chest, give it in an infusion ; if not very severe give the tincture.

It is a good agent also in bowel troubles, such as catarrhal diarrhoea of children. Here it may be given alone or with other medicines. Dysentery of catarrhal character, resulting from cold, is relieved by Asclepias.

R. Specific Asclepias, gtt. x to gtt. xv.
Aqua, fl ℥ iv. M.

Give a teaspoonful every half hour, in alternation with other indicated remedies. The same may be administered every five minutes for flatulent colic in children.

In gastric troubles and gastric headache it does good service, and is best adapted for children and feeble adults. It is a remedy for nervous irritability in children. Neuralgia, gout, and rheumatism, with colliquative sweating, some cases of dropsy, and certain dry skin diseases, are benefited by it. Give ten drops in four ounces of water. Dose, a teaspoonful every hour.

This agent is not very powerful, and this makes it a very good drug to use in diseases of children and females. Dose of Specific *Asclepias* is from one to thirty drops. Dose of the infusion, one fluid ounce.

PILOCARPUS.

Jaborandi.

SYNONYMS.—(1) *Rio Janeiro Jaborandi*, (2) *Pernambuco Jaborandi*.

BOTANICAL ORIGIN.—The leaflets of (1) *Pilocarpus selloanus*, Engler, and (2) *Pilocarpus jaborandi*, Holmes; Nat. Ord., *Rutaceæ*. Brazil.

CHIEF ACTIVE CONSTITUENT.—Pilocarpine.

This remedy is prepared from the leaves of the species *Pilocarpus*, natives of Brazil. Its odor is aromatic and its taste pungent. Its properties are diaphoretic and sialagogue, and in both cases it is a very powerful remedy, being the most powerful in the materia medica in these respects. It greatly increases the function as well as the flow of saliva. The lacteal secretion is also increased by its use. For this purpose use 40 to 75 grains of the leaves in an infusion with half a teacupful of hot water, and then place the patient in bed. In ten or fifteen minutes the face becomes flushed, and the perspiration comes out all over the body, and the

saliva flows from the mouth in a stream. This continues for two or three hours. It also increases the bronchial secretion and sometimes causes diarrhoea.

It reduces the temperature, promotes rapid secretion and increases arterial tension ; sometimes vomiting results, drowsiness comes on, and the patient is inclined to sleep.

Jaborandi is the opposite of Belladonna in its action. Belladonna checks the cutaneous secretions and the secretions of the salivary glands, and produces dryness of the mucous membrane of the nose, mouth, and intestines ; it dilates the pupils and causes dryness of the mucous membrane of the eye, and lowers arterial tension by paralyzing the nerves. It may, therefore, be used to check the action of or to antidote Jaborandi, and to a certain extent the latter may antidote Belladonna.

Belladonna also lessens the lacteal secretions. Jaborandi may be used whenever copious diaphoresis is wanted. It is nearly equal to a Turkish bath. The infusion is the best form in which to use it, but from 15 to 20 drops of specific Jaborandi in four ounces of water may be substituted. To restore the lacteal secretion, give five drops in water four times a day. This may be increased if necessary.

In dropsy, Jaborandi is a useful remedy, as it influences the skin and stimulates the action of the kidneys. Here it may be given when hydragogues are inappropriate and offend the stomach. In health it does not materially affect the kidneys, but for this trouble give it in full doses once a day. It is a good remedy in uræmia, as it increases the exhalations from the skin, and thus partially relieves the kidneys. Give it in full doses.

It is a good agent in rheumatism. Give enough to produce profuse diaphoresis. Use it also with other indicated remedies. Stiffness in the joints is relieved by it.

Bronchitis and asthma, with marked dryness of the mem-

branes, are relieved by this remedy. In some cases of diabetes insipidus, it is useful, as it is also in some cases of dangerous effusion into the pleural sac.

Jaborandi is indicated by a dry, hot skin, dry and parched mouth, pulse full and strong, kidneys not able to do their work, and the patient restless and uneasy. Be careful in giving it when the heart is feeble.

The dose of the infusion is from 60 to 75 grains of the leaves in half a teacupful of water. Dose of the tincture is from one to twenty drops in water; of specific Jaborandi, from one to ten drops.

PILOCARPINÆ HYDROCHLORAS.

Pilocarpine Hydrochlorate.

DESCRIPTION.—The hydrochlorate of an alkaloid obtained from Jaborandi. It is found in market in small, white, odorless crystals, very freely soluble in alcohol or water. Ether and chloroform scarcely dissolve it. It has a feebly bitter taste, and when exposed to moist air, deliquesces; consequently it must be kept in small, well stoppered bottles.

Pilocarpine hydrochlorate may be administered by way of the mouth or hypodermatically. For hypodermatic use, from one-quarter to one-twentieth grain may be given in twenty drops of water.

This is a very good remedy in dangerous cases of renal dropsy associated with uræmic poisoning, or in uræmic convulsions. It acts very powerfully upon the kidneys as an eliminative, and frees them from the deleterious matter. It is also a good eliminative for scrofulous and syphilitic poisons.

It is of some value in Bright's disease with symptoms of uræmic poison. Use it here hypodermatically in doses of a quarter of a grain. In small doses it is a cardiac stimulant, increasing the heart's action and lessening arterial tension.

Pilocarpine is a stimulant to the gravid uterus, and if improperly used produces abortion. In doses of one-eighth of a grain and in some cases in much smaller amounts, as one-twentieth to one-thirtieth of a grain, it may be given to check excessive perspiration.

Pilocarpine is a very dangerous drug if contra-indicated, and when there is a morbid pulmonary circulation from valvular disease of the heart or fatty degeneration of its tissues. In these cases it must be given with great care, and atropine sulphate must be at hand to counteract its action if necessary. The atropine may be given in one-sixtieth grain doses hypodermatically.

ANTHEMIS.**Roman Chamomile.**

BOTANICAL ORIGIN.—The flowers of *Anthemis nobilis*, Nat. Ord., *Compositæ*. Southern and western sections of Europe, where it is cultivated, and naturalized somewhat in the United States.

ANTHEMIS SPECIFIC has a dark brown yellow color, and possesses the odor of the drug. Age sometimes causes it to precipitate somewhat, but not as heavily as is the case with other preparations of Anthemis.

This remedy is prepared from the flower of the *Anthemis nobilis*, a native of Italy, France, and Spain, but it grows also in this country. It has a peculiar odor and a bitter taste. It yields its virtues to water and alcohol.

In a warm infusion it is emetic, but if cold and in small doses it is a tonic and also a stimulating diaphoretic. An infusion is made by macerating one-half ounce of the flowers in a pint of hot water. Dose, one wine-glassful.

It is a good agent in the diseases of females, as in cases of amenorrhœa from cold. Immerse the feet in a mustard bath, put the patient in bed and give the warm infusion freely. It

is a good remedy in recent colds from lessening cutaneous secretion. It is also useful in recent cases of rheumatism and neuralgia from suppression of the secretions of the skin.

In cold infusion it is tonic, and a good gastric stimulant, and may therefore be employed in atonic dyspepsia. Some cases of intermittent fever are benefited by it.

MATRICARIA.***Chamomilla.***

BOTANICAL ORIGIN.—The flower-heads of *Matricaria Chamomilla*, Linne; Nat. Ord., *Compositæ*. Grown in Europe and in western Asia.

MATRICARIA SPECIFIC has a dark green color, and the precise odor of the drug. It differs from *Anthemis* in respect to the color, which is marked.

This variety of chamomile is superior to that previously considered. It is a good drug in all cases in which the other varieties are used. It is widely employed by the physicians of Germany. The infusion is a good topical remedy to apply to old ulcers, and is made as follows: Take of the flowers, one-half ounce to one pint of hot water. This is a good remedy in leucorrhœa, either chronic or sub-acute. It relieves pain and lessens the discharge. Use it warm or cold as may be agreeable. A saturated tincture is the preparation to use internally. Take any convenient sized wide-mouthed bottle and fill it with the flowers, pressed tightly together, and add as much 75 per-cent alcohol as the bottle will hold. In two weeks filter and it is ready for use. Specific *Matricaria* is equally as efficient.

Chamomile affects the sensory and excito-motor nerves. Use 10 to 15 drops in four fluid ounces of water; teaspoonful. The nervous troubles of the latter months of pregnancy, as false pains, nervous muscular twitching, cough, etc., are relieved by this remedy. In some troubles of children it may

be useful. The diarrhoea and similar troubles of teething children are many times cured by its use. It is a good tonic to the nervous system ; it may be given with Nux or Bismuth.

R. Chamomile, gtt. v.
Aqua, fl ℥ iv. M.

Sig.—Teaspoonful every hour or two.

Small doses act as well as large ones.

Soreness and swelling of the breast in new-born children are relieved by it. If this alone does not cure, give Phytolacca in connection with it. In troubles of the urinary tract in young children, such as involuntary emissions of urine from irritation of the bladder, this is a good remedy. It may be used in cases like the following : The child is somewhat feeble and fretful, bowels constipated, urine passes with difficulty, and there is some tenderness in the region of the liver. The real trouble is subacute inflammation of this organ. Give Aconite with this agent if fever is present. It is a good remedy in dysmenorrhœa. It relieves the pain and lessens the tendency to form blood-clots. In such cases give enough of the infusion to produce profuse sweating. In amenorrhœa, with a sense of weight and heaviness in the uterus, and with bloating of the bowels, it is an excellent remedy. The pains sometimes resemble labor pains. For this purpose use the following :

R. Chamomile, gtt. v. to x.
Aqua, fl ℥ iv. M.

Sig.—Teaspoonful.

Use Aconite with this if fever is present. Chamomile is a good agent to promote an increase of the lacteal secretion. Flatulent colic, with abdominal distension, is relieved by it.

A compress wet with the infusion or tincture makes a good application for ulcers. In syphilitic bubo the ulcer may be syringed with it. It makes a good wash for mammary abscesses. This remedy is good in catarrhal troubles. In such

cases use it locally and internally. In this way it is useful in catarrhal disorders of the eyes, nose, and ears in children, as well as catarrhal bowel complaints, all arising from colds. Aconite is usually demanded also. The infusion may be applied in catarrhal conjunctivitis. Ear-ache from cold, may be treated with it, as well as muscular twitching of the face.

SERPENTARIA.

Virginia Snakeroot.

SYNONYMS.—(1) *Virginia Snakeroot*, (2) *Red River or Texas Snakeroot*.

BOTANICAL ORIGIN.—The rhizome and roots of (1) *Aristolochia Serpentaria*, Linne; and of (2) *Aristolochia reticulata*, Nuttall; Nat. Ord., *Aristolochiaceæ*. The first grows in that part of the United States east of the Mississippi River, the second in Southwestern United States.

These are indigenous plants. Their odor is aromatic, very much resembling camphor. The root is aromatic and bitter and yields its virtues to water or alcohol. The properties of this agent are stimulant, stomachic, tonic, diaphoretic, and diuretic.

As a diaphoretic *Serpentaria* is very stimulating in its action, causing copious sweating. It increases the secretion of the kidneys when this has been stopped by cold, etc. On account of its great stimulating influence it should not be given in high fever or high grades of inflammation. Its use is indicated by torpor and atony, and the greater the atony the stronger it is indicated.

Serpentaria is a good agent for troubles resulting from cold, especially where a dangerous tendency exists to locate in the internal organs. *Cynanche maligna* is benefited by its tonic and antiseptic influence. Use it both internally and as a gargle. For the gargle employ the following :

R. *Serpentaria*, ℥ ss.
Aqua, Oj.

Here it acts as a topical stimulant. It is further of much value in atonic throat diseases, where there is a tendency to breaking down of the tissues.

Dyspepsia and some skin troubles are benefited by its use. In atonic dyspepsia give spec. *Serpentaria*, ten to fifteen drops after each meal. It is useful in chronic dropsy when the skin is inactive, thus leaving impurities in the body which should pass out by this avenue. Scrofula, rheumatism, and syphilis are benefited by its use. In chronic ague, which quinine has failed to cure, use the following :

R. *Serpentaria* Root.
 Red *Cinchona* Bark, aa. $\bar{3}$ ss.
 Macerate in Holland Gin, O ss.

Sig.—One teaspoonful three or four times a day.

In low forms of fever, such as typhoid, this agent improves the tone of the vessels of the skin. In pneumonia with great decline of strength it is a very good stimulant. It is a very good drug in measles, scarlet fever, and small pox to bring the eruptions to the surface during the first stages of the disease, or after a retrocession, or when there is a poor circulation and internal congestion. Some cases of colliquative sweating are cured by it.

Dose of specific *Serpentaria*, ten to fifteen drops ; of the infusion, one to two ounces. The infusion is made as follows :

R. *Serpentaria* Root, $\bar{3}$ ss.
 Aqua, fl $\bar{3}$ xvi.

EUPATORIUM.

Boneset.

SYNONYMS.—*Thoroughwort*, *Indian Sage*, *Ague Weed*, etc.

BOTANICAL ORIGIN.—The flowering tops and leaves of *Eupatorium perfoliatum*, Linne ; Nat. Ord., *Compositæ*. Common in low grounds and swamps from Canada to Virginia.

EUPATORIUM PERFOLIATUM SPECIFIC has a deep brown

color and the precise aroma of the herb yielding it. In order to distinguish this preparation from *Eupatorium purpureum*, Lloyd has labeled that preparation *Gravel Root*.

This is one of our perennial indigenous plants, found growing around swamps or along streams. Its stems are erect, leaves long, uniting around the stem at their bases; flowers are white and blossom in early spring, and they, with the leaves and stalks are used in medicine. They possess a faint odor and a bitter taste. Water or alcohol extracts its virtues. In large doses of the infusion it is emetic, stimulating in its effects and thorough in its action. A warm infusion not sufficient for emesis is diaphoretic. A cold infusion in small doses is a very good tonic. Although slightly stimulating it may be given in almost all inflammatory disorders.

Boneset is an excellent remedy in ague which can not be cured with quinine. In ordinary cases of recent ague it is not to be used, but in cases where the disease comes on irregularly this is the remedy. It is also adapted to those cases in which the chill and fever is slight, the skin dry, and not followed by sweating, and with pains in the bones, oppression in the chest, a great thirst, and in cases where there is heat lasting all day, but followed by a slight perspiration at night. Begin by giving large doses of the warm infusion until vomiting is produced; after this give it in small doses and keep the patient sweating for five or six hours; then follow by small doses of the cold infusion. Vomiting in ague is an indication for *Eupatorium*, especially if much bile is vomited.

In intermittent headache, where the intermissions are irregular, and quinine will not cure, give *Eupatorium*. Give it as above directed, though in some cases the dose required will be small.

It relieves the severe nocturnal pains in the muscles and bones in cases of syphilis. Here give it until the patient

sweats, and then follow with five drop doses of specific Eupatorium.

It is one of the best remedies for epidemic influenza or la grippe. Use it whenever an emetic is needed, and give it as directed for chronic ague. It overcomes the pain in the back and limbs and improves the condition of the skin. It is a very good drug in the treatment of pneumonia in the latter stages ; it may be given in the earlier stages if an emetic is indicated. It is a good remedy in cough. For this purpose use Eupatorium one ounce, pour upon it water one pint and boil, strain and add enough water to give a pint of the decoction. To this add loaf sugar two pounds. This is agreeable to the stomach, relieves cough and irritation of the mucous membranes, and helps the digestive process.

It relieves the cough of measles, asthma, and that cough so peculiar to old people. It is the remedy for colds, with pain in the chest, roughness of voice, and general muscular aching.

Eupatorium may be used for its direct tonic influence upon the stomach. Give it for loss of appetite and it will restore tone and increase the desire for food. It restores the appetite when destroyed by alcoholic excess.

As a tonic give from a teaspoonful to a tablespoonful of the infusion, or from one to five drops of specific Eupatorium.

CROCUS.

Saffron.

BOTANICAL ORIGIN.—The dried stigmas of *Crocus sativus*, Linne ; Nat. Ord., *Iridacæ*. Indigenous to Western Asia and cultivated for the drug market principally in France and Spain.

This remedy is prepared from the stigmas and part of the style of the *Crocus sativus*. Alcohol and water extract its medicinal qualities.

Saffron is diaphoretic, stimulant, emmenagogue, and anti-spasmodic. It is to be employed in depressed conditions. In eruptive diseases this is an elegant remedy for developing the eruption, originally or after a retrocession of it. It may be used in any case if the grade of fever is not too high. It is best used in the form of an infusion; use one drachm of Saffron in a pint of hot water and give from one to three ounces, as may be necessary.

Crocus influences the apparatus of reproduction in the female, having a specific action on the uterus. It checks bleeding and cures amenorrhœa. In suppression of the lochia after confinement, the infusion is very valuable. In menorrhagia when the discharges are dark and clotted, give from one to five drops of specific Crocus in water, or give a teaspoonful of the infusion several times a day. It allays the pain and restores the normal flow. It is a remedy for chronic losses of blood from the uterus. Cramps in the bowels of young children are relieved by this remedy. In catarrhal conditions one-half cupful of the infusion may be employed.

ASCLEPIAS INCARNATA.

Swamp Milk Weed.

SYNONYM.—*Flesh-colored Asclepias.*

BOTANICAL ORIGIN.—The rhizome of *Asclepias incarnata*, Linne; Nat. Ord., *Asclepiadaceæ*. North America.

This plant grows in swamps and wet places, having flowers which are flesh-colored and appear in July or August.

The rhizome is the part used and it is very similar in its medicinal qualities to the *Asclepias tuberosa*.

Like it, it is diaphoretic. Given in small doses it is a good agent in chronic amenorrhœa. It should not be given to pregnant females or an abortion may result. In gonorrhœa tablespoonful doses of the infusion are helpful. In

rheumatism and syphilis it is frequently a good remedy. Dose of the tincture from three to ten drops.

DIOSCOREA.

Wild Yam

BOTANICAL ORIGIN.—The rhizome of *Dioscorea villosa*, Linne; Nat. Ord., *Dioscoreaceæ*. Found in moist thickets in the United States.

The *Dioscorea villosa* is an indigenous twining vine with yellow flowers, blooming in July or August.

The rhizome is the part used and is odorless, except when pressed, when it emits a pungent odor.

It is diaphoretic and anti-spasmodic.

Alcohol and water extract its virtues.

This remedy is a good one in bilious colic, using five drops of the specific *Dioscorea* every five minutes. If this does not give relief in an hour its use is to be discontinued. It does not always succeed. A coated tongue, with increasing paroxysmal pain in the abdomen and gastric derangement, indicates its use.

It is useful in cholera morbus, stopping the cramps in the stomach and bowels; give five drops every fifteen minutes. All varieties of abdominal cramps are benefited by it. It will relieve some cases of flatulent colic, though in most cases an emetic is generally needed, as the colic depends upon something in the stomach that should be removed.

Dioscorea is a valuable remedy in cases of nerve-irritation with a tendency to spasm. All pains of a spasmodic character point to its use. In the after-pains of labor it relieves; give ten drops every hour, or a teaspoonful of the following:

R. Specific *Dioscorea*, gtt. xx.
Aqua, fl $\bar{3}$ iv. M.

Nausea and vomiting of pregnancy are both benefited by this agent, when given in doses of one or two drops every

two hours, It is of some use in dysmenorrhœa. Give *sp. Dioscorea* gtt. v. every hour. Pains and gripings, etc., after *Podophyllin*, are relieved by its use. All forms of gastrointestinal irritation are benefited by it.

LIQUOR AMMONII ACETATIS.

Solution of Ammonium Acetate.

SYNONYM—*Spirit of Mindererus.*

DESCRIPTION.—A colorless, clear fluid, mildly saline and feebly acid to the taste, and having an acid re-action. Heat should wholly volatilize it, and it should not possess a smoky odor.

PREPARATION.—This preparation to be efficient must be fresh, and is easily made according to the following formula : Pour into an eight ounce graduate, any desired amount of dilute acetic acid, and add to it small pieces of carbonate of ammonium until the acid is neutralized, as is indicated when effervescence ceases ; then add a little more acetic acid to give it an acid re-action. It should be prepared when needed for immediate use.

Spirit of Mindererus is stimulant, diaphoretic, and diuretic. If the body is kept warm it passes off by way of the skin, but if not it passes through the kidneys. It may generally be used to establish the cutaneous secretion, but owing to its stimulant influence it should never be used in high grades of fever or inflammation. In eruptive diseases, when the eruption appears tardily and the circulation is imperfect, it is a good remedy to correct these troubles. In the declining stage of these diseases, when the nervous system is greatly depressed, the skin dry and the kidneys inactive, give one-half a drachm in water to restore secretion. It may be given as a stimulant when alcohol can not be tolerated.

In mild cases of sore throat associated with catarrh it is a good remedy. It may be useful in low forms of typhoid fever, when a stimulant is needed and alcohol disturbs the brain. In these cases it acts very nicely, causing no cerebral disturbance. Dose, from one to two drachms in a wineglassful of water. It is a good sobering drug in alcoholic intoxication ; after the stomach has been emptied give one drachm of the remedy in water every quarter of an hour. Some cases of sick headache are relieved by half a drachm of this remedy.

Painful menstruation is relieved by this agent, and likewise uterine colic. Give it for the latter trouble with twenty drops of laudanum.

Dropsy, with great depression, is sometimes benefited by this agent given in doses of one drachm. Chronic rheumatism and gout are bettered by its use in doses of from one to two drachms. It may be given with sweet spirits of nitre when a stimulant of the skin and kidneys is needed. It is also beneficial in some forms of cardiac diseases, and has been topically applied with good results to glandular swellings.

PULVIS IPECACUANHÆ ET OPII. *Dover's Powder.*

SYNONYM.—*Powder of Ipecac and Opium. Pulvis Ipecacuanhæ Compositus. Compound Powder of Ipecac.* (See Opium.)

COMPOSITION.—This powder is prepared as follows :

R. Ipecacuanha,	
Opium, <i>aa.</i> in fine powder, ʒj.	
Sugar of Milk, ʒj.	M.

This preparation is a combination that is possessed of stimulant, sédative and anodyne, as well as narcotic properties. It improves the condition of the skin, relieves pain and promotes sleep.

By this preparation the vessels of the skin are stimulated by the Opium and the pores are relaxed by the Ipecac. We get better results from this combination than we can from the ingredients separately.

It is a good hypnotic and may be used when Opium alone would be contra-indicated, its evil effects being mitigated by the Ipecac.

It may be used to produce sleep, relieve pain or stimulate the internal organs, provided there is no high grade of fever, cerebral inflammation, or sickness at the stomach. Give it in doses of from five to ten grains every half to three hours.

Dover's Powder is a good drug in the forming stage of any inflammatory trouble; given in full doses it many times changes the whole train of morbid phenomena. Give it in doses of from five to ten grains every two or three hours. It is a good remedy in rheumatism, giving relief from pain with no bad results. Give it in doses of five grains (with a proper anti-rheumatic) every three hours. If the case is very severe give ten grains.

It is an excellent remedy in the suppression of menses from cold. In recent cases put the patient to bed and give five grains every two or three hours; put a sinapism upon the hypogastrium and jugs or bottles of hot water to the loins. This will usually restore the secretion. It is a very good agent in troublesome cases of abortion; it allays nervous excitement, gives rest to the patient, both very necessary things to accomplish in this condition. In hemorrhages this powder may also be employed. In hemorrhage of the lungs Opium lessens the flow while Ipecac is also specific in this direction.

Dover's Powder controls cough, given in doses of five grains as often as is needed. Gout is relieved by it. It acts by improving the condition of the skin through its action on the vessels, and by acting as an eliminative of the morbid matter.

In bowel troubles, particularly dysentery, though not curative alone, it relieves pain, moderates the peristaltic action of the bowels, and gives the patient rest, thus aiding the favorable action of other remedies. In doses of five grains it relieves spasmodic bowel affections.

In diarrhoea, resulting from the irritation of indigestible food, give first a mild evacuant, after which give this remedy; both of its ingredients being anti-spasmodic in their action, it readily overcomes this trouble. Here from five to ten grains given internally and a sinapism applied over the abdomen gives speedy relief.

Dover's Powder is not contra-indicated in enteritis.

In troubles of the urinary organs, such as granular disease of the kidneys, a good circulation must be maintained, so as to keep the skin actively working, in order to lessen the work of the kidneys. This agent gives us that condition. It acts nicely in the early stage of catarrhal disorders of the kidneys. From five to ten grains at bedtime is about the proper dose. Do not administer warm teas just after giving the powder, as the patient may be compelled to vomit.

In neuralgia, with hot, dry skin, give two or three grains of Dover's powder with an equal amount of quinine. This generally cures.

This agent acts powerfully on the skin, producing profuse sweating, but it may lessen this function also. In the profuse sweating of phthisis, five grains of the powder given a half hour before the sweating should begin, will usually check it.

In bad cases of dysmenorrhœa it gives speedy relief. For this employ the following:

R. Dover's Powder, grs. xxx.
Powd. Camphor, gr. vj. M.

Make six powders and give one every half hour or hour. Use at the same time some external application to the abdomen. As a diaphoretic the dose is five grains. Warm drinks may be given subsequently, though, as stated, not immediately after it. As a hypnotic, use from five to ten grains. The taste of this powder is rather disagreeable, so it may be given in pills or capsules.

A very similar powder, the COMPOUND POWDER OF IPECACUANHA AND OPIUM (*Pulvis Ipecacuanhæ et Opii Compositus*), is better known as DIAPHORETIC POWDER :

R. Powd. Opium, ʒ ss.
 Powd. Camphor, Powd. Ipecac, aa. ʒ ij.
 Sugar of Milk, ʒ j. Triturate.

Given in doses of from five to ten grains, this is a powerful diaphoretic. It may be used in rheumatism, also in diarrhœa and dysentery. For these bowel troubles use doses as given above.

It is a good remedy in dysmenorrhœa and the after-pains of labor. Give doses of from three to ten grains every three hours. The properties of this powder are anodyne and diaphoretic.

The original BEACH'S DIAPHORETIC POWDER was composed as follows :

R. Powd. Opium, grs. x.
 Powd. Camphor, grs. xl.
 Powd. Ipecacuanha, grs. xx.
 Potassium Bitartrate, grs. clx. M.
 Dose, from three to five grains.

On account of the refrigerant properties of the last-named ingredient, this may be used in febrile and inflammatory affections. Its general use is about that of Dover's powder.

DIURETICS.

AGENTS which, by their action upon the kidneys, cause an increased secretion of urine, are classed as diuretics. True diuretics are absorbed into the blood, and act directly upon the secretory apparatus of the kidneys.

Such drugs as, when taken into the stomach, or when injected into venous channels, or absorbed in any manner from any portion of the body, increase the secretion of urine, are termed *direct* or *specific diuretics*.

Agents acting indirectly upon the kidneys, as the ingestion of large amounts of water, or when, by the application of cold to the integumentary structures, the kidneys are made to perform the work of secretion which should be accomplished by the cutaneous tissues, are denominated *indirect diuretics*. Such agents are, in reality, not diuretics at all, but depend wholly upon circumstances as to what channel of exit they shall take.

A better classification of diuretics is into *renal hydragogues* and *renal depurants*. The first causes an increased flow of the watery constituents of the urine, in great disproportion to the amount of solids excreted. The renal depurants, on the other hand, act probably by chemical means so as to increase the solid detritus of the urine, either with or without a corresponding increase of the fluid constituents. The renal depurants are very valuable agents, as they carry off the dead portions of animal tissue. Acting in a quiet manner,

they have not been given due credit, or at least as much as has been accorded to renal hydragogues, whose effects are so readily observed.

COPAIBA.

Balsam of Copaiba.

BOTANICAL ORIGIN.—The oleoresin of *Copaiba Langsdorffii* (Desfontaines), O. Kuntze; and of other species of *Copaiba* (U. S. P.); Nat. Ord., *Leguminosæ*. Collected in Brazil, New Granada, and Venezuela.

DESCRIPTION.—A yellow, transparent or translucent, somewhat viscid fluid, from a pale to a brown-yellow in color. Its odor is aromatic and its taste bitter, acrid and nauseous. It is insoluble in water, but soluble in alcohol, ether, benzoin, chloroform, carbon disulphide, oils and alkalies. A volatile oil possessed by it is its active principle. It should not, when heated, give off the odor of turpentine, and when mixed with one-third its bulk of ammonia water, should produce a transparent mixture.

This is the resinous exudation of trees, natives of South America. It is obtained by wounding the tree and collecting the accumulated exudation.

Alkalies saponify *Copaiba*, therefore, it may be used in pill form as follows:

R. Balsam *Copaiba*, fl $\bar{3}$ j.
Magnesia, $\bar{3}$ ss.

Rub together in a mortar and set aside until cold, when pills may be made of it of such form and size as wanted.

The oil is obtained by distillation, and may be given in doses of from one to five drops. Dose of the balsam is from one drop to one drachm.

Copaiba is diuretic, laxative, stimulant and emetic. In its action it is much like turpentine, its effects being manifested on the stomach and intestines, skin and urinary organs. It lessens the appetite and produces nausea and

vomiting, or if sufficient in amount it purges. To prevent this last effect Opium may be given with it, if not otherwise contra-indicated.

Copaiba increases the flow of urine, makes it dark-colored and of a strong odor. If the dose be large it creates a strong and constant desire to pass urine, the act being accompanied with burning and tenesmus. It also increases the pulse and irritates the kidneys, and, in some way, if it disagrees with the stomach, produces an eruption on the skin, resembling urticaria.

Copaiba enters the circulation, as is shown by the odor in the breath and urine.

It is very largely used in gonorrhœa, and if correctly used it has a specific influence in this disease; but if improperly used it is productive of much harm. It has been given in too large doses in all stages of the disease, and thus very much harm has come from its use.

It is contra-indicated in the inflammatory stage of the disease with great irritation and profuse discharge, and in some cases it is not to be used at all.

In the acute stage of the disease we want a sedative. For this use the following :

- R. Specific Aconite, gtt. x.
 Specific Gelsemium.
 Spec. Cannabis Sativa (or Indica), aa. fl ʒj.
 Syrup Simplex.
 Aqua, aa. q. s. fl ʒiv. M.
 Sig.—Dose, teaspoonful every three hours, or four per day.

Should urination produce burning, give the patient from ten to fifteen grains of sodium bicarbonate in a wineglassful of water two or three times a day. If there be intestinal constipation first give the patient a dose of compound powder of Senna and Jalap. In the latter stages of the disease, if there is no inflammation, use the following :

R. Balsam Copaiba, fl ʒj.
 Alcohol, fl ʒj. M.

Sig.—Dose, five to ten drops four times a day in sugar and water.

In other cases use the following larger dose :

R. Balsam Copaiba,
 Sweet Spirits Nitre, aa. fl ʒ ss.
 Liquor Potassæ,
 Essence of Cinnamon, aa. fl ʒj.
 Mucilage of Acacia,
 Syrup Simplex, aa. fl ʒj. M.

Sig.—Teaspoonful after each meal.

This preparation is very good when the disease is chronic or unduly prolonged. This agent is valuable in many chronic inflammations and irritation of the bladder or urethra, with a painful passage of urine, using doses of from one to five drops on sugar.

Copaiba has also been applied locally in eye diseases such as syphilitic iritis, scleritis and purulent ophthalmia in children. For these conditions paint the balsam upon the upper part of the cheeks and upon the temples. It may be painted upon an inflamed mammary gland to prevent the formation of an abscess. Cover with oiled silk.

In chronic inflammation of the intestinal mucous membrane, with ulceration, give doses of from one to five drops of Copaiba three times a day. It is a good remedy in troubles of the mucous surfaces of the respiratory passages, as chronic bronchitis and difficult expectoration. Here it is stimulant and lessens secretion. It is a useful agent in the topical treatment of chilblains, applied to the surface twice a day if the skin is intact. The dose of this remedy is from one drop to one drachm. It is contra-indicated in inflammatory conditions of the urinary organs.

BUCHU.**Buchu.**

SYNONYMS.—(1 and 2) *Short Buchu*, (3) *Long Buchu*.

BOTANICAL ORIGIN.—The leaves of (1) *Barosma betulina* (Thunberg), Bartling and Wendland, and (2) *Barosma crenulata* (Linne), Hooker; (3) *Barosma serratifolia*, Willdenow furnishes long Buchu. Nat. Ord., *Rutaceæ*. South Africa.

BUCHU SPECIFIC has a deep yellowish-green color and the precise fragrance of Buchu. When added to water it makes a milky mixture.

These are small shrubs, natives of the Cape of Good Hope. Their leaves resemble the leaves of Senna and are of two varieties. They have a strong aromatic odor and an essence is made from them. Alcohol and water extract their virtues.

The infusion is the best preparation and is made by macerating a tablespoonful of the leaves in half a pint of boiling water. Two or three tablespoonfuls of this may be given two or three times a day. A tincture and a fluid extract of Buchu are also in use. Specific Buchu is a fine preparation.

Buchu is diuretic, stimulant and tonic, and, if given warm, diaphoretic. It quickens the pulse and favors increased secretion from the skin and kidneys, being somewhat depurant in its action.

Besides this it is also hydragogue, increasing both the watery and solid constituents of the urine. On the other hand it lessens undue activity of the kidneys when there is an excessive secretion. Buchu improves the appetite and promotes digestion.

It is useful in diseases of the genito-urinary organs with excessive irritation and undue and altered secretions from the urethral glands. Here give from ten to twenty drops of specific Buchu three times a day. In catarrh of the bladder, especially such as results from gonorrhœa or irritant injec-

tions used in its treatment this remedy is very valuable. In long-standing cases of irritability of the bladder, and when the patient can not hold his urine use the following.

R. Specific Buchu, fl \bar{z} iiss.
Tinct. Chloride of Iron, fl \bar{z} ss. M.

Sig.—Give a teaspoonful four times a day in a wineglassful of infusion of hops or in sweetened water.

This acts as an astringent, tonic and diuretic. It removes chronic irritation and increases tone.

It may be used with good results in atonic dyspepsia. For over-activity of the kidneys and for gleet employ the following in twenty drop doses :

R. Fld. Ext. (or Specific) Buchu, fl \bar{z} iss.
Tinct. Chloride of Iron, fl \bar{z} ss. M.

The infusion is a good remedy in dysmenorrhœa, amenorrhœa and leucorrhœa.

LIATRIS.

Button Snakeroot.

SYNONYMS.—*Colic Root, Devil's Bit.*

BOTANICAL ORIGIN.—The tuberous rhizome of *Liatris spicata*, Willdenow ; Nat. Ord., *Compositæ*. North America from southern portion of New York to Wisconsin, growing in moist places.

The odor of this drug is aromatic and its taste bitter. Water and alcohol extract its virtues. Its properties are stimulant, eliminative, alterative, aromatic and tonic. It is a stimulant to all the excretory organs, especially the urinary.

In dropsy it is a good remedy, eliminating morbid effusion and restoring tone. Its action on the stomach is kindly. Dyspepsia, with a torpid condition of the kidneys, is benefited by it. It is a good drug in spasmodic affections of the bowels and relieves colic in children. Use teaspoonful doses

of the infusion. It is an excellent tonic in the latter stages of fever when there is a bad condition of the skin and kidneys, and poor circulation. In chronic irritation of the throat, with relaxation, it makes a good gargle; for this purpose use an ounce of the root to a pint of water. As an eliminative it is of service in syphilis.

Liatris is claimed by some to be an antidote to the poison of serpents when applied (bruised root) as a compress to the wounded part. It may come as near antidoting the poison as anything else will, but it will not cure if the person is bitten by a large rattler when he has not immediately previously bitten something else to deprive him of some of the poison. It is said to be of some use in weakness and pain in the back, and in calculous affections.

EUPATORIUM PURPUREUM. *Queen of the Meadow.*

SYNONYMS.—*Gravel Root, Trumpet Weed, etc.*

BOTANICAL ORIGIN.—The root of *Eupatorium purpureum*, Linne; Nat. Ord., *Compositæ*. Swamps from Canada to Virginia.

EUPATORIUM PURPUREUM SPECIFIC has a dark brown-yellow color. In order to distinguish it from *Eupatorium perfoliatum*, or Boneset, Lloyd Brothers label this preparation *Gravel Root*.

This is a native plant, growing in low, wet places, flowering in August or September. The root is the part used and should be gathered in the fall of the year. The drug is commonly known as *Queen of the Meadow*, or *Gravel Root*. It is diuretic, astringent, tonic and antilithic. It has a specific action on the kidneys, increasing the amount of the urine and the proportion of solids. It is one of the very best remedies for urinary calculi, some even claiming that it will dissolve the stone when formed. At any rate it is very valuable in these troubles. The tincture and the infusion

are both used. To make the infusion macerate one ounce of the root in a pint of water. Dose, from one to two ounces. Dose of the tincture, five to fifteen drops. Dose of specific *Eupatorium purpureum*, five to ten drops.

Queen of the Meadow is a good remedy when the patient suffers from painful urination with frequent desire to pass urine, the act being accompanied with a sensation of obstruction. The condition is one of difficult and painful micturition. In the treatment of dropsy it is one of our best remedies. In anasarca dependent upon a failure of the kidneys to act, it is especially valuable. Here we may remove the effusion by a hydragogue cathartic, but if renal remedies are neglected the effusion returns as before. This remedy stimulates the absorbents and restores the lost tone of the kidneys. If the patient is not debilitated, give this agent in doses of from five to ten drops of the tincture in a teaspoonful of water every three hours. The dropsy following scarlatina is especially benefited by its exhibition. It is a good drug when the patient complains of pain in the region of the kidneys extending to the bladder, with scanty, high-colored urine. If the vascular excitement is marked, give it with Aconite or Veratrum. The urine passed may be mixed with solids or blood. Under these circumstances use the infusion in doses of a tablespoonful to a wineglassful three times a day. It is valuable in chronic irritation of the bladder, with mucous discharges in the urine and heat in the region of the bladder, the urine leaving a deposit of mucus in the vessel. Shooting pain in the urethra, tenesmus, and frequent micturition, are indications for its use. It is a good remedy in recent troubles of the prostate gland after the active symptoms have passed. Give of the tincture five drops every three hours.

It affords good results in cases of strangury resulting from irritating diuretics, or caused by a fly blister. The following always gives relief: Inject thirty drops of laudanum in

starch water into the rectum, and then give the infusion of *Eupatorium* freely. Keep the patient warm. If this is not sufficient give the patient a hip bath. In incontinence of urine in children resulting from chronic irritation of the bladder, a small amount of urine causing contraction of the bladder and the expulsion of its contents, give five drops of specific *Eupatorium purpureum* three times a day, giving the last dose at bedtime.

In albuminuria it is one of the best remedies we possess. It is good for quieting irritability of the bladder during pregnancy, the urine being frequently voided in small quantities. Dose, five drops, or give the infusion. This remedy always helps the patient and many times removes the trouble. *Diabetes insipidus* is also benefited by its action.

This remedy influences the reproductive organs of both male and female, more especially the latter. It is tonic to the uterus in atony or chronic irritability of this organ. It is of service given in four or five drop doses three times a day to prevent abortion due to debility in chronic metritis, prolapsus, retroversion and all troubles of the uterus of this nature. It is a good remedy in chronic amenorrhœa with constant leucorrhœal discharges and marked debility; use it in the form of an injection, together with some astringent. In some cases of pregnancy, with constant desire to void urine, attended with cough, the urine passing with each effort of coughing, this remedy given in teaspoonful doses of from fifteen to twenty drops in four ounces of water, generally gives relief. If the patient is very nervous associate it with *Pulsatilla*.

It is a good agent in impotency of the male. It is also used for its influence upon the respiratory organs. Chronic cough, with atony of the circulation, is benefited by its use, as is also whooping cough when unduly prolonged. It has given good results in asthma and chronic catarrh.

The influence of Queen of the Meadow on the stomach is agreeable and hence it may be used for a long time with no bad results. In fact it improves dyspepsia. It is indicated by scanty urine, milky in color, and a sensation of weight in the loins, the skin being hot, dry and constricted.

APIS MELLIFICA.

Honey Bee.

ORIGIN.—The alcoholic solution of the poisonous principle of *Apis mellifica*, Linne; class, *Insecta*; order, *Hymenoptera*; family, *Apidae*.

APIS SPECIFIC is made of live honey bees after exciting them to angriness. It contains the poison of the sting.

The preparations of honey bee used by our physicians are the tincture, and the specific Apis. This agent is diuretic, diaphoretic, and alterative. It has a specific influence on the urinary apparatus. It resembles Spanish Fly in action, removing irritation of the urinary organs, and in large doses stimulating them. It is given in small doses, even in inflammation of these organs, when irritation is present.

In anasarca and hydrothorax this remedy is a good one, as it is also in inflammation of the kidneys and bladder, especially in the chronic form. For suppression and retention of urine it is one of the most certain remedies at our command. Owing to its influence on the skin it gives good results in the eruptive diseases, as scarlet fever, measles, etc., also in dropsy occurring during the latter months of pregnancy. It is a good remedy in the troubles of the reproductive organs of the female. Use it in amenorrhœa, menorrhagia, and leucorrhœa with acute congestion. In ovarian congestion, with pain and tenderness in the region of the ovaries, this drug usually gives relief.

R. Specific Apis, gtt. x.

Aqua, fl $\frac{3}{4}$ iv. M.

Sig.—Teaspoonful every four hours.

In throat troubles, with general œdema of the throat and tonsils, the parts appearing as though stung by a bee, Apis is a good remedy. It is also of value in scrofulous ophthalmia. Good results are obtained from this drug in some forms of inflammatory sore mouth and vesicular erysipelas.

The urinary symptoms indicating its use are constant desire with inability to pass urine, the latter being dark red or bloody.

Use ten drops in four ounces of water, and give a teaspoonful of the mixture every hour in acute cases. In chronic cases give it three times a day.

SCOPARIUS.**Broom.**

BOTANICAL ORIGIN.—The freshly dried tops of *Cytisus Scoparius* (Linne) Link. Nat. Ord., *Leguminosæ*. Grows in western Asia, western and southern Europe, and is naturalized in this country.

CHIEF ACTIVE CONSTITUENT—*Sparteine*.

This remedy is prepared from the tops of the plants. It is diuretic, laxative, tonic, and in large doses emeto-cathartic. Make an infusion by macerating one ounce of the tops in a pint of water. This will purge and act on the kidneys.

Scoparius is a very certain remedy in dropsy, being stimulant and tonic in its action. It is a good agent in the treatment of scurvy and jaundice. It cures these diseases by its eliminative action on the blood. A tincture is also employed, but it is inferior to the infusion. Dose of the tincture, fifteen to thirty drops.

ALTHÆA.**Marshmallow.**

BOTANICAL ORIGIN.—The root of *Althæa officinalis*, Linne. Nat. Ord., *Malvaceæ*. Europe, Asia, Australia, and eastern United States. It thrives in salt marshes.

This plant, though grown in America, is a native of Europe, growing in salt marshes and along the banks of streams. In the market the roots come in pieces of a quarter of an inch long and the thickness of a pipe-stem. German physicians use this agent extensively. It is diuretic and demulcent.

The infusion, which is rather mucilaginous, is the best form of administration.

Marshmallow is a good remedy in nephritis, cystitis, and all inflammatory conditions of the urinary organs. It is useful in gastro-enteritis. In dysentery it makes a soothing injection. The infusion is a good demulcent application to inflamed mucous surfaces.

It is a good vaginal injection in acute vaginitis. For this purpose use an infusion prepared from one ounce of the root in a pint of water. This is good also in acute gonorrhœa. Inject it into the urethra. For hemorrhoids it is applied as a compress to the inflamed tumors, and thus relieves pain. It is valuable in cough from irritation of the upper part of the throat; used as a gargle, this soothes the parts, and acts as a sedative. As a diuretic, the greater the inflammation the more *Althæa* is indicated.

SCILLA.

Squill.

SYNONYM.—*Sea Onion.*

BOTANICAL ORIGIN.—The bulb of *Urginea maritima*, (Linne) Baker; Nat. Ord., *Liliaceæ*. Deprived of its dry membranous outer scales, cut into slices and dried, rejecting the central portions. Grown in Mediterranean Europe.

This remedy is prepared from the bulb of a plant known as the Sea Onion, growing in the Mediterranean Sea.

The bulb is as large as a fist and looks very much like an onion. The juice irritates the skin, owing to the presence of a volatile oil active in character. In the market it con-

sists of slices of the bulb dried. Its taste is bitter and somewhat nauseating.

It is diuretic, expectorant, emetic and acro-narcotic.

In small doses it excites all the secretory organs to action. It acts as a stimulant to the bronchial mucous membranes, increases the flow of urine and promotes absorption of fluids. It is an irritant to all parts with which it comes in contact, and hence it can not be used for a long time, as it destroys the appetite and otherwise unfavorably affects the patient. In large doses it is poison, producing stupor, paralysis and death. Life has been destroyed by twenty-four grains of squill, but when properly used it is a very valuable agent.

Squill is a good diuretic in cases of dropsy not resulting from some organic change; it gives the patient relief and aids in the evacuation of the watery effusion. It is contra-indicated when the pulse and hot, dry skin indicate some inflammatory trouble, as in inflammation of the urinary organs. But the greater the atony the more strongly is this agent indicated.

In anasarca and other forms of dropsy use the remedy in doses of one or two grains every three hours; should this produce nausea the amount may be lessened. When this result follows it acts on the bronchial surfaces, but does not affect the urinary organs. We may use it in all non-inflammatory cases when we have over activity of the kidneys. It may, in fact, be used to increase or lessen the activity of the kidneys. It is often a valuable remedy in cases of diabetes insipidus. In this disease use it in small doses. Use the first decimal dilution of specific Squill, and give this also in over activity of the kidneys.

It is a very good drug in many troubles of the respiratory organs. In bronchitis, with increased secretion, if given in small doses, it stimulates expectoration, but, if given in large doses, it vomits. Use the syrup or infusion, using four or

five drops at a dose. It may be given alone or with other remedies.

In cardiac dropsy, with feeble heart action, feeble circulation and rapid, weak pulse, give Squill with Digitalis as follows :

R. Digitalis Leaves, $\bar{3}j$.
 Aqua, fl $\bar{3}$ viij. Infuse.
 Sig.—Give a teaspoonful to which add either two grains of Squill or one drop of specific Squill, three times a day.

In case but little fever is present, the sputa being scanty and tenacious, with no inflammation, use the following :

R. Syrup of Squill, fl $\bar{3}j$.
 Syrup of Wild Cherry, fl $\bar{3}$ iij. M.
 Sig.—Teaspoonful four times a day.

In chronic bronchial catarrh use the following :

R. Syrup of Squill,
 Syrup of Senega, aa. fl $\bar{3}j$.
 Syrup of Wild Cherry, fl $\bar{3}$ ij. M.
 Sig.—Teaspoonful every three hours.

This makes a very good expectorant.

Dose of the syrup, from a few drops to a teaspoonful. In teaspoonful doses it may vomit. The syrup is prepared from vinegar of Squill. As a diuretic give from one to two grains of the powdered Squill. We will use this remedy when we want a stimulating diuretic or diaphoretic.

CHIMAPHILA.

Pipsissewa.

SYNONYMS.—*Prince's Pine*, *Ground Holly*, *Rheumatism Weed*, *Wintergreen*, etc.

BOTANICAL ORIGIN.—The leaves of *Chimaphila umbellata*, (Linne) Nuttall ; Nat. Ord., *Ericaceæ*. Indigenous to the United States and Northern Europe and Asia.

This plant is a native of northern latitudes in Asia and America. Its leaves are of a dark green color. The flowers appear in June and July and the fruit is a five-celled capsule.

The stems and leaves are used in medicine. Hot water and alcohol extract its virtues.

Chimaphila is diuretic, tonic, astringent, diaphoretic and alterative.

This agent is very valuable in the treatment of diseases of the genito-urinary organs. Use it in catarrh of the bladder with offensive urine and in urethritis with profuse mucous flow. In chronic affections of the kidneys and bladder, attended with purulent discharge of mucus, this is a very good remedy. In troubles of the prostate gland and calculous affections this remedy may be employed alone or with *Eupatorium purpureum*.

Owing to its tonic and stimulating effects it is a very good remedy in atonic troubles. Dr. White says: "It is one of the best alteratives in our *Materia Medica*." Others speak of it very highly for this purpose, some claiming to have cured scrofula with it alone. In scrofulous ulceration use it both locally and internally.

It is indicated in atonic conditions, especially if the patient is of a scrofulous diathesis. It is one of the best remedies we possess for atonic dropsy associated with a scrofulous taint and loss of appetite.

In some cases of rheumatism, when the patient is scrofulous, it acts very nicely. It may not cover the entire ground here, but it is a very valuable aid. It is a good alterative in the diffused stage of syphilis, when the constitution has been greatly impaired. For this purpose give a wineglassful of the infusion, to which is added from five to twenty grains of potassium iodide. Here it restores the appetite and strengthens the digestive powers.

Make the infusion one ounce of *Pipsissewa* to one pint of water. Dose, one to two ounces. Do not make a decoction of this drug, as boiling impairs its virtues; use an infusion.

Use specific *Chimaphila* in doses of from one to ten drops.

UVA URSI.**Bearberry.**

BOTANICAL ORIGIN.—The leaves of *Arctostaphylos Uva Ursi*, (Linne) Sprengel; Nat. Ord., *Ericaceæ*. Grows in the dry, sandy and rocky soils of northern latitudes. Found in the United States south to Pennsylvania and in California and New Mexico.

This is an evergreen plant found in the mountains and woods in Canada, and as far south as New Jersey. The leaves are smooth, shiny, and of a dark green color. The fruit is a berry. The leaves are bitter to the taste and increase the flow of saliva when chewed. They are astringent, owing to the presence of tannic and gallic acid in them. Both the tincture and the infusion are used. It resembles Buchu in action. It is stimulant, astringent, diuretic and tonic. It influences the urinary tract, relieving irritation and restraining too great secretions.

In diseases of the urinary organs attended with a bloody or mucous discharge give four or five drops of the tincture, or one ounce of the infusion.

It is a good remedy for paralysis of the bladder in old people. In strangury use the infusion. It is also of some value in calculous trouble. In Bright's disease this is an excellent remedy. Cystic spasm is relieved by it. It may be used in chronic bronchial troubles, in chronic laryngitis, pulmonary troubles and coughs.

Uva ursi may be used in bowel troubles when an astringent is needed. In diarrhoea and dysentery it checks the evacuations. It is a good agent to stop hemorrhage when passive and the flow of blood is not too profuse.

Use of the tincture from five to ten drops; of the infusion from one to two ounces. Make the infusion by pouring upon a teaspoonful of the leaves a cup of boiling water.

SALOL.**Salol.**

SYNONYM.—*Phenyl Salicylate.*

DESCRIPTION.—A permanent, odorless, or but feebly aromatic, white, crystalline powder. It has but little taste, but gives a sensation as if the teeth were crowned with rubber. Nearly insoluble in water; soluble in alcohol (10), very soluble in boiling alcohol, freely so in ether, chloroform, balsam Copaiba and the essential and fixed oils.

This remedy is very much like salicylic acid. Salol is decomposed in the intestines and is converted into salicylic and carbolic acids. It contains two-thirds of its weight of the first-named acid. It is defined as "the salicylic ether of phenol" (U. S. P.), and may be given in capsules or pills. The dose is from five to fifteen grains, but it acts better given in doses of five grains every three hours. It does not remain long in the system, but is soon eliminated by the kidneys.

Use this agent in any disease which results from an impaired action of the urinary organs. It is valuable in rheumatism, sciatica and lumbago, when the kidneys are inactive. In doses too large it produces cerebral disturbance, but in small doses it is helpful if given but for a day or two.

Salol is of benefit in troubles of the urinary organs. It prevents decomposition of urine in the bladder. It is a good agent in obstinate cases of cystitis by rendering the urine acid and preventing decomposition. It may be used as an antipyretic. For this purpose it is used in phthisis, pneumonia and typhoid fever. Applied with equal parts of starch on a part attacked with erysipelas it relieves the burning and lessens the inflammation. Triturated with starch it may be snuffed into the nose to relieve catarrh and stop the disagreeable odor. Like other remedies of its class its action should be carefully watched.

CUBEBA.**Cubeb.**

BOTANICAL ORIGIN.—The unripe fruit or berry of *Piper Cubeba*, Linne filius; Nat. Ord., *Piperaceæ*. Indigenous to Java and other East Indian parts, where it is cultivated.

This drug is prepared from the dried berry of a climbing plant, a native of India. The fruit is a black berry about the size of a pea. It is aromatic, acid, and has a hot taste resembling camphor somewhat. It is stimulant, carminative, diuretic, diaphoretic and expectorant. It is very much like black pepper in taste but not so agreeable. In large doses it is purgative, causing great thirst and a sense of heat in the bowels and throughout the entire system. It increases the action of the kidneys and the vascularity of the mucous membranes.

Cubeb is extensively used in gonorrhœa. There is a very great difference of opinion concerning its use in this disease, some claiming that it is best used during the inflammatory stage, but after having extensively tested it we think it acts best when used in the latter stages of the disease. According to our view it is contra-indicated in inflammatory conditions of gonorrhœa as well as all other diseases, but when the profuse discharge ceases then use it. It is better in the chronic than in the acute form, in fact, it is one of our best remedies in this disease. In chronic cases use enough of the berries to produce an aggravation of the disease, and when this passes off the disease is decidedly better. To accomplish this use thirty grains of the powdered berries three times a day. Keep this up till the discharge of urine is painful, then lessen the dose from day to day until the patient is cured.

This agent specially influences the urinary tract and all the mucous membranes of the body. It acts as a tonic, restrains excessive secretions, gives tone and removes chronic inflammation. Small doses of the drug augment the appetite and improve digestion.

Cubeb is a very good remedy in many cases of leucorrhœa. Use when the discharge is profuse and offensive. Use it in doses of from thirty to forty grains three or four times a day until a decided impression is made, then lessen the dose from day to day. It is a good agent to relieve chronic inflammation of the female urethra and bladder. Employ it when there is a constant desire to pass urine, attended with pain when it does pass. Here give five drops of specific Cubeb every three hours. In diseases of the prostate, such as prostatic abscess, use from ten to twenty drops three times a day. It is stimulant and healing to the part. It gives good results in catarrh of the bladder and in spermatorrhœa. Burning in the urethra indicates it. For these troubles begin with the large dose and lessen it as desired. In nocturnal incontinence of urine it often makes a decided impression for good. The greater the debility the more strongly it is indicated, but the greater the inflammation the less it is indicated.

Cubeb is a good remedy in atonic troubles of the respiratory organs with profuse secretion. In bronchitis use doses of from five to ten drops every hour on sugar. It is beneficial in nasal catarrh. Use equal parts of black German snuff and powdered Cubeb. In catarrhal affections of the air passages when there is excessive secretion use the snuff several times a day. It is stimulating and alterative to the mucous membrane. The berries smoked in a pipe are employed for the relief of hay fever and generally cure. Dose of specific Cubeb from one drop to one drachm; of the powder from one grain to a teaspoonful.

RHUS AROMATICA.**Fragrant Sumach.**

SYNONYM.—*Sweet Sumach.*

BOTANICAL ORIGIN.—The bark of the root of *Rhus aromatica*, Aiton; Nat. Ord., *Anacardiaceæ*. Eastern United

States. A variety of this species grows in the southwestern States.

This is a small plant from two to six feet high, with leaves divided, flowers greenish-yellow, and fruit about the size of a pea. It grows in the Eastern States in rocky and mountainous places. The root bark is the part used, being one-fourth inch in diameter, of a brown or black color. It gives a turpentine-like exudation. A tincture made with strong alcohol and specific *Rhus aromatica* is the best preparation. It should not be made into an infusion.

Sweet Sumach is diuretic, stimulant and astringent. In diabetes it is one of the very best single remedies ; use it in this disease when the urine is pale-colored, of high specific gravity and the patient debilitated, with chills, thirst and constipation, and sugar in the urine. It is contra-indicated by active inflammation.

The dose will vary with each patient, ranging from one to thirty drops, given in water every three hours. Put your patient in the most favorable circumstances and examine the urine every third day. It is a good agent in chronic diabetes when no sugar is present, the amount of urine being large and associated with great thirst. In such cases it is very efficient as it is also in albuminuria. It is indicated in all cases of over activity of the urinary passages, inflammation being absent. Use it in chronic catarrh of the bladder and chronic cystitis. Fragrant Sumach is stimulant and astringent, hence it is a good drug in hemorrhage from the lungs, uterus or urinary organs. It is very efficient in hemorrhage from the kidneys and bladder. Use it in chronic hemorrhage from the uterus unless the flow is great, in which case it is inferior to other agents.

By restraining the action of the bowels and checking secretion it is useful in chronic diarrhœa and chronic dysentery, with passages of blood. It must not be used in acute

cases. Give ten drops of specific *Rhus aromatica* on sugar four times a day.

In phthisis it controls hemorrhage, checks diarrhœa, and lessens night sweats. In chronic bronchitis, with profuse bloody discharge, it is a good remedy. For its influence on the respiratory organs give it as follows :

R. Specific *Rhus Aromatica*, fl $\bar{3}$ ss.
Glycerin, fl $\bar{3}$ iiss. M.

Dose from one-half to one teaspoonful every three hours.

The dose of *Rhus aromatica* ranges from two to thirty drops.

Remember that it is contra-indicated in inflammations, and do not use it in water ; use glycerin or mucilage.

GALIUM.

Cleavers.

BOTANICAL ORIGIN.—The whole herb of *Galium aparine*, Linne ; Nat. Ord., *Rubiaceæ*. Grows in thickets throughout the Northern Hemisphere.

This plant is a native of Europe, growing without cultivation on rich soil. The whole plant is used in medicine. It is saline, bitter and astringent, and has little odor. The warm or cold infusion is best, and is made in the proportion of one ounce to water one pint. It is diuretic, refrigerant and alterative.

Galium is an excellent drug in active irritation or inflammation of any part of the urinary tract. It is a very good diuretic in fevers, lowering the temperature and helping the functions of the kidneys. The infusion stops the scalding of urine in gonorrhœa when given in teaspoonful doses. In calculous troubles with inflammation it serves a good purpose. As an alterative it is used in scrofula and syphilis, and all cases in which we find bad blood.

It is a good alterative in cancerous diseases, some even claiming that it removes the constitutional tendency to the

disease. Use it whenever a good soothing diuretic is needed. It is indicated in all cases of very severe irritation of kidneys or bladder with burning. Dysuria and painful micturition are relieved by it. Dose of the infusion, a wineglassful

THUJA OCCIDENTALIS.

Arbor Vitæ.

BOTANICAL ORIGIN.—The leaflets of *Thuja Occidentalis*, Linne ; Nat. Ord., *Coniferae*.

This is an indigenous evergreen tree found growing from Canada to Carolina. The leaves and small twigs are used. They are bitter and somewhat aromatic. It specifically influences the urinary apparatus and is useful in chronic diarrhœa and chronic troubles of the prostate gland. It is a good agent in the treatment of warty excrescences on the genital organs of male or female ; inject into the tumor. If this does not cure use nitric acid. It may be used on warts on any part of the body.

Thuja is an excellent remedy for dribbling of urine in the aged, and urinary incontinence in the young. Give small doses of specific Thuja. The non-alcoholic Thuja is one of the best remedies for granular conjunctivitis. It should be applied with vaseline. Thuja is contra-indicated in inflammatory states of the urinary tract.

In cancerous troubles this is a good remedy ; it may cure in the early stages, but it will not in the latter. It is a good alterative in all such cases. It specifically influences the glandular system and may be used in the treatment of glandular indurations, as syphilis and scrofula. Give specific Thuja, five drops four times a day.

Thuja furnishes a good local remedy for chronic ulcers and skin troubles in syphilitic patients. It makes a good injection in hydrocele ; after tapping the scrotum inject into the tunica vaginalis. Internally use doses of from one to five drops. As a local application dilute it with three or four parts of water or glycerin. For warts use full strength.

POTASSII ACETAS.***Potassium Acetate.***

SYNONYM.—*Acetate of Potash.*

DESCRIPTION.—Acetate of Potassium occurs in commerce as a white, snow-like powder, or in satiny, crystalline masses, possessing a warming and saline taste. It is very deliquescent, hence should always be dispensed in bulk in a well stoppered bottle, or if it be used at once, in aqueous solution. Soluble in cold water (0.36), cold alcohol (1.9), and more soluble in these fluids when warm. Keep this salt in well closed containers.

This is one of the most valuable of our remedies, and it may properly be classed among alteratives and diuretics. It is made by the action of acetic acid on carbonate of potassium. It also exists in the juices of some plants. When exposed to the air it rapidly absorbs moisture from it, and it must, therefore, be kept in closely stoppered bottles. It is soluble in less than its weight of water. It is diuretic, refrigerant and a renal depurant, greatly increasing the solids of the urine. Its action is on organs remote from the urinary apparatus, producing exudation from the blood and increasing retrograde metamorphosis. It is both solvent and depurant, increasing the amount of bile, urine, and sweat. It is a remote antacid, and when taken into the system decomposes, and is carried out as carbonate of potassium, rendering its urine alkaline.

In fevers Potassium Acetate removes the morbid matter, and in pneumonia it is also a good remedy, as it dissolves the fibrin and may be given with the proper sedative. Given largely diluted in proper doses it irritates the stomach but little, and being refrigerant it helps reduce the temperature. It is a good agent in chronic affections of the liver and spleen with deficient secretion of the bile—especially congestion—and will remove the difficulty when cholagogues fail. For this use the following :

R. Acetate of Potassium, $\bar{3}$ j.
 Aqua, fl $\bar{3}$ iij. M.

Sig.—One teaspoonful in water every three hours.

All potassium salts act best when largely diluted.

For chronic jaundice that does not yield to any other remedy give from twenty to thirty grains of Acetate of Potassium three or four times a day.

This is a good remedy in furunculus eruptions. Give ten or fifteen grains of this salt three times a day for a week. It eliminates from the blood the morbid matter and corrects the deranged condition of the system that is always present in such conditions. It may be used in some cases of dropsy. If an agent is wanted to eliminate water from the blood this is not the best remedy, but when we find an inactive condition of the liver this is the remedy. It may be administered with infusions of Queen of the Meadow, Parsley or Juniper berries.

For psoriasis and scaly tetter this is a good remedy. Here give it in plenty of water for an indefinite period. It is a very good drug in obstinate cases of ague. It seems to have the power to influence the disease when the Cinchona preparations fail. Stop the anti-periodic and give thirty grains of Acetate of Potassium four times a day. In such cases it is well to follow its use with the tincture of chloride of iron. If the Acetate is not at hand, a preparation may be made as follows :

R. Carbonate of Potassium, $\bar{3}$ ij.
 Cider Vinegar, q. s. to saturate.
 Sweetened Water, fl $\bar{3}$ vi. M.

Sig.—One or two teaspoonfuls every three hours.

As an alterative this is a good agent in scrofula, syphilis, etc. In the latter disease, after giving the iodide of potassium, give the Potassium Acetate for a time in its place and so alternate them. Both acute and chronic rheumatism are improved by this drug. In acute rheumatism, with increased temperature, swelled joints, dirty tongue, etc. :

R. Potassium Acetate, ʒ vj.

Acid Salicylic, ʒ ij.

Aqua, fl ʒ iv. M.

Sig.—Teaspoonful in a wineglassful of water every three or four hours.

It will not act well when there is a red and pointed tongue. For chronic rheumatism give fifteen grain doses four times a day.

It is a good drug in the early stages of phthisis. It may arrest the disease by preventing the tubercular deposit. Dose, from five to forty grains.

SODII ACETAS.

Sodium Acetate.

This is a white salt in the form of transparent, colorless crystals, or in an odorless, granular, crystalline, white powder, having a saline, cooling taste. The crystals effloresce when exposed to air. It is soluble in cold water (1.4), boiling water (0.3), alcohol (30), and boiling alcohol (2). It is not deliquescent, and, therefore, more permanent than its corresponding potassium salt.

Sodium Acetate is diuretic and depurant, and is used in the same conditions for which acetate of potassium is employed. Dose, from ten to sixty grains in a wineglassful of water.

PETROSELINUM.

Parsley.

BOTANICAL ORIGIN.—The root of *Petroselinum sativum*, Hoffmann; Nat. Ord., *Umbelliferae*. Indigenous to Southern Europe and largely cultivated in gardens.

This remedy is made from the root of the plant, growing in Europe and America. The root is sweet and aromatic, about the size of a finger and is used only when fresh. The stem has the same properties as the root. It is one of the mildest and most unirritating diuretics in use.

Use it in nephritis and cystitis when the urine is thick and very irritating and painful. It lessens irritation and increases the amount of urine and thus gives relief. Use a wineglassful of the infusion three or four times a day. It is a good remedy in strangury, urethritis or gonorrhœa, with scalding passages of urine, lessening the irritability of the parts. It is a good accompaniment many times to acetate of potassium and other diuretic salts. Favorable results are obtained from its use in ascites, anasarca and any other form of dropsy. It is kindly received by the stomach and may be used for a considerable length of time. The leaves make a good application to injured or swollen glands or to dry the lacteal secretion. It is not contra-indicated by inflammations. An ointment of the powdered leaves and seeds destroys pediculi pubis. The seed contains a volatile oil, *apiol*, which is a nerve stimulant and also has some anti-periodic properties. This oil is of some value in intermittent fevers as an anti-periodic and to check excessive sweating.

Good results are obtained from its use in dysmenorrhœa, etc., given in two grain capsules, three or four of which may be given in a day. In obstinate cases of this disease which will not yield to other remedies this generally proves helpful. It is of value likewise in amenorrhœa. It is a remedy for the colliquative sweating of phthisis, as it is for the profuse perspiration sometimes attending sufferers from severe illness.

The infusion is the best preparation and may be given in wineglassful doses, a pint being taken in twenty-four hours.

OLEUM SANTALI.***Oil of Santal.***

SYNONYM.—*Oil of Sandal Wood.*

BOTANICAL ORIGIN.—The essential oil obtained by distilling the wood of *Santalum album*, Linne; Nat. Ord. *Santalaceæ*. India and Eastern Archipelago.

DESCRIPTION.—A yellowish or yellow oil, having considerable body, a sharp, spicy taste, and a peculiar and strongly aromatic fragrance. It readily dissolves in alcohol, the solution being feebly acid. The commercial oil is often adulterated with cedar wood oil, etc.

This is an oil obtained by distillation from the wood of an evergreen tree of India. It specifically influences the urinary organs,

It is applicable to gonorrhœa in any stage. It has not the disagreeable odor of Copaiba. On the contrary, it is an agreeable remedy. It never aggravates the disease, and may be used when the discharge is thick and profuse. Use the pure oil in doses of five drops in mucilage or capsules every four hours until the discharge stops. After this give one or two doses every day for ten days. It is contra-indicated when there is swelling of the testicles.

It is a good drug in leucorrhœa when the discharge is very profuse and offensive. It astringes the mucous surfaces and also controls the abundant discharge. Dose, five drops four times a day.

VERBASCUM.

Mullein.

BOTANICAL ORIGIN.—The leaves and flowers of *Verbascum thapsus*, Linne; Nat. Ord., *Scrophulariaceæ*. Indigenous to Europe, but naturalized in America, being a common weed in fields.

This is a common plant found growing in fields and waste places. It yields its virtues to water, and the infusion is the best preparation. It is diaphoretic, demulcent, emollient, diuretic and anti-spasmodic. As a diuretic it is mild and unirritating. It may be used in all inflammatory diseases of the genito-urinary apparatus. It is a good remedy in gonorrhœa.

Being also an expectorant it serves well in diseases of the respiratory organs. It removes irritation of the mucous surfaces. It may be used in acute nephritis and in catarrh of the bladder. The leaves smoked in a pipe relieve asthma. Use three parts Mullein leaves and one part Stramonium leaves. Smoke these until slight vertigo ensues.

Fomentations of the leaves make good applications in white swelling and rheumatism. Bathe and steam the affected parts with it. Put boiling water on the leaves in a vessel and have the patient envelop the legs in thick cloths and hold them over this hot preparation for a half hour, then wrap the legs in flannel. This removes the pain and swelling. A cataplasm of the leaves may be applied to ill-conditioned ulcers.

Prepare an infusion of the strength of one ounce of Mullein to water one pint. Dose, a wineglassful.

ERYNGIUM.

Water Eryngo.

BOTANICAL ORIGIN.—The rhizome of *Eryngium yucca-folium*, Michaux ; (*Eryngium aquaticum*, Linne) ; Nat. Ord., *Umbelliferae*. United States.

This plant is found growing in water or marshy land and in pine barrens and prairie lands in nearly all parts of the eastern half of the United States. The dried root is used.

Prepare a tincture of eight ounces of the root to one pint of alcohol. Dose of this from ten to twenty drops. Make the infusion of the strength of one ounce of the drug to one pint of water. Dose of this two ounces.

This agent removes irritability of the urinary organs. It is specifically indicated by burning or itching in any part of the urethra. It is a good remedy in passive dropsy, giving tone to the debilitated organs and stimulating absorption.

In female disorders as leucorrhœa, dysmenorrhœa, etc.,

it is a very good remedy. It is of some value in gonorrhœa, gleet, and spermatorrhœa, chiefly to control the urethral irritation.

In troubles of the respiratory organs, with excessive secretion, it increases the tone of mucous surfaces and stimulates them, thus lessening their secretion. For this purpose it is valuable in some cases of bronchitis.

For snake bites or stings of insects use a compress of the bruised root on the wound, and administer the infusion internally. It acts as a tonic in atonic dyspepsia. Its principal use, however, is to relieve irritation of the urinary organs.

POTASSII NITRAS.**Potassium Nitrate.**

SYNONYMS.—*Saltpetre, Nitre.*

DESCRIPTION.—Purified Potassium Nitrate occurs in transparent, six-sided, colorless crystals, having no odor, but a sharp, saline, and cooling taste, or it may be had in a crystalline powder. It is but little soluble in alcohol, but dissolves in cold water (3.8) and boiling water (0.4).

This is a natural salt but it may be produced artificially. It is found native in India in great abundance in the soil, and also exists in great quantities in the Mammoth Cave of Kentucky. It is separated from the soil by a process similar to leaching ashes.

In the market are found both a pure and an impure article, but only the C. P. article should be used in medicine. Its properties are diuretic, diaphoretic, antiseptic, refrigerant, and sedative. Its effects vary greatly according to the amount given, and the quantity of water in which it is given. If the body is kept cool it acts on the kidneys, but if the body be warm it acts as a diaphoretic.

If given in large doses Potassium Nitrate reduces the temperature and the pulse, and causes drowsiness, though it does

not usually interfere much with the appetite and digestion. In doses larger, or longer continued, it produces dryness of the fauces, diarrhœa, colic., etc. It deranges the nervous system, causes headache, paralysis, especially of the lower extremities, vertigo, great pain in the stomach, purging, coldness of the extremities, loss of sight and hearing, bloody evacuations, convulsions, and death. One ounce has been known to destroy life, though very much larger amounts have been taken, producing no great trouble. A small dose in a large amount of fluid may produce a much more decided effect than a larger dose less diluted. After death from an overdose of this drug, the post mortem examination reveals the inner coats of the stomach and intestines highly inflamed.

Potassium Nitrate is a very valuable remedy when given in proper conditions. Some diuretics increase the flow of urine by their stimulant effect upon the kidneys, and others by lessening renal excitement. Saltpetre is sedative to the circulation and stimulant to the kidneys and skin ; it changes the condition of the blood, making it less stimulant and diminishes its plasticity. It may be used when a stimulant to the urinary organs or skin is wanted, and also to lessen circulation and temperature. Hence it is a good drug in the acute fevers.

It is of some value in tonsilitis and Bright's disease. For the first disease it is employed to abort the trouble. Give it in three grain doses in a teaspoonful of water every three hours. For the latter give five grains in a tablespoonful of water three times a day.

Some forms of spasm are relieved by Potassium Nitrate. It is a very good remedy in spasmodic asthma. Saturate a piece of blotting paper with a solution of it, burn it and let the patient inhale the fumes. This generally arrests the spasmodic action. Incontinence of urine is relieved by it. Give in doses not sufficient to purge, two drachms in broken

doses daily. It is adapted to atonic states of the urinary apparatus.

It is an excellent remedy in the treatment of rheumatism, especially inflammatory rheumatism, with excessive tenderness. Use from five to twenty grains largely diluted with water three or four times a day. If this drug be taken in poisonous doses, give freely of some bland liquid as warm water to dilute it, and produce emesis by tickling the throat. This generally eliminates the poison and saves the patient.

Dose, from one to thirty grains. For chronic rheumatism employ ten grain doses.

CITRULLUS.**Watermelon Seeds.**

BOTANICAL ORIGIN.—The seeds of *Cucumis* (*Cucurbita*, Linne) *Citrullus*, Seringe, (*Citrullus vulgaris*, Schrader); Nat. Ord., *Cucurbitaceæ*. Indigenous to Southern Asia. Extensively cultivated for its melons.

The seed of this fruit is a mild and unirritating diuretic. The infusion is the preparation to use. It is a good agent in gonorrhœa and strangury. Use teaspoonful doses of the infusion and if greater action is needed potassium nitrate may be added.

It is refrigerant, diluent and diuretic, and may be used even where there is active inflammation.

AGRIMONIA.**Agrimony.**

BOTANICAL ORIGIN.—The herb of *Agrimonia eupatoria*, Linne; Nat. Ord., *Rosaceæ*. Found in grassy situations in Europe and North America west to the Rocky Mountains.

This is a perennial herb of Europe and North America. It is about three feet high and grows in the fields among weeds in summer. The stems are hairy and bear a single spike of yellow flowers. The entire plant is used in medicine. The

root is astringent, demulcent, and diuretic. Agrimony is a good remedy in scrofula. Use a strong infusion of the entire plant, and give doses of a wineglassful three times a day. Given with honey it affords relief in asthma and ulcerated sore mouth. It is a good agent in inflammatory conditions of the urinary tract. Use from five to twenty drops three times a day. It is indicated by deep-seated pain in the region of the kidneys and uneasy sensations reaching from the hips to the umbilicus.

Agrimonia is a palliative in phthisis with dirty-looking skin and muddy, bad-smelling urine. Use of the infusion a tablespoonful every three hours; of the specific Agrimonia from five to twenty drops.

SPIRITUS ÆTHERIS NITROSI.

Spirit of Nitrous Ether.

SYNONYMS.—*Sweet Spirit of Nitre, Spiritus Nitri Dulcis.*

DESCRIPTION.—This agent is defined as an alcoholic solution of ethyl nitrite. It is a volatile, clear, mobile, inflammable liquid of a pale yellow or slightly greenish-yellow color. Miscible with water or alcohol in all proportions. By age it acquires acid properties. It has a pungent, burning taste, and a fragrant, ethereal odor. When fresh it is of neutral reaction and may be best kept in small bottles, with well waxed stoppers and surrounded by a covering of dark-colored paper.

This agent is an anæsthetic to small animals and may even produce death in the human being in the same way. Its properties are diuretic, diaphoretic, stimulant, and anti-spasmodic. Spirit of Nitrous Ether may be used in fevers and inflammations if not very high, but in low grades of fever with marked irritation of the nervous system and a tendency to spasm it is a very good agent. It is also of value if there

is a tendency to nausea. If the body is kept warm it is eliminated by way of the skin, but if not, then it passes by way of the kidneys. The dose of this agent is from ten drops to one drachm in a wineglass of water.

This is a good diuretic in the latter stages of gonorrhœa. It may be given with Copaiba. It is a remedy for suppression of urine in young children. Give it with tea, water or milk, or preferably in watermelon seed tea. It is a good agent in dropsy for its effect on the skin and kidneys. In typhoid fever, given with Spirit of Mindererus, it materially assists the treatment.

ARALIA HISPIDA.**Dwarf Elder.**

SYNONYM.—*Bristly Sarsaparilla*.

BOTANICAL ORIGIN.—The bark of the root of *Aralia hispida*, Michaux; Nat. Ord., *Araliaceæ*. Eastern United States from New England States to Virginia.

This is a small shrub flowering from June to August.

The bark of the root is the part used. It is diuretic, alterative, cathartic and emetic. It is a very good remedy in dropsy, increasing the flow of urine and promoting absorption. Make an infusion by macerating for two hours one ounce of the bark of the root in a pint of water. Dose, a wineglassful with a teaspoonful of cream of tartar. This acts as a diuretic and cathartic. If this does not act repeat the dose in four hours. In place of this from five to ten drops of specific *Aralia hispida* may be used. Give this every three hours until the effusion is removed. It is a good alterative, influencing circulation and secretion, and as such it is a good agent in syphilis and scrofula and many other chronic diseases when an alterative is needed.

JUNIPERUS.**Juniper.**

BOTANICAL ORIGIN.—The fruit or berries of *Juniperus communis*, Linne; Nat. Ord., *Coniferæ*. Indigenous to the Northern Hemisphere. Grows in the United States, Canada, Europe, North Africa, and Asia north of the Himalayas.

The berry of this tree is aromatic and rather bitter to the taste. Water and alcohol extract its virtues. It is a stimulative diuretic and is carminative, emmenagogue, and anodyne (externally).

Juniper is a good remedy for the dropsy following scarlet fever. It may be used alone or with cream of tartar. Use the infusion in wineglassful doses. In inflammatory conditions of the urinary tract it is always contra-indicated, but in the non-inflammatory disorders it serves a very good purpose. Employ it as an emmenagogue in cases of atonic amenorrhœa. It is a good agent in gleet and flatulent colic. The specific Juniper, infusion, or oil, two or three drops, may be used. It may be employed as a stimulating diuretic only when no inflammation is present. Prepare the infusion with one ounce of Juniper berries and one pint of boiling water.

ARMORACIA.**Horseradish.**

BOTANICAL ORIGIN.—The root of *Cochlearia Armoracia*, Linne; Nat. Ord., *Cruciferae*. Indigenous to Eastern Europe and largely cultivated. It is naturalized in this country, having escaped from gardens.

This is a cultivated plant used chiefly as a condiment. It is a stimulant diuretic. It is best used in infusion of the strength of one ounce of the root to one pint of water. It is a good remedy in passive dropsy with great torpor and general debility.

When taken with food in atonic dyspepsia horseradish proves a good gastric stimulant. It is useful in coughs and

catarrhal affections of the throat, with hoarseness from relaxation of the vocal cords. It is also a good remedy for hoarseness following measles. It is a very good revulsive and may be used in counter-irritation to relieve deep-seated pain. From its stimulating effects on the broncho-pulmonary mucous membrane it furnishes a good stimulant expectorant.

DIURETIN.***Diuretin.***

SYNONYMS.—*Salicylate of Theobromine and Sodium, Sodiosalicylate of Theobromine.*

DESCRIPTION.—This new medicine is a double compound of sodium theobromine and sodium salicylate, containing somewhat more than half of its weight of the former salt. It comes in the form of a white powder soluble in hot water. Alcohol, when warm, also dissolves it. It is unaffected by chloroform or ether. The dose is from ten to twenty grains in mint water, in capsule, or in pill.

This agent has a deserved reputation in some forms of dropsy, being employed as a diuretic. It stimulates the renal epithelium and thereby provokes an increased flow of urine. It has no influence upon the circulation nor upon the nervous system.

Diuretin is a good agent in general dropsy and in dropsy depending on cardiac difficulties. It is not, however, of much value in dropsy of renal origin, for to act well the kidneys must be in a fair condition to respond.

LITHII BENZOAS.***Lithium Benzoate.***

DESCRIPTION.—This salt is the result of the decomposition of carbonate of lithium with benzoic acid, and occurs either as a white powder, or in small crystalline, glistening scales. It is odorless, or at most should have but a feeble odor of benzoin. It is a permanent compound, and its taste is both

cooling and sweet. Soluble in cold water (4), boiling water (2.5), cold alcohol (12), and boiling alcohol (10).

Lithia exceeds all other bases in its power of dissolving uric acid.

The salts of lithium are of great value in many diseases resulting from the want of performance of the urinary function. They promote the solution of uric acid, and favor its elimination. With an excess of uric acid in the blood, we have no better agents than these salts. In these cases the benzoate is the best salt to use.

Lithium benzoate is of considerable value in urinary troubles, and for its influence on the blood it should be given largely diluted. In a concentrated form it irritates the stomach. It is excreted in the urine.

We have used this drug in gout, chronic rheumatism, and in cases in which uric acid and gravel were passed in the urine.

An uneasy sensation beginning in the loins and reaching to the bladder; voiding of mucus and earthy phosphates in the urine; perineal fullness and tension, with frequent desire to micturate, the urine being passed with much difficulty, are all indications for its special use.

The dose ranges from one to thirty grains, smaller doses (from one to five grains), largely diluted, being preferable.

LITHII BROMIDUM.

Lithium Bromide.

DESCRIPTION.—This is an odorless, white, granular, and exceedingly deliquescent salt. It has a sharp but feebly bitter taste. Soluble in water (0.6) and in boiling water (0.3); soluble in ether, and very readily so in alcohol.

This compound contains a greater proportion of bromine than does potassium bromide. It is tonic, diuretic, and hypnotic. It has been used successfully in place of the other bromides for the relief of epilepsy. The dose is ten grains, three times a day, well diluted with water.

TONICS.

Agents which permanently exalt the energies of the whole system, without vitally affecting any one organ in particular, are known as tonics. While, as a rule, they do not increase the rapidity of the circulation of the blood, nor heighten temperature, nor produce marked excitement like stimulants; they do, however, increase muscular tone, augment the appetite, improve the processes of digestion and assimilation, strengthen the vascular system, improve the quality of the blood, and the nutrition of the nervous apparatus. Their effect is that of slowly and permanently effecting the exaltation of organic action. While the heart contracts more firmly under their administration, its rapidity of action is not increased. Tonics change the character of the pulse from flaccidity to firmness and fullness. In fact, tonics *tone* the whole system.

In the class of tonics are included those agents having a special control over malarial influences, and such drugs are known as *antiperiodics*. Among this group we have some of our most important tonics.

Undoubtedly most tonics act primarily upon the nervous system. Some, like iron and the mineral acids, act by supplying some deficiency in the blood, or by altering its chemical quality. These agents are called *restoratives*.

The greater number of tonics is derived from the vegetable kingdom, and most of them are bitter. There are, however,

exceptions to this. Tonics are useful in debilitated conditions of the organs of digestion, and in depressed states of the nervous system, as well as in periodic disorders. The long-continued and excessive use of tonics may produce febrile and other abnormal effects on the system. They are contra-indicated, as a rule, in inflammatory diseases.

CINCHONA.

Peruvian Bark.

BOTANICAL ORIGIN.—The bark of *Cinchona calisaya*, Weddell; *Cinchona officinalis*, Linne; and of hybrids of these and of other species of *Cinchona*, containing not less than five per cent. of total alkaloids and at least 2.5 per cent. of Quinine (U. S. P.); Nat. Ord., *Rubiaceæ*. South America, also cultivated to some extent in Java, India, and Jamaica. There are several grades of the bark, the chief varieties being the *Yellow Cinchona* and the *Red Cinchona*.

CHIEF ACTIVE CONSTITUENTS.—*Quinine*, *Quinidine*, *Cinchonine*, and *Cinchonidine*.

QUININÆ SULPHAS.

Quinine Sulphate.

DESCRIPTION.—A very light compressible mass of fine, silky, white, needle crystals, somewhat flexible and yet easily broken, and having no odor but a very persistent bitter taste. It effloresces superficially when exposed to air, losing its lustre. Exposed to warm air it loses water, but in a damp atmosphere it absorbs it again. Light causes it to become colored, therefore, it should be kept in the dark, in well closed bottles. Soluble in cold water (740), boiling water (30), cold alcohol (65), boiling alcohol (3), glycerin (40), chloroform (680), and readily in acids.

CINCHONIDINÆ SULPHAS.

Cinchonidine Sulphate.

DESCRIPTION.—This salt occurs in silky, white needles, odorless, but very bitter in taste. On exposure to air they

effloresce slightly. Soluble in cold water (70), boiling water (1.42), cold alcohol (66), boiling alcohol (8), chloroform (1316), and nearly insoluble in ether.

SPECIFIC CINCHONA.—This is made of yellow Cinchona, the Quinine alkaloid yielding bark. This is the most valuable of Cinchona barks and should be used in high grade preparations. It precipitates portions of red tannates when mixed with water.

This is the very best tonic in use. It is the bark of the Cinchona trees, which grow in great abundance in South America. These trees form immense forests forty or fifty miles in width, extending through several degrees of latitude. In the market Cinchona comes in the form of flat or quilled pieces. It is red, yellow or brown in color, having an aromatic odor and a very bitter taste. The size of the pieces depends upon the size of the tree from which they are obtained. The fine bark comes from the small twigs and branches, and the large pieces from the trunk and large limbs. There are several varieties of this bark, of which the gray, red and yellow are used in medicine. The pale or gray bark is more astringent than bitter and contains more Cinchonine than Quinine. The yellow is more bitter and very rich in Quinine, while the red or brownish red bark, is both bitter and astringent, and contains a very large amount of Quinine.

The most important alkaloids of this bark are Quinine, Quinidine, Cinchonine, and Cinchonidine. They abound in varying proportions in the barks, the red and yellow containing about equal amounts. Cinchona derives its name from the Countess de Cinchon, of Peru, who was cured of a fever by its agency. The Peruvians made known its great virtues to the Jesuits, who introduced it into Europe, giving it to the poor who were sick of fevers. The medical men of the day opposed its use because it was introduced by the

clergy, and Protestants opposed it because it was introduced by the Catholics. But on account of its great medicinal value it rapidly came into general use.

Quinine is the most important alkaloid of Cinchona and this is generally employed in the form of the sulphate. Given in doses of one or two grains five or six times a day it is tonic, increasing the strength of the appetite, digestion, and circulation. The temperature is slightly increased and all the functions of the body are improved, but if there is irritability of the stomach and digestive organs Quinine increases it. In doses of from fifteen to twenty grains daily for several days it produces headache, confusion of thought, ringing in the ears, fullness and throbbing of the head, suffusion of the face, and an excited condition of the nervous system. In doses of from thirty to forty grains daily for several days the sight is impaired, the pupils dilated, the muscles become feeble, and the limbs tremulous. In still larger doses it produces loss of consciousness, great debility, loss of motion, and collapse. Some persons are very easily influenced by Quinine, and Cinchonism is the name given to the condition induced by its excessive use. If its use is not continued after this is produced its effects gradually become less until finally they pass off entirely. The deafness and loss of vision gradually pass away and are seldom permanent unless the drug is very long continued. Delirium and convulsions may supervene as if the patient were under the effects of alcohol.

The effect of Quinine on the digestive organs is that of a local stimulant. If the stomach is irritable it will increase the irritability. In small doses it produces constipation; in large doses diarrhœa. When taken into the stomach it is absorbed into the circulation and is in part eliminated by way of the kidneys. As long as the system is under its influence its presence may be detected in the urine, the amount

so found depending upon the amount of the drug taken. Full doses of Quinine reduce temperature by interfering with the oxidation of the blood.

In acute inflammation of the urinary organs this drug increases the difficulty, and may give rise to complete retention of urine. The trouble with Quinine is that it is so rapidly eliminated that its influence is correspondingly temporary. As a rule it remains in the system only twelve hours and it may be eliminated in six hours. In some cases Quinine given three or four days previously has been detected in the urine.

In small doses it slightly increases the temperature, or it may not affect it at all. In large doses it is a great anti-periodic, and as such it is largely used in the treatment of malarial fevers and allied disorders. In these malarial diseases the poison comes from a low form of organic life which enters the blood and exerts its influence upon it. Quinine prevents the multiplication of and destroys these micro-organisms, and aids in their elimination.

In small doses Quinine favorably influences the digestive organs, and is a good remedy in dyspepsia. In large doses it irritates the stomach and produces nausea and vomiting. The blood pressure is diminished and nerve centers are paralyzed by Quinine. The vagus nerve is partially paralyzed under its influence. In small doses it is tonic to the heart and the condition of the blood and digestion is improved, the pulse becomes stronger, and the brain is gently stimulated.

Cinchona differs from the simple bitters in being stimulant to the brain and nervous system. When given in moderate doses, if not contra-indicated, it never produces any bad results, but if given in too large doses congestion of the brain and great prostration will probably ensue. After the stage of excitement has passed in such a case give stimulants and coffee.

The alkaloids of Cinchona are very valuable, but they do not represent fully all the properties of the bark. The latter possesses astringent properties not possessed by the alkaloids. So if at any time this astringent effect is desired the bark is best to use. When its tonic influence is desired and an antiperiodic is not needed the bark is the best to use. In putrid fevers use the bark with wine and iron. In many chronic periodic diseases the bark cures when Quinine fails. In chronic ague an emetic is many times the thing needed. It is wonderful what a change may be produced by a good thorough emetic given every day for three or four days, and then followed by Quinine. In the treatment of intermittent fevers Quinine is specific, acting with great certainty. When it fails in recent cases it is because of some unlooked for complications, which may be of the stomach, liver, or spleen. Remove the complications and Quinine will do its work. So in recent uncomplicated ague Quinine is an absolute specific.

The next thing is how to administer it, when, and how much?

As a rule from fifteen to thirty grains in broken doses is sufficient, depending upon the condition of the patient. Give five grains at a time during the intermission every three hours so that the last dose may be taken one hour before chill time. Don't give it when the chill is on; it only increases it, and in the sweating stage it is unnecessary. This treatment usually breaks the ague, but in some cases breaking it does not cure, and in a few days it comes on again, but generally in recent cases breaking it cures it. In order to be sure of its cure give five grains of Quinine every day, or if administered only once a week, give it on the sixth day in one dose of fifteen grains until twenty-one days have passed. See that the patient's stomach, liver, and spleen are in the meanwhile kept in good condition. If the patient is anæmic give Quinine with some preparation of iron. A solution is the best preparation of Quinine to use:

R. Quinine Sulphate, $\bar{3}$ j.
 Dil. Hydrochloric Acid, gtt. xxx.
 Aqua, fl $\bar{3}$ ij. M.
 Sig. —Give a teaspoonful every three hours.

Each dose contains four grains of Quinine. If it is desired to cover the taste combine it with Licorice:

R. Quinine Sulphate, $\bar{3}$ ss.
 Fld. Ext. Licorice, fl $\bar{3}$ ss.
 Simple Syrup, fl $\bar{3}$ iss.
 Sig.—Dose, a teaspoonful.

Each dose contains two grains of Quinine. For children give half teaspoonful doses.

In congestive chill Quinine is the very best remedy we can use. If it is absorbed it will almost surely cure. Again in malignant intermittent fever Quinine is the very best remedy. Many times in these cases the stomach is not able to absorb any remedy. In such cases give Capsicum and Quinine and apply a sinapism to the epigastric region. Here we must give large doses; twenty grains will not cure here. Give from forty to sixty grains in broken doses of from ten to twenty grains. In this trouble there is no choice of time, but the remedy should be given just as soon as you know what you are dealing with. This treatment usually saves the patient. In remittent fevers, with well marked remissions, this agent is just as good as in the case above mentioned. Give it during the remission, and if the disease is malignant give the large dose.

Some recommend Quinine in typhoid fever, but, as a rule, we do not regard it as a good remedy for this disease. If given here at all let it be administered with the mineral acids, and give it in small doses of one or two grains four times a day. The conditions here are a moist skin and tongue, a small, feeble pulse, and periodicity. If given here in large doses, as it sometimes is, to bring down the temperature, it

does more harm than good by its evil effects on the stomach and nervous system. In doses of one grain it is a good tonic to the nervous system. Again, it is a good remedy in intermittent neuralgia with intense pain. Use it here with Morphine. Triturate Quinine twenty grains with Sulphate of Morphine one grain; divide and put into ten capsules, and give one every three hours. This is very efficient in these cases, the pain being relieved by the combination more rapidly and permanently than if either were used alone. Quinine is a very good remedy in hay fever. Make a solution of one-half grain to one ounce of water and inject into the nostril.

Quinine has been recommended as a good uterine stimulant and is not abortive under all circumstances. If there are indications for its use give it even if the female be pregnant. Under these conditions it is indeed a good anti-abortive. As a stimulant to the uterus, some claim it to be equal to Ergot as a parturient. We regard it with less favor. If, however, Ergot is not at hand or undesirable, Quinine may serve the purpose. It acts best when given at a single dose of ten grains. This stimulates uterine contractions, though not so well as Ergot. It may be given in uterine inertia with post-partum hemorrhage and inefficient uterine contraction. Quinine has the power of arresting or preventing fermentation. It destroys living germs and is a good antiseptic in septic diseases. In such cases give two grains five or six times a day, using it alone or with the mineral acids.

It is a good prophylactic against malarial diseases. In this it has been thoroughly tested, and it will prevent or moderate the disease. Cinchona preparations are useful also as local applications. The powdered bark applied to ulcers promotes the healing process. A solution of Quinine applied with a spray apparatus is a very good agent in diphtheria. For this solution use thirty grains to two ounces of water

and add enough hydrochloric acid to make it easily soluble.

Quinine two drachms to alcohol one pint is useful to prevent profuse sweating, as of the feet. Sponge the parts with it.

Persons who have suffered considerably from ague are benefited in other diseases that may attack them by the use of Quinine. In rheumatism this is markedly true, or if the patient lives in a malarial district Quinine is a valuable adjunct to the treatment of other diseases. The same is true in diarrhœa and dysentery. Here use Ipecac and Quinine in combination.

Some troubles of the liver and spleen are much benefited by Quinine. Its influence on the spleen is very powerful. Persons who have ague have an enlargement of this organ known as ague cake. Two or three grains three times a day relieves this. It is useful in erysipelas with great debility. For this purpose use the following:

R. Quinine Sulphate, grs. xx.
Tinct. Chloride of Iron, fl ʒ ij.
Syr. Simplex, fl ʒ iv. M.

Sig.—Give of this a teaspoonful every three hours.

Quinine antagonizes the erysipelatous poison. It may be given in neuralgic affections following other diseases, as small-pox. Give from twenty to thirty grains in broken doses. In the colliquative sweating attending lung diseases use the following:

R. Quinine Sulphate, grs. xxx.
Aromatic Sulphuric Acid, fl ʒ ss.
Aqua, fl ʒ iv. M.

Sig.—Give a teaspoonful three times a day, the last dose being given at bedtime.

Quinine is indicated, or at least not contra-indicated, when there is a soft, open pulse, moist skin, moist and clean tongue, and absence of marked nervous irritability. Under

these conditions it may be safely given. It is a good stimulant to the cerebro-spinal system in doses of from one to two grains. For restoring strength after severe hemorrhage use ten drops of the tincture of the red bark every four hours. Quinine is generally given in a solution of hydrochloric or other acids; it is readily absorbed in this condition, but it is unpleasant. If it be taken with no acid the stomach furnishes all that is needed to render it soluble. Taken floating on water it is not so unpleasant, or its unpleasant taste may be concealed by triturating with equal quantities of ginger, or by rubbing thirty grains of it with three drachms of extract of Licorice root and adding enough simple syrup to make two ounces. Dose, a teaspoonful.

Another alkaloid of Cinchona is Sulphate of Cinchonidine. Its properties are the same as those of Quinine. Some think it is not so liable to produce cerebral disturbance and irritation of the stomach. We think there is little or no difference. These two agents may be used interchangeably. Cinchonine Sulphate is only half as strong as Quinine, and must be given in doses twice as large for the same effect. Sometimes this agent cures when Quinine fails, but they may generally be substituted the one for the other.

EUCALYPTUS.

Eucalyptus.

BOTANICAL ORIGIN.—The leaves of *Eucalyptus globulus*, Labillardiere; Nat. Ord., *Myrtaceæ*. Australia and Tasmania.

CHIEF ACTIVE CONSTITUENT.—*Eucalyptol*, a colorless, aromatic, camphoraceous liquid, possessing a sharp, spicy and cooling taste. Alcohol, carbon disulphide, and glacial acetic acid dissolve it in all proportions. (See *Eucalypto*. under Antiseptics.)

SPECIFIC EUCALYPTUS.—This preparation is made of recent leaves of the Australian fever tree. It contains a large

amount of volatile oil and has the characteristic properties of the leaves. It will not mix transparent with water, becoming milky even in small amount.

This species of *Eucalyptus* is a native tree of Australia, where as many as one hundred and thirty-five varieties are found. Its leaves are large, leathery, aromatic, and greenish-yellow. The tree grows sixteen feet in diameter and nearly two hundred feet high in some cases. The timber is soft when green but quite hard when dry, containing some tannin and other astringents. It also furnishes a variety of so-called quinine. Another variety yields a product like manna, resembling sugar or glucose. The *Eucalyptus globulus* is also called the fever tree from its power in preventing fevers. It absorbs water from the ground and makes marshy districts healthful, preventing malarial fevers. Its action is very much like *Cinchona*. It is astringent, stimulant, antiperiodic, febrifuge, tonic, and markedly antiseptic. Eucalyptol is its active principle. It destroys the lower forms of animal and vegetable life and increases secretion from the body.

The leaves of *Eucalyptus* are useful in some bronchial affections. For this purpose they should be smoked as a cigarette or in a pipe. Specific *Eucalyptus* is a good drug in dyspepsia and intestinal catarrh. It acts as a gastric stimulant. Use ten drops three times a day.

The oil, *Eucalyptol*, acts like turpentine on the kidneys. It is a good remedy in obstinate chronic cases of urinary trouble, as catarrh of the bladder. In diseases resulting from malaria it is a very good remedy. As compared with *Cinchona* bark it is not so useful in recent, but better in chronic ague, in cases attended with excessive discharge or drain on the system, as diarrhoea, dysentery, etc. We may use specific *Eucalyptus* or the fluid extract in doses of from ten drops to half a drachm every four hours. It is

serviceable in obstinate cases of diarrhœa when no ague is present. In chronic cases give doses of ten drops. In very large doses it produces diarrhœa.

Eucalyptus is a good remedy in chronic laryngitis, pharyngitis, and catarrhal conditions of the mucous membrane, with atony and undue relaxation. It lessens coughs and the secretions, improves the appetite and gives strength to the patient. Give small doses, as large amounts offend the stomach. Asthma, with profuse secretion, is benefited by it. In chronic bronchitis or phthisis it is a good drug.

In vaginal leucorrhœa Eucalyptus checks the discharges. It makes a good application to bad-smelling, indolent ulcers. For its effect upon the respiratory organs, use the fluid extract in doses of from two to thirty drops with glycerin. It does not mix well with water.

ALSTONIA.

Australian Fever Bark.

SYNONYM. —*Native Quinine of Australia.*

BOTANICAL ORIGIN.—The bark of *Alstonia constricta*, F. Mueller; Nat. Ord., *Apocynaceæ*. Australia.

SPECIFIC ALSTONIA CONSTRICTA.—This is not *Alstonia Scholaris*, which is very much inferior. The true *Alstonia constricta* is not easily obtained, and mixtures of wild cherry and bitter barks, as well as *Alstonia Scholaris*, have been sold for it. True *Alstonia constricta* is highly esteemed by many physicians.

This is a tree with leaves four inches long and white flowers, a native of Australia. The inner bark is the part used.

It is antiperiodic, febrifuge, and tonic. In large doses it produces cerebral disturbance, irritation of the stomach, and ringing in the ears like quinine. It is better in chronic than in acute ague. As a tonic give from one to five grains.

GENTIANA.**Gentian.**

BOTANICAL ORIGIN.—The root of *Gentiana lutea*, Linne; Nat. Ord., *Gentianeæ*. Mountainous elevations of Southern Europe.

This is a perennial plant, a native of the Alps. In market the root comes in pieces from a few inches to two feet long. It is yellow or light-colored and has an unpleasant odor and bitter taste. It is a pure and simple bitter tonic, being very slightly stimulating. In moderate doses Gentian improves the appetite and produces no constipation. In large doses it generally causes fullness of pulse, impaired digestion, headache, etc. It is a very good remedy in chronic and atonic conditions of the digestive organs when an increase of tone is desirable. It is especially good in the dyspepsia of persons of a gouty diathesis, but all cases of dyspepsia are benefited by its use. It acts as a tonic unless the food be oppressive. Give specific Gentian five drops. It is contra-indicated by inflammation.

In the decline of protracted fevers the patient's recovery depends upon his ability to take and appropriate food. In these cases Gentian removes the gastric irritation and increases the appetite.

Before quinine was introduced this remedy was used in intermittent fevers. In some cases of chronic ague after the disease has been broken by quinine this is a very good secondary drug. Use the infusion, the tincture, or specific Gentian. Make a tincture of the strength of eight ounces of the root to sixteen fluid ounces of dilute alcohol. Dose, a teaspoonful. When the alcoholic preparation is too irritating use the infusion. Make the infusion of one ounce of the root to one pint of hot water. Dose, one or two tablespoonfuls. The dose of specific Gentian is from five to twenty drops.

We have a native Gentian (*Gentiana ochroleuca*), called

Marsh Gentian growing in moist places in our Middle States. It is tonic and antiperiodic. It is a very good agent in the declining stage of dysentery, and also in chronic diarrhœa, attended with malarial troubles.

In troubles of the stomach and liver, attended with atony, this is a good remedy. It is an excellent stimulating tonic to the reproductive organs of the female. In such troubles as atonic amenorrhœa it may be given with iron. Chronic ague is benefited by its use.

GENTIANA CATESBÆI.

Blue Gentian.

BOTANICAL ORIGIN.—The root of *Gentiana Catesbæi*, Walter; Nat. Ord., *Gentianeæ*. Southern United States.

This is very much like the preceding and grows in swamps in our Southern States. It is tonic, stomachic, and diaphoretic. It influences the skin and its secretions more than the other members of the Gentian family. It is a good agent in dyspepsia with torpidity of the skin. Use it in the convalescence following inflammatory fevers. As a tonic use from ten to thirty drops of the tincture.

HYDRASTIS.

Golden Seal.

BOTANICAL ORIGIN.—The rhizome and roots of *Hydrastis canadensis*, Linne; Nat. Ord., *Ranunculaceæ*. Indigenous to the United States.

SPECIFIC HYDRASTIS.—This preparation contains the organic constituents of the drug that are soluble in an alcoholic menstruum. It contains the bitter berberine which colors fabrics yellow, and also the white alkaloid and resinous and oily substances, but not the inorganic salts. For this reason Prof. King objected to any alcoholic preparation of Hydrastis, and his experimentation led Prof. Lloyd to evolve the now popular Lloyd's Hydrastis, which is a colorless solution

of Hydrastis constituents in water and glycerin, containing the inorganic as well as the colorless organic salts of that valuable drug.

This is a native perennial plant found growing in shady woods in rich soil. The flowers are white or rose-colored, and the fruit resembles a raspberry. Our first knowledge of the plant was obtained from the Indians. Its properties are tonic, stomachic, detergent, laxative, alterative and sometimes anti-spasmodic. This drug is very generally used by Eclectics. We use the tincture, the powdered root, and its yellow alkaloid Hydrastin, specific Hydrastis, and Lloyd's Colorless Hydrastis. As a tonic it is mild and unirritating.

Hydrastis is a very good drug in chronic inflammations of the mucous surfaces, with altered secretions, and in inflammatory conditions of the glandular system. In chronic atonic dyspepsia, with torpor of the liver, constipation, and debility, and in chronic gastritis, one part of colorless Hydrastis to three parts of water, given in teaspoonful doses every three hours, restores the gastric mucous membrane to its natural condition. From five to ten grains of the powder may be given, or as a general stomachic tonic:

R. Hydrastin, gr. j.
 Aqua, fl ℥j. M.
 Sig.—Take at one dose.

It is a very good remedy in chronic inflammation of the throat after tonsilitis or any acute attack with unnatural secretions from the part. For ulceration after tonsilitis apply colorless Hydrastis. It is useful in all chronic inflammations of the upper part of the throat when the tissues are relaxed, the blood vessels dilated, and the secretions abundant. Use equal parts of the ground root, say about a drachm, with a like quantity of *Geranium maculatum*; chlorate of potassium may be added to the infusion if desired. CAUTION.—*Never add the chlorate to the other powders*, but completely

dissolve the salt in the infusion *after* it has been prepared. Take of this a teaspoonful in a cup two-thirds filled with hot water, and let stand till cold. Use as a gargle. This is a good application in nursing sore mouth and all aphthous conditions of that organ. Wash the mouth with it and take internally at the same time suitable remedies.

Hydrastis is valuable in obstinate cases of torpidity of the liver or stomach, given with small doses of Podophyllin. Use the following pill or powder:

R. Hydrastin, grs. $\frac{1}{4}$.
 Podophyllin, grs. 1-20. M.
 Sig.—Use at one dose five or six times a day.

This moves the bowels gently.

Hydrastis is a very good remedy for ulcerations of the outlets of the body, as fissures or ulcers in ano. Either bathe the parts with an infusion or use the colorless Hydrastis. In all such cases use it both locally and internally. For ulceration of the internal coat of the bladder use the following:

R. Colorless Hydrastis, fl $\bar{3}$ ss.
 Aqua, O ij. M.

Let the patient empty the bladder and inject some of this once or twice a day. In gleet it may be used alone or with some of the mineral astringents. In vaginal leucorrhœa with abrasion of the os or cervix uteri use the same injection. Colorless Hydrastis is one of the very best remedies for gonorrhœa after the active stage has passed. Employ the colorless Hydrastis locally.

Golden Seal is a good agent in the treatment of nasal catarrh, with a discharge of thick, tenacious mucus, associated with an almost constant frontal headache. Use here a weak solution of Hydrastin, or preferably one part of colorless Hydrastis to five or six parts of water. The latter does not stain. Inject and use it internally in catarrh.

In cancer it is good both as a local application and as an internal remedy. Use five drops of specific Hydrastis four times a day and apply a compress of cotton saturated with the infusion. The following makes a very good wash in eye troubles with muco-purulent secretions:

R. Hydrastin, gr. j.
Aqua, fl ℥j. M.

Or colorless Hydrastis may be used instead. Use the same in syphilitic sore throat with mucous discharge, and add ten drops of the specific Hydrastis to four ounces of water. Give a teaspoonful every two hours.

COCA.

Coca.

BOTANICAL ORIGIN.—The leaves of *Erythroxylon Coca*, Lamarck ; Nat. Ord., *Linææ*. Peru and Bolivia.

CHIEF ACTIVE CONSTITUENT.—*Cocaine*. (See below.)

COCAINÆ HYDROCHLORAS. Cocaine Hydrochlorate.

In permanent, transparent, colorless crystals, or in white, crystalline powder, odorless, but having a saline and feebly bitter taste, producing upon the tongue first tingling and then numbness, lasting several minutes. Soluble in cold water (0.48), alcohol (3.5), chloroform (17), ether (2800), and very soluble in hot water.

COCA SPECIFIC.—This preparation contains the alkaloid constituents of Coca as well as the green and other coloring matters. Since it contains also an organic oil the mixture with water in large amount is inclined to opalescence. It has, especially when mixed with water, a pleasant herb-like odor.

This is a small shrub about four feet high with spreading branches and yellow flowers, a native of Peru.

The tincture, fluid extract, specific Erythroxylon, and the hydrochlorate of its alkaloid, Cocaine, are in use. Coca

has been in use among the natives of Peru for many years as a stimulant. They chew the leaves when making long journeys with little food to sustain their muscular power. Coca is a good remedy for defective innervation, evidenced by dyspepsia, pain in the occiput and neck, dizziness, and inability to stand for any length of time. It is tonic to the muscles, stimulant to the nervous system, and a local anæsthetic. In full doses it stimulates all the animal functions, slightly increasing respiration, circulation, digestion, and innervation. In large doses it produces pain in the head and inflammation of the brain. The gastric juice is increased by its use, the tone of the stomach improved, and pain relieved. It is a good remedy in insomnia from a gloomy state of the mind. Give ten or fifteen drops of specific Erythroxyton and sleep generally results. It also cures many times when used in hysteria.

Coca is not a very powerful antispasmodic, but it relieves atonic conditions of the stomach and nervous system. It is of some value in chorea, acting as a tonic to the muscles and nerves, thus enabling the patient to better control his movements. It relieves asthma, not speedily, but permanently. It has been used as an antidote to the opium habit, but in most such cases it fails.

The alkaloidal salt, hydrochlorate of cocaine, is a very important remedy. In large doses it kills small animals by paralyzing the respiratory centers. In man it elevates the arterial pressure by its influence on the nervous system.

A two per cent. solution is a good local anæsthetic. It has not much power when applied to the sound skin, but on an abraded surface, or the mucous membrane, or under the skin it is quite efficient. It produces anæmia of the part, lowers the temperature, and reduces the size of the blood vessels.

It restrains the secretion of the gastric juice, tears, etc., and

increases the peristaltic motion of the intestines, but leaves them sluggish afterward.

Applied to the eye cocaine hydrochlorate dilates the pupil, its action occurring within a half hour after using it, and the effect passing off in about an hour. It may be administered by way of the mouth or hypodermatically. In angina pectoris from one-fourth to one-third grain taken three or four times a day, gives good results. It is not so effective here as nitrite of amyl or nitro-glycerine. It is a good remedy in some cases of dropsy with heart trouble. Use from one-fourth to one-third grain three times a day. It increases the flow of urine, blood pressure, and contractions of the heart.

Cocaine is a good drug in neuralgia. Inject from one-fifth to one-third grain near the part affected. In sick, nervous headache the same treatment gives relief. In the vomiting of pregnancy it sometimes ameliorates. Give one-fourth grain by mouth, hypodermatically, or applied to the cervix uteri.

When applied to a part Cocaine produces loss of color by contracting the blood vessels, and hence it is a very good agent in some inflammatory diseases, as tonsilitis. Paint a two to four per cent. solution on the tonsils. This reduces their size and relieves pain. Use the same treatment for chronic tonsilitis. Here use a six per cent. solution, using one-third water and two-thirds glycerin. Pencil twice a day. In hay fever it arrests the irritation and stops sneezing; dry the mucous membrane and then paint it with a two to four per cent. solution.

It is of much value in tuberculous ulcerations and tenderness of the upper part of the throat. In some cases of consumption the throat is so irritable that the patient can not take food. Cocaine painted on the part three or four times a day gives relief. Applied in the early stage of coryza it

many times aborts the disease; paint it on the mucous membrane.

Cocaine is useful as an anæsthetic for ulcers, fissures, or painful conditions of the membranes of the mouth. Use the solution every two hours if the pain is intense. It is a good remedy in the acute stage of gonorrhœa. Use ten drops of the solution in the water injected into the urethra. If a catheter is to be used and the parts are very tender first inject this into the urethra. Used with vaseline it stops itching or burning of vagina. It may be used in hyperæsthesia of the vagina and rectum so that instruments may be introduced without causing pain. Used as a suppository or an injection it relieves tenesmus and dysentery.

In eye surgery this drug occupies a very important position. It lessens sensibility of the organ, and by its use foreign bodies may be removed, and it relieves the inflammation following it. Use a few drops of a two-per-cent. solution in the eye. In operations for cataract, it is sufficient as an anæsthetic. Instil into the eye from two to five drops of the two-per-cent. solution every ten minutes until twelve drops have been used.

Cocaine solution may be used as an anæsthetic in operations upon the throat, and in extracting teeth. It relieves pain in mammary abscess, felons, bubo, ingrown nails, etc. In earache from cold, put a few drops of equal parts of this solution and glycerin into the ear, or saturate a piece of cotton with it, and put this into the ear; or the same treatment applied to hollow teeth cures aching. An ointment made of five per cent. cocaine with vaseline, is very good treatment for many skin diseases.

For internal use, Coca is the best remedy. Take of the specific medicine from five to thirty drops. Cocaine hydrochlorate is used externally and subcutaneously chiefly; when used internally the dose ranges from one-fifth to one grain.

SALIX ALBA.**White Willow.**

BOTANICAL ORIGIN.—The bark of *Salix alba*, Linne; Nat. Ord., *Salicaceæ*. Indigenous to Europe, but naturalized in this country.

CHIEF ACTIVE CONSTITUENT.—*Salicin*, a glucosid occurring either in white or colorless, shining, silky needles, or as a crystalline powder, very bitter and odorless. Soluble in cold water (28), boiling water (0.7), alcohol (30), boiling alcohol (2). Nearly insoluble in chloroform and ether.

SALIX ALBA SPECIFIC.—Do not confuse this with *Salix nigra* aments, an entirely different preparation. There is no doubt that many persons have been induced to err by reason of the fact that these preparations have been substituted for each other.

This tree is a native of Europe, but it grows in the United States. The bark is bitter and its properties tonic, antiperiodic, astringent, and antiseptic.

It is a good remedy for dyspepsia attended by pain or great debility, and especially if associated with malaria. In chlorosis, without active inflammation, it is sometimes effective. Use three grains of the extract of the bark with one grain of reduced iron. It is a very good remedy in chronic leucorrhœa, diarrhœa, bronchitis, and all diseases with profuse discharge from the mucous surfaces. As an antiseptic it is used in low forms of fever. If an alcoholic tincture is too irritating use the infusion.

From its astringency it acts well in hemorrhage, as from the lungs, but in severe cases it is inferior to gallic or tannic acid. It is best suited to chronic forms. It is also a good application to ulcerated surfaces, applied as a compress or dusted on the ulcer. A strong infusion of the bark, thickened with powdered elm bark, flaxseed, and charcoal, is a good application for carbuncles and gangrenous ulcers. The infusion provides a good wash for ulcers, bad-smelling leu-

corrhoëa, etc. The active principle of the bark is Salicin. It is an antiferment and destroys bacteria. It is of some value in chronic ague and also in chronic diarrhœa. It may be employed in large doses with safety. It is very good in the acute forms of rheumatism where salicylic acid fails to cure. Given in sufficient doses it lessens the pain and temperature. Use doses of from five to thirty grains. Both *Salix* and Salicin are good gastric tonics.

AMMONII PICRAS.***Ammonium Picrate.***

SYNONYM.—*Ammonium Carbazotate.*

DESCRIPTION.—This intensely bitter salt occurs in minute lemon or orange-colored needles. Its solutions impart a permanent yellow color to organic tissues, such as nails, horn, hair, skin, etc. It is soluble in water.

This salt and the acid from which it is made are poisonous to lower animals when employed in sufficient quantities, producing violent spasms and death.

Its properties are tonic, astringent, and antiperiodic. As the acid from which this is made produces cramps in the stomach we make use of the Carbazotate of Ammonium or Iron. It has been used as an antiperiodic substitute for quinine and has been employed as such in intermittent fever. But it is not very efficient in these cases, although occasionally it may cure when quinine fails. It is good in debilitating diseases attended with exhaustive discharges, it being tonic and astringent. Being very bitter it may be given in pills or granules, or better in capsules. If long continued it colors the skin and conjunctiva yellow, even doses of fifteen grains having produced this effect. It does this by coloring the serum of the blood. Good results may be obtained from its employment in obstinate cases of chronic ague, given in doses of from one-fourth to one-eighth grain three or four times a day.

EUONYMUS.**Wahoo.**

SYNONYMS.—*Burning Bush*, *Spindle Bush*.

BOTANICAL ORIGIN.—The bark of the root of *Euonymus atropurpureus*, Jacquin; Nat. Ord., *Celastrinæ*. Indigenous to the United States, growing in the Northern and Western States.

SPECIFIC EUONYMUS.—This is made of the root bark. Inferior preparations of *Euonymus* are made of the bark of the shrub and of the entire roots.

This is a native shrub from five to ten feet high, having a light gray bark and drooping capsules of a crimson color, giving it a very beautiful appearance, and from this fact being called the Burning Bush. The bark of the root is used in medicine. It is tonic, laxative, alterative, and diuretic, and in large doses cathartic.

There are but few good stomach tonics, and this agent is one of them. It may, therefore, be used with advantage in atonic dyspepsia. In indigestion, dependent upon torpor of the liver, it will improve the condition by increasing the flow of bile.

In cases of chronic ague attended with constipation and torpid liver this is a very good remedy. Generally in such cases, with atony of the digestive organs, this increases the tone of the intestinal tract and gently stimulates it. It is also a remedy for this complaint when associated with obstinate constipation, and for those who have been in the habit of taking cathartics. Give tonic doses.

It is a good remedy in catarrh, bronchitis, phthisis, etc. It improves the condition of the mucous membrane as well as the patient's general strength. As an alterative it is useful in syphilis and scrofula.

It is valuable in some cases of dropsy with great atony. It stimulates absorption and increases the activity of the kidneys. Use one ounce of the root bark to eight ounces of

Holland gin to make a tincture. Dose, a tablespoonful three or four times a day. This tincture is also stimulant and tonic to the urinary organs. Dose of specific *Euonymus*, from five to twenty drops.

INULA.***Elecampane.***

BOTANICAL ORIGIN.—The root of *Inula helenium*, Linne; Nat. Ord., *Compositæ*. Indigenous to Central Asia and the southern portion of Siberia. Found also in Europe (central and south) and common in this country.

SPECIFIC INULA.—This drug becomes so affected by insects that commercial preparations of *Elecampane* are very irregular in quality. Only the recent root is employed in making the specific.

This is a perennial plant with a thick, yellowish-gray root, large and dark leaves and bright yellow flowers, blooming from June to September, and found growing in low and wet places. Use the root and make a tincture of the strength of eight ounces of the drug to sixteen fluid ounces of fifty per cent. alcohol. A good syrup is made by using one ounce of the root to one pint of boiling water. Boil for one hour, or until there is only a half pint left; then add one-half pound of white sugar. This makes a good tonic for the digestive, respiratory, and urinary organs. It is also a good tonic in atonic dyspepsia with flatus of the bowels. The syrup is aromatic and stimulant and in chronic bronchitis, with great and profuse expectoration, is a very good remedy. It lessens night sweats of phthisis and increases the general strength. Some cases of asthma are benefited by it.

Elecampane is a good agent in chronic catarrh of the bladder. Use the tincture, specific medicine, or the infusion. Of the two former use from a few drops to a teaspoonful. Of the latter a wineglassful. It may be used freely without harm.

FRASERA.**American Columbo.**

BOTANICAL ORIGIN.—The root of *Frasera Walteri*, Michaux; Nat. Ord., *Gentianeæ*. Indigenous to the United States from the Alleghany Mountains westward.

SPECIFIC FRASERA WALTERI, or American Columbo, is entirely different from official Columbo root, and care must be taken not to confuse them with each other.

This is an indigenous plant with a small stem from four to eight feet high, and a yellow root. Use the root. Dig it when two years old, in the fall, remove the dirt, cut it into slices and dry it in the shade. It makes a good unirritating tonic, stimulant, and astringent. It controls colliquative sweating and diarrhoea. It is a good tonic in dyspepsia, in the latter stages of fevers, and in the latter stages of dysentery. It is of much value in chronic diseases of the digestive organs when the stomach feels loaded after eating.

Atonic disorders of the urinary organs and of the breathing apparatus, attended with marked debility, are benefited by *Frasera*.

Make a tincture by using eight ounces of the root to one pint of fifty per cent. alcohol. Dose, from a few drops to a teaspoonful.

ACHILLEA.**Yarrow.**

SYNONYMS.—*Milfoil*, *Thousand Leaf*.

BOTANICAL ORIGIN.—The herb of *Achillea millefolium*, Linne; Nat. Ord., *Compositæ*. Common in the temperate portions of Europe and North America.

This plant grows native in Europe and America in fields and door-yards, and bears white or red-colored flowers. We use the entire herb. It is bitter, aromatic, and astringent. It is a good tonic to the urinary organs and gives tone to the reproductive organs, especially of the female.

Irritation of the bowels is relieved by it, and it is a good

remedy in leucorrhœa, to overcome relaxation, and in amenorrhœa and diabetes. It is also employed to stop hemorrhage, though it is not very powerful in this use. It is, however, well adapted to passive conditions with loss of small quantities of blood. An infusion is a good preparation. Make it of the strength of one ounce to one pint of hot water. Dose of this, a wineglassful; of the tincture, from five to thirty drops.

PTELEA.

Wafer Ash.

BOTANICAL ORIGIN.—The root bark of *Ptelea trifoliata* Linne; Nat. Ord., *Rutaceæ*. Indigenous to the United States, growing in rocky situations.

SPECIFIC PTELEA.—This preparation contains a large amount of fixed oil and resinous material. When added to water it becomes milky and precipitates on standing.

This is a native shrub with large greenish flowers and an unpleasant odor. In preparing a tincture use eight ounces of the bark of the root to one pint of seventy-six per cent. alcohol. Dose, from ten to twenty-five drops. It is tonic, stimulant, alterative, diaphoretic, and astringent. It is used as a tonic in dyspepsia, anorexia, etc. In chronic intermittent fever it also does good service. It is a fairly good drug in chronic affections of the respiratory organs, atonic laryngitis, asthma, phthisis, bronchitis, etc. Diarrhœa and dysentery are cured by it.

PANAX.

Ginseng.

BOTANICAL ORIGIN.—The root of *Panax quinquefolium*, Linne; Nat. Ord., *Araliaceæ*. Found in the rich woods of North America as far south as Tennessee and Georgia.

This drug is a great favorite with the Chinese. It is a native of the United States and grows in rich shady woods. Its root is a mild stimulant and tonic. It is a good remedy

in nervous dyspepsia, exercising a very beneficial influence upon the nervous system.

In cerebral anæmia its action is favorable, but its use must be prolonged to obtain its good effects. Use of the tincture from five drops to one drachm.

CALUMBA.**Colombo.**

BOTANICAL ORIGIN.—The root of *Jateorhiza palmata*, (Lamarck) Miers; Nat. Ord., *Menispermaceæ*. Indigenous to Eastern Africa and cultivated to some extent in the East India Islands.

This is a climbing plant, a native of Africa. In market we find the sliced root, which is aromatic and bitter. Its properties are tonic and stomachic. Its action on the stomach is very much like that of Hydrastis. It is a good tonic, but it has no stimulating nor astringent properties. It may be employed in the convalescence of fevers because of being unirritating. In feeble conditions of the stomach this is a good remedy. In dyspepsia, with debility, when a stronger and more irritating tonic can not be taken, this forms a very good medicine. It is of value also in the convalescence from diarrhoea and dysentery. For cholera infantum, after the active stage of the disease has passed, and when stronger tonics would be objectionable, Columba may be employed. Use it in the form of an infusion of two drachms of the root to a pint of water. Dose, a teaspoonful.

Columba is a good remedy in dyspepsia with constipation and liver troubles. Use it here with an equal amount of Rhubarb or Leptandra. Employ five drop doses of specific Columba four to six times a day. It gives relief in cholera morbus, stopping the purging and vomiting and giving strength. It sometimes arrests the vomiting of pregnancy. Dose of the tincture, twenty drops; of the infusion, from a

teaspoonful to a tablespoonful; of the specific medicine, ten drops.

DAMIANA.

Damiana.

BOTANICAL ORIGIN.—The leaves and tops of *Turnera aphrodisiaca*, Ward and Vasey; Nat. Ord., *Turneraceæ*. Mexico.

SPECIFIC DAMIANA.—This is made of the fragrant, true Damiana leaves. Considerable amounts of a false drug, resinous like *Grindelia*, have been sold for Damiana.

This drug is a tonic to the urinary and sexual organs. It is a small tropical plant, native of Mexico, having an aromatic taste. Water and alcohol extract its virtues. It is tonic to the sexual organs and stimulant to the kidneys, hence it is a good remedy in impotence or sexual atony. In chronic catarrh of the bladder and kidneys it sometimes proves a good remedy. Besides being a local tonic it imparts tone to the general system.

Use the fluid extract or tincture in doses of from one-half to one drachm four times a day. For females iron may be needed with it. Phosphorus may also be employed with it or in alternation with it. It is much used in respiratory troubles to relieve irritation, lessen cough, arrest hypersecretion, and give tone.

PRUNUS VIRGINIANA.

Wild Cherry.

BOTANICAL ORIGIN.—The bark of *Prunus serotina*, Ehrhart; gathered in autumn; Nat. Ord., *Rosaceæ*. Eastern United States.

SPECIFIC PRUNUS VIRGINIANA is made of the recent inner bark of the root. It contains much tannin and turns black with iron salts.

This is a tonic, sedative, and astringent. Use the inner

bark in an infusion made preferably with cold water. Its active principle is hydrocyanic acid, and this is driven off by heat.

Wild Cherry lessens vascular excitement and is a good drug in undue sweating, diarrhœa, dysentery, or any case where there is a feeble condition of the exhalants.

It is an excellent agent in phthisis, moderating the cough, lessening the fever, and sustaining the strength of the patient. In this trouble use a syrup made by using one-half ounce of the fluid extract to three and one-half ounces of simple syrup. Dose, a teaspoonful four times a day. Or for this purpose macerate for several hours two ounces of the bark in one-half pint of cold water, strain, dissolve in it, without heat, one pound of white sugar. This may also be used as a vehicle for other medicines.

Fowler's Solution may be added to the syrup if desired.

We may use Wild Cherry for its influence on the heart, brain, and nervous system. It is an excellent sedative for palpitation of the heart, with nervous fever or tuberculosis. It is good in irritable dyspepsia, improving the condition of the stomach, quieting nervous irritability, and increasing the tone of the digestive tract and nervous system. Here the syrup made by first taking a strong infusion and then adding enough sugar may be employed. This is probably the best preparation. Dose, one or two teaspoonfuls every three hours. As a tonic this agent may be used in all atonic conditions where other tonics which lack the sedative qualities can not be administered.

FERRI ET AMMONII TARTRAS.

Iron and Ammonium Tartrate.

SYNONYM.—*Ammonio-Tartrate of Iron.*

DESCRIPTION.—This salt forms in slightly deliquescent, thin, transparent scales, from garnet to red-brown in color.

Its taste is sweetish and feebly ferruginous, and it is devoid of odor. Insoluble in alcohol, but very easily dissolved by water.

This is a mild tonic. It is soluble in water, is unirritating and pleasant to the taste. It may best be given in pill form in doses of from five to ten grains.

FERRUM.**Iron.**

SYNONYM.—*Metallic Iron.*

This is the most abundant of metals, forming a large part of the crust of the earth and of vegetation, while in animal life it plays an important part. In the metallic state it is inert, and acts only mechanically. When it enters the alimentary canal, and afterwards the blood, it improves the quantity and quality of the latter. Red corpuscles in the blood produce ozone from the oxygen absorbed, and iron is food for these corpuscles, increasing their ability to carry oxygen. In chlorosis we find a marked example of the diminished number of red corpuscles. Hence the iron of the blood is deficient, and the administration of it improves the patient.

Iron is absorbed very slowly and in small quantities, hence it must be administered in small doses, or it will not be absorbed, and will prove very irritating as well. But in proper doses it is absorbed, and may be detected in the blood and urine. In large doses it colors the feces dark or black. In small doses it improves the color of the skin, increases the appetite and digestive function, and gives tone to the whole muscular structure. There are many preparations of iron—some strong and others mild. We must choose among these according to the special conditions of the case on hand. Thus in excessive anæmia or passive hemorrhage the stronger preparations are needed, as the sulphate or chloride; but in ordinary debility, the mildest and most unirritating are the best, as ammonio-citrate, or citrate of iron and potassium.

In scrofula, iron being indicated, use an alterative preparation such as the iodide. In large doses or long continued, iron causes gastric irritation, and to prevent this it may be given with Hyoscyamus, and the period of administration must be prolonged. If the bowels become constipated a mild laxative is required. In the treatment of anæmic patients give iron until the blood contains its normal quantity and not longer, as it is then harmful. Iron is contra-indicated in inflammatory conditions and in plethora. Persons of sanguine temperament need less iron than others. Many disturbances of the general system are cured after bleeding or other exhaustive discharges by the administration of iron salts, because the organs have not enough stimulation. If bleeding is followed by, or if disease produces the same condition of a lack of iron in the system, we call it chlorosis in women and anæmia in men.

Analysis shows the red corpuscles of the blood to be less numerous in women than in men, hence chlorosis is more common. In this disease iron is the remedy restoring the red corpuscles to their normal quantity. In cases of chlorosis, before the administration of iron, the corpuscles were only fifty parts in a thousand, instead of one hundred and twenty. After giving iron they were restored to the normal standard.

Iron is not eliminated speedily from the body, but is retained in the system.

FERRUM REDUCTUM.**Reduced Iron.**

SYNONYMS.—*Iron by Hydrogen, Quevenne's Iron.*

DESCRIPTION.—A fine, lusterless, grayish-black powder, devoid of odor and taste, and unalterable in dry air. Neither water nor alcohol dissolves it. When poured upon a paper in the form of a conical pile, and a lighted match is applied

to the summit of the heap, it should take fire and burn with a red glow. Should it fail to be completely ignited, it has partly changed to an oxide, and is of no value as a medicine.

Reduced iron may be given where iron in a finely divided state is required. Combine it with the bitter tonics as follows:

R. Reduced Iron, gr. j.
Solid Ext. Gentian, gr. ij. M.
Make one pill.

FERRI ET AMMONII CITRAS.

Iron and Ammonium Citrate.

SYNONYMS.—*Ammonio-Citrate of Iron, Soluble Citrate of Iron.*

DESCRIPTION.—This compound occurs in transparent, thin, garnet-red scales. It has no odor, but a saline, ferruginous taste. In the presence of moisture it deliquesces. Alcohol does not dissolve it, but it is easily soluble in water.

Among the best preparations of iron, and one that is uniritating, pleasant to the taste, and soluble in water, wine, or syrup, is the ammonio-citrate of iron. It is an excellent tonic, being especially good for children. It is not unpleasant, does not restrain the bowels, and is very readily assimilated. It is used in anæmic conditions of children. For a child from five to ten years old, give doses of from two to five grains three times a day, dissolved in a teaspoonful of water or syrup. It is a good chalybeate in dyspepsia, with marked anæmia and irritability of the stomach. If not well assimilated, give Gentian with it. It is a good agent in scrofulous diseases of children, and in tabes mesenterica, given in doses of from two to five grains in syrup three times a day. In chlorotic females the same sized dose given with a bitter tonic improves the blood, appetite, and general strength.

SYRUPUS FERRI IODIDI. *Syrup of Ferrous Iodide.*

SYNONYM.—*Syrup of Iodide of Iron.*

Syrup of Iodide of Iron is a pale green, transparent fluid, having a neutral re-action, and a sweet and pronouncedly ferruginous taste. Iodide of iron is an unstable salt, and sugar is its best preservative. This syrup sometimes becomes of a deep red color if kept in the dark. The pale green color may be restored by placing the bottle, well filled with the syrup, where the direct rays of the sun may fall upon it.

Iodide of iron is a more powerful preparation than the preceding one. It is alterative, tonic and emmenagogue. It is best administered in the form of syrup. Doses of twenty to thirty drops may be given well diluted with water. If given in large doses it causes gastric irritation and is objectionable. It is a good agent in scrofulous patients when an alterative and tonic is indicated. It increases tone generally and improves the appetite and digestive power. That part which is not assimilated is removed by the kidneys. It is a good medicine in the anæmia of scrofula or phthisis. It gives strength and increases the excretions very greatly. It is best given here with cod liver oil. Use twenty drops in a tablespoonful of cod liver oil. This gives very efficient aid in scrofulous enlargement of the glands, with great debility.

Iodide of iron is also useful in hydrocephalus. In dysmenorrhœa with anæmia in females of a scrofulous diathesis, it relieves the pain and establishes the proper discharge. Leucorrhœa, in scrofulous patients, is benefited by it. Give internally from fifteen to twenty drops of the syrup three times a day, and use locally a wash of solution of borax. In albuminuria it is sometimes a good remedy. It is also of much value in secondary syphilis. If given in alternation with some vegetable tonic, it exhibits its best action. Incontinence of urine in anæmic children is relieved by it in doses of from five to ten drops three times a day. It has

given fine results in chronic diseases of the liver, in scrofulous patients.

TINCTURA FERRI CHLORIDI.

Tincture of Ferric Chloride.

SYNONYMS.—*Tincture of Chloride of Iron, Tincture of Iron, Tincture of Muriate of Iron, Muriated Tincture of Iron.*

DESCRIPTION.—A hydro-alcoholic solution of Ferri, Chloride. A very astringent, styptic liquid of a bright brownish color, an acid reaction, and a slight ethereal odor. It should be made at least three months before using.

This drug is tonic, astringent, and diuretic. It possesses all these properties in a marked degree. It is one of the most powerful of the iron preparations, and is indicated in atonic conditions. It is a good remedy in passive hemorrhages from the uterus or bladder of debilitated patients. Give it in doses of ten drops diluted with water. Do not let it touch the teeth, but give it well diluted through a glass tube, and afterward wash the mouth with some alkaline solution. It is a useful drug in rheumatism and diphtheria. Its action in the latter disease is very helpful and it tends to maintain the general strength.

In leucorrhœa, chlorosis, and dysmenorrhœa, if the patient is anæmic, Tincture of Iron is a good remedy. It is of much value in diseases of the genito-urinary organs when there is no active inflammation. Give it with Buchu or Uva Ursi, and in chronic irritability give it with Opium. Use it also in spermatorrhœa and in the latter stages of gonorrhœa. In these diseases use from ten to fifteen drops three times a day together with local treatment in the last-named disease. It is a good remedy in albuminuria, as it combines diuretic with chalybeate properties. Use as before suggested.

In phthisis Tincture of Iron checks diarrhœa by giving

tone to the muscular coat of the bowels, and it also lessens night sweats and controls hemorrhage. Give five drops every three hours.

For erysipelas it is the remedy par excellence. In this disease it exerts a specific influence, reducing the fever and aiding in the elimination of the erysipelatosus poison. In this disorder it is indicated by the deep red color and swelling of the mucous membrane. Use it internally and externally. In cases of great debility give quinine with it. For external applications use the following:

R. Tr. Chlor. of Iron, $\bar{3}$ ss.
Glycerin, $\bar{3}$ iss.

Paint the part with this and cover it with cotton. Apply this every three hours and give from five to ten drops internally.

This drug gives very good results in the latter stages of scarlet fever, attended with albuminuria. It is serviceable in hysteria and puerperal hemorrhage given in doses of from ten to twenty drops. In chronic ague with anæmia give this agent with quinine. Applied in full strength to venereal warts it removes them. Diluted with water it is a good application to ulcers and to excessive granulations. Use one part of the drug to three or four of water. For this purpose this drug is inferior to nitric acid.

FERRI OXIDUM HYDRATUM.

Ferric Hydrate.

SYNONYMS.—*Ferric Hydroxide, Hydrated Oxide of Iron, Hydrated Peroxide of Iron, Hydrated Sesquioxide of Iron.*

DESCRIPTION.—A brownish-red magma completely dissolving, without effervescence, in hydrochloric acid.

PREPARATION.—This compound must be prepared as needed, as it will not retain its antidotal powers if it has been made for any considerable length of time. To prepare

it proceed as follows: "Mix either solution of ferric chloride or solution of ferric sulphate with four times its bulk of cold distilled water, and add to this, with constant stirring, ammonia water until the latter is in slight excess. Drain the precipitate on a muslin strainer and wash it well with cold distilled water." (*Lloyd's Chem. of Medicines*, p. 311.) Ordinary drinking water may be employed if distilled water be not at hand, and if great hurry is necessitated the magma need not be washed, but may be administered freely at once.

This agent is the antidote to arsenic poisoning. It converts arsenious acid into arsenite of iron, a comparatively harmless salt. It is the best antidote known in these cases. In case of poisoning with arsenic evacuate the stomach as soon as possible, then give this in tablespoonful doses. If the stomach can not be promptly emptied do not wait, but administer the antidote liberally.

Thirty-five parts are needed to neutralize one part of arsenic. Give a child dessertspoonful doses.

FERRI SUBCARBONAS.

Ferrous Subcarbonate.

DESCRIPTION.—A yellowish-red or reddish-brown powder, but slightly disagreeable to the taste. Insoluble in water, but soluble with slight effervescence in hydrochloric acid. It should not be of a red color, else it has been overheated in preparation.

In proper doses this salt is a very good unirritating tonic, but in large doses it produces dyspeptic symptoms. Dose, eight to ten grains three times a day. It may be given with Aloes. It may be given in chlorosis with some simple bitter, as Gentian or Columbo. It is a good agent in nervous and spinal affections. Give doses of from five to ten grains every two hours. It should be given here in connection with nerve stimulants. In chorea give it in ten grain doses

three times a day. In hysteria, with marked anæmia, use the following:

R. Ferrous Subcarbonate, ʒ ij.
 Tr. Valerian,
 Tr. Scutellaria,
 Tr. Camphor, aa. fl ʒ ij. M.

Shake before taking. Give in teaspoonful doses three times a day.

In amenorrhœa give two or three grains of the iron salt with one-half grain of Aloe. The same may be used in atonic states of the female reproductive organs. For chorea, with marked anæmia, alternate this salt with specific Valerian and specific Macrotys.

FERRI SULPHAS.

Ferrous Sulphate.

SYNONYMS.—*Sulphate of Iron, Green Vitriol.*

DESCRIPTION.—Large, pale, bluish-green, prismatic crystals, odorless, and having a saline and powerfully styptic taste. In dry air the crystals effloresce. Soluble in cold water (1.8), boiling water (0.3), but not soluble in alcohol.

FERRI SULPHAS EXSICCATUS or *Dried Ferrous Sulphate* contains sixty-five per cent. of the above salt, and is a grayish-white powder, slowly but completely dissolved by water.

FERRI SULPHAS GRANULATUS or *Granulated Ferrous Sulphate* is a pale, bluish-green, crystalline powder.

This is tonic, astringent, and emmenagogue. It is one of the strongest salts of iron. In large doses it is irritant and purgative, but in the form of a pill in doses of one to two grains it may be used when an astringent preparation is needed. Always use the Anhydrous Sulphate (dried sulphate). It is a good agent in hemorrhage, colliquative sweating, diabetes, chronic catarrh of the bladder, leucorrhœa, etc. Give one to two grains three times a day. In amenorrhœa in chlorotic patients give it with Aloe in doses

of two grains three times a day, using one grain of Aloe. It is a good application to cancer of the uterus. Dissolve one drachm in one pint of water and wash the cancerous part with it. As an application for bleeding piles it serves very nicely. Dissolve two grains in one pint of water and inject. In chronic intermittent fever, from two to five grains given in broken doses, render very good service. It is a good application to chancres or venereal ulcers.

LIQUOR FERRI TERSULPHATIS.

Solution of Ferric Sulphate.

SYNONYMS.—*Persulphate, or Solution of Persulphate of Iron.*

DESCRIPTION.—A nearly odorless, deep reddish-brown fluid, acid in reaction, and having a sour and strongly styptic taste. It mixes with water and alcohol in all amounts without change.

This solution should be kept on hand for the preparation of the antidote to arsenic.

LIQUOR FERRI SUBSULPHATIS.

Solution of Ferric Subsulphate.

SYNONYMS.—*Monsel's Solution, Solution of Basic Ferric Sulphate.*

DESCRIPTION.—(See *Liquor Ferri Tersulphatis*, with which it nearly agrees in physical properties.) If this solution be evaporated near escaping steam a light yellow mass is left behind, which, when reduced to a powder, is known as *Monsel's Salt*. It is a styptic and is used for the same purposes for which the solution is employed.

Solution of Ferric Subsulphate is often incorrectly prescribed under the name of *persulphate of iron*.

This is a very good styptic. It coagulates blood and thus

controls hemorrhage. In nose bleeding, from wounds, etc., it is a good remedy. Saturate a piece of cotton with the solution and push it up the nostril until it reaches the bleeding surface and it will stop the hemorrhage. A solution of this taken internally controls hemorrhage from the stomach or rectum. Give doses of from five to fifteen drops every three hours in water. This agent is an unirritating styptic.

FERRI PHOSPHAS SOLUBILIS.

Soluble Ferric Phosphate.

SYNONYMS.—*Phosphate of Iron, Soluble Phosphate of Iron.*

DESCRIPTION.—Apple-green scales, transparent, and having no odor, but an acidulous and feeble saline taste. Insoluble in alcohol, but readily soluble in water. It is apt to be dark in color if exposed to light.

This is a nerve tonic. Use it in cases of debility, with marked nervous depression, in doses of five grains.

FERRI FERROCYANIDUM.

Ferric Ferrocyanide.

SYNONYMS.—*Prussian Blue, Ferro-cyanide of Iron, Insoluble Prussian Blue.*

DESCRIPTION.—A beautiful, deep-blue, bulky powder, devoid of taste, and insoluble in water.

This is tonic and antiperiodic. Dose, three grains four times a day. It is usually given with quinine.

FERRI BROMIDUM.

Ferrous Bromide.

SYNONYM.—*Bromide of Iron.*

DESCRIPTION.—A deliquescent salt of a yellow color, having an extremely styptic taste, and very soluble in water. Like iodide of iron it is unstable and should be employed in the form of a syrup, as sugar tends, in a measure, to prevent its decomposition.

This salt is tonic and resolvent. It may be given internally in small doses and applied locally for the relief of scrofulous tumors and various glandular enlargements.

R. Iron Bromide,
Glycerin, *aa.* 1 part.
Adeps, 14 parts.
Make an ointment.

CORNUS.

Dogwood.

SYNONYM.—*Large Flowering Cornel.*

BOTANICAL ORIGIN.—The bark of *Cornus florida*, Linne; Nat. Ord., *Cornaceæ*. Woods of the eastern half of North America.

A tincture of this bark may be made of eight ounces of the bark to one pint of dilute alcohol. Dose, five to sixty drops. Make an infusion of the strength of one ounce of bark to one pint of water. Dose, a tablespoonful.

This agent resembles willow bark in action. It is slightly astringent and antiseptic, but chiefly tonic. It is used only in atonic states, and gives good effects in atonic dyspepsia and in intermittents. Some employ it as a prophylactic against malarial and other fevers. In gangrenous mortification use the infusion both locally and internally.

POPULUS.

White Poplar.

SYNONYMS.—*Poplar, Quaking Aspen, American Aspen.*

BOTANICAL ORIGIN.—The bark of *Populus tremuloides*, Michaux; Nat. Ord., *Salicaceæ*. Common in American woods.

This agent is also tonic, and resembles in action the willow bark. Prepare a tincture as for dogwood bark. Dose, five to sixty drops. Make an infusion of one ounce of bark to one pint of water. Dose, a tablespoonful. Employ this agent in atonic dyspepsia, with marked debility and

emaciation, associated with hepatic torpor. It may also be employed with good results in intermittent fever, both for its febricide and tonic effects. This bark yields both salicin and populin.

HELONIAS.**Starwort.**

SYNONYM.—*Unicorn Root.*

BOTANICAL ORIGIN.—The rhizome of *Chamælirium luteum*, Gray (*Helonias dioica*, Pursh); Nat. Ord., *Liliaceæ*. Grows in low situations in North America.

SPECIFIC HELONIAS.—This is made of *Helonias dioica* and not from *aletris*. In commerce these drugs are confused to such an extent as to render the name inexpressive. Specific *Helonias* has a peculiar, honey-like odor when rubbed between the fingers, and when dropped into water renders it milky, owing to the separation of finely divided resin.

This agent is a general tonic, but has also a special affinity for the urinary and reproductive apparatus of the female. It is of some use in atonic digestive disorders, but its chief use will be found in the diseases of women, characterized by mental irritability or depression. One marked symptom calling for it is a sensation of heaviness and fullness throughout the floor of the pelvis, a sensation as if the parts were congested and about to fall out. Use the small doses. It often relieves this bearing down sensation in dysmenorrhœa; dose, from one to ten drops.

acts primarily on the spinal centers, etc. This latter class has been called *tetanics*.

Stimulants have a variety of uses, but are contra-indicated by gastro-intestinal irritation and in acute inflammation and febrile diseases, cardiac palpitation and hypertrophy, in cerebral congestion and inflammation, and in apoplexy.

ALCOHOL.

Alcohol.

SYNONYMS.—*Rectified Spirit, Spirit of Wine.*

DESCRIPTION.—A liquid containing about ninety-one per cent. by weight (ninety-four per cent. by volume) of Ethyl Alcohol and nine per cent. by weight of water. It is a transparent, colorless liquid, volatile, and has a burning taste, and a pleasant, penetrating odor. It is inflammable, burning, when strong, with a pale-blue flame, but when weak with a yellowish flame. It should be kept in well-stoppered bottles, in a cool situation and away from fires or lights.

Alcohol is the product of vinous fermentation, in which sugar is changed into carbonic acid gas and alcohol. It may be obtained from any liquid in which fermentation occurs, as the juice of fruit, grain, etc.

By combining high-wine with the juice of the juniper berry, gin is made. Rum is made from molasses. Each of these contain from forty-five to fifty-five per cent. of Alcohol. Dilute Alcohol of the pharmacopœia contains forty-one per cent. by weight, or 48.6 by volume of pure Alcohol (Ethyl Alcohol) and fifty-nine per cent. by weight of water. Rectification of spirit is a redistillation of it to deprive it of its water. Proof spirit has a specific gravity of 0.936. The actual amount of absolute Alcohol contained in it is fifty per cent. Official Alcohol has a specific gravity of 0.820 and is obtained by redistillation. Absolute Alcohol is a limpid, colorless, volatile, highly inflammable liquid, having a peculiar odor and taste. It has a great affinity for

STIMULANTS.

Agents which temporarily increase the vital functions of one or several organs are denominated stimulants.

While in fact every medical agent is probably first stimulant, all medicines do not belong to this class of stimulants, which might be called excitants.

Stimulants temporarily increase cardiac and arterial activity, and likewise temporarily increase the supply of nerve force. While these are its effects, it does not sensibly augment the secretions, nor the evacuations from the excretory organs.

Stimulants are neurotic agents, for they first impress the nervous system. Their next effect is that of a topical excitant. Under their action the gastric secretions increase, and increased power is given to the muscular structures. Digestion is hastened by them, and the processes of chymification and chylication are facilitated. The whole system partakes by sympathy of this local effect.

Stimulants increase the activity of the mental functions, even producing a degree of exhilaration; their overaction, as when taken in too large doses and for a continued period, tend to impair the mental process, prostration often being the result. Some stimulants may have a particular affinity for certain parts of the body. Some stimulate the skin, as ammonium carbonate; some the mucous surfaces, as turpentine; some affect the muscular system, as strychnine, which

water, and heat is always evolved by its union with that fluid. It is useful in preserving anatomical specimens, etc., as it coagulates the albumen, hardens the tissues, and thus prevents decomposition. Alcohol is a great solvent. Vegetable alkaloids, volatile oils, resins, camphor, etc., are readily soluble in it. It kills plants when sprinkled on them or when imbibed by the roots, and in a large amount it destroys animal life. If applied to the skin and allowed to evaporate it reduces the temperature of the part. If applied with friction it produces a sensation of heat and stimulates the functions of the part. If evaporation is prevented and it is kept in contact with the skin it produces inflammation and arrests its function.

In small doses Alcohol is stimulant, in large doses narcotic. Its action is not unlike that of opium. It poisons the blood, loads it with carbonic acid gas, and destroys life. Used as a beverage it produces emaciation of the body, flabby and suffused cheeks, eyes, and skin, impairs digestion and the appetite, thickens the coats of the stomach and intestines, and hardens the liver and kidneys; it also enters into and has been found in the brain. But it has some proper and very valuable uses. Taken in small amount it is appropriated by the system and burned in the body. In large amounts it is not assimilated, but is eliminated by the lungs, skin, and kidneys. Because of its great affinity for water, if applied to the mucous membranes, it abstracts their moisture, leaving them hard and irritable. The amount of alcohol given determines its action. In moderate amounts it quickens the pulse and stimulates the digestive organs. In large amounts it depresses all the vital functions, dilates the blood vessels, and produces great perspiration. It has little effect on the temperature of the body. One taking it may feel warmer because of the irritant action on the stomach and the increased circulation.

In small amounts long continued it causes a deposition of fat in the tissues. It also causes degeneration of the tissues of the kidneys, liver, and membranes of the brain. Dr. Mays says "that it is a substance that has given rise to many kinds of action in the minds of men." Some look upon it as the cause of all the sins, vices, and miseries of men, and if it were banished from existence the millenium would be brought very near. Others look upon it as being a very valuable substance, one the place of which can not be taken by any other substance. When Alcohol is taken into the animal economy it is oxidized and liberates heat. Others again think it is wholly eliminated by the various excretory organs. If the last is true it can not produce force in the body. All scientists agree that a portion of it is appropriated by the body. We may see that this is true, for in small doses it increases the force of the brain and circulatory organs. As some of it is destroyed in the system it may be considered as food. Large amounts retard tissue change by checking the excretion of carbonic acid gas and the nitrogenized tissues. Dr. Hammond thinks Alcohol is a real food. He found that during a fast his weight actually increased by taking a small amount of Alcohol, and this gain was above the increase produced from water alone. This proposition has been much discussed and the opposite conclusion has been also reached. But food must serve one of two purposes, namely, either build up tissue or supply force. Evidently in the first of these Alcohol fails, as it supplies no material to build up tissue, but it furnishes easily burned fuel and vital force may be derived from the force thus liberated. By this means it saves tissue-making food from being burned and in that sense only is it food.

Alcoholic stimulants may be used in cases of great depression. They are the remedies in atonic conditions of the system, hence they are good in atonic dyspepsia. Not all

cases are benefited by it, and it must be given in proper doses at the proper time. Here it increases the vascular and nervous supply to that organ, thereby augmenting the flow of gastric juice. It should be given only in small doses and in a well diluted form.

Given in small amounts, not in concentrated form, it increases the power of the stomach to digest food. This it does by increasing the nervous and blood supply of the organ, but if given in large doses, in the concentrated form, the opposite effect will be produced. It precipitates the albumen and retards digestion. After great exhaustion in the decline of life, with general depression, food digests poorly, and the patient may be benefited by an ounce of whisky to one of water.

Alcoholics are good agents in all rapidly exhaustive diseases of the respiratory organs, in phthisis especially, if given with cod liver oil. It aids the assimilation of the oil and also prevents the destruction of tissue, thus acting as food to the patient. They act very powerfully on the nervous system and are much used in nervous derangements.

Delirium tremens may be cured by the use of Alcohol when nothing else will accomplish it. Opium and other stimulants will help to accomplish this result. The great objection to the use of alcoholics is that the patient gets the idea that he must have some all the time, hence never give them unless necessary, but in this disease the nervous system must be sustained. Just as soon as the stomach can not take and retain food delirium comes on, and it never comes on when the patient is able to take food. So in these cases give just enough to sustain the nervous system and no more. The patient must also have sleep. Give an ounce of whisky, alone or in milk, every hour or two until he is improved enough to do without it.

In vomiting from atonic conditions of the stomach or preg-

nancy alcoholics are valuable. In severe and persistent vomiting of pregnancy give the patient a small glass of sherry wine before getting up in the morning and subsequently give a light breakfast. This method is quite efficient. We place much reliance on alcoholic stimulants in typhoid fever and other low forms of disease. They are not necessary in all cases, but in some they are indispensable. About the third week, when there is a tendency to syncope and exhaustion, with low, muttering delirium, the patient must be sustained or he will die. Nothing else gives as good results here as alcoholics. They are best given with milk. Use brandy one ounce to milk three ounces. Give as much as may be necessary, as this varies greatly in different persons. It should never be pushed to the stage of intoxication, as the re-action therefrom might kill the patient. If, under its influence, the pulse becomes slower and fuller, the tongue becomes less dry, delirium becomes less and the patient sleeps better, it is doing good. But if the delirium becomes worse, the temperature increases, the tongue become dry and the pulse more rapid, it is doing harm.

Alcoholics are contra-indicated by severe, darting, throbbing headache, noisy delirium, and suffusion of the skin and eyes. They are to be used in other low forms of fever when there is a rapidly exhausting condition and an irritable and atonic condition of the nervous system.

Good results are obtained from Alcohol in somnambulism, when due to cerebral anæmia, but if caused by determination of blood to the brain it is contra-indicated. It is sometimes given in high fevers and inflammations where the patient has been accustomed to its use. Give small doses. In fact, here it would be dangerous to wholly withdraw the stimulant. Alcoholics are good to prevent inflammation of the internal organs after cold or great exposure. By suppression of the cutaneous function, the blood goes to the internal or-

gans and an inflammation may result. In threatened inflammation of the lungs or pleura give a hot toddy to relieve the internal congestion.

Alcoholics are used as antidotes to snake bites, etc. In this condition they are good medicines in that they sustain the nervous system until the poison is eliminated. Alcohol is a good local application for stings, bites, etc. Applied to a part it hardens the skin and is a good agent to prevent bed sores, etc. Cracked nipples are benefited by it also. Bathe them with brandy and dust upon them bismuth subnitrate. In case of poisoning with Alcohol empty the stomach with the stomach pump and sustain the circulation with inhalations of ammonia, or give teaspoonful doses of spirit of Mindererus. The latter also partly antidotes the poison. In the latter stages of small-pox, measles, and scarlatina, Alcohol may be given when the powers of life seem threatened with exhaustion. In the threatened collapse of Asiatic cholera give brandy. Alcohol is sometimes useful in the treatment of traumatic tetanus.

As a beverage Alcohol is injurious in every way, and it should *never* be used except as medicine.

NUX VOMICA.

Nux Vomica.

SYNONYMS.—*Quaker Buttons, Poison Nut.*

BOTANICAL ORIGIN.—The seed of *Strychnos Nux vomica*, Linne; Nat. Ord., *Loganiaceæ*. A native of the East Indies.

CHIEF ACTIVE CONSTITUENTS.—*Strychnine* and *Brucine*.

STRYCHNINA.

Strychnine.

Permanent, transparent, colorless crystals, or a white, crystalline powder, without odor, but intensely bitter to the taste. Soluble in cold water (6700), boiling water (2500), cold alcohol (110), boiling alcohol (12), and chloroform (7), but almost insoluble in ether. On account of the spar-

ing solubility of this alkaloid the sulphate is generally used in medicine.

STRYCHNINÆ SULPHAS or *Strychnine Sulphate*.—White or colorless prismatic crystals, devoid of odor, but having, even in dilute solution, an intensely bitter taste. This bitterness is perceptible even in so dilute a solution as 1 in 700,000. The crystals effloresce in dry air. Soluble in cold water (50), boiling water (2), cold alcohol (109), and boiling alcohol (8.5). Sulphate of Strychnine should be kept in well-closed vials.

Nux vomica is the seed of the *Strychnos Nux vomica*, found growing in the East Indies. The bark is also poisonous to men and animals. The seeds are round, about an inch in diameter, and are sometimes called "dog buttons." The surface of the seed is covered with fine hairs and is of an olive-green or gray color. It is very firm and can hardly be pulverized, and its taste is extremely bitter. Its principal alkaloid is Strychnine. The alkaloid in large doses produces irritation of the stomach, and a sense of heat and burning and inflammation of this organ. In small doses it is tonic, increasing the appetite, secretions, and digestion. In poisonous doses it causes rigidity of the muscles, the gait becomes unsteady and tottering, convulsions come on, and the patient dies from suspended respiration, or spasm of the respiratory muscles, or of the glottis. Its effects are the same, no matter how it is introduced into the system, differing only in the amount taken. It stimulates the nerve centers to exhaustion. In the lower animals if applied to the nerves it produces no effect, but if applied to the medulla it is rapidly poisonous. If plants are watered with it in solution it kills them. In small doses it is the very best tonic in the materia medica. It increases secretion in atonic conditions, if deficient, and diminishes them when excessive from the same cause. Hence it is equally valuable in con-

stipation or diarrhœa, since they may both result from an atonic condition of the intestinal tract.

In small doses *Nux vomica* arrests vomiting and nausea. Some cases yield very rapidly to it while others do not. It arrests vomiting from gastric irritability, but it does not arrest it when it results from irritable matter in the intestinal tract. Use it in atonic conditions, but it will do no good in inflammatory conditions. It is a very good drug in chorea, cholera morbus, and cholera infantum. It is useful in many troubles of the liver, spleen, and portal circulation. It is indicated by a feeling of fullness in the right hypochondrium, pain in the side or shoulder, yellow color of the face, eyes, and coat of the tongue. In brief it is the remedy for atony and not irritation.

Nux is a remedy for biliousness, and gastric and intestinal pain, when due to atony, but never when produced by inflammation or determination of blood. It is very efficient in the treatment of typhoid and asthmatic conditions, with impairment of the spinal innervation and difficult respiration. It is adapted to those cases where it takes will-power to keep up the breathing. The patient breathes by voluntary effort when awake, but is suddenly aroused by a sense of suffocation if he drops into sleep. Specific *Arnica* is also indicated in similar conditions.

Nux is the very best remedy known in such cases. It many times removes these conditions even when we think them beyond its reach. The sense of taste, smell, and hearing having been impaired by functional or nervous diseases, and not by organic change, have been recovered by its use after having been lost for a long time. Prolapsus of the anus is often benefited by *Nux*. Heartburn is relieved or radically cured by it. Use it in cases in which there are sour or bitter eructations from the stomach, since this is the result of atony. It is generally indicated in atonic conditions

of the digestive tract. Use it for painful distensions of the stomach after eating, or for chronic vomiting after eating.

R. Specific Nux Vomica, gtt. v.
Aqua, fl ℥ iv. M.

Sig.—Dose, a teaspoonful after eating.

In the dyspepsia of drunkards it is the very best remedy known. Give one drop of Nux after each meal, and if necessary small doses between meals. It lessens the craving for stimulants. Some cases of colic are cured by it, but Colocynth cures many times when Nux fails. In spasmodic colic after obstinate constipation of the bowels Nux is again the remedy. It relieves the pain and promotes the evacuations. For hepatic colic, with nausea and vomiting:

R. Specific Nux Vomica, gtt. x.
Aqua, fl ℥ iv. M.

Sig.—Dose, a teaspoonful every fifteen minutes.

Chronic diarrhœa is many times cured by this remedy alone. Use it when the skin is sallow, atony marked, and anæmia prominent. Take from five to ten drops in four ounces of water, giving a teaspoonful three or four times a day. It is a good remedy in constipation with liver troubles, as torpor of that organ, and when the patient is pale. In jaundice, especially in the chronic form, it is an excellent remedy.

Many times Nux is a good emmenagogue. In amenorrhœa, with marked anæmia and torpor, give it with iron. If constipation exists use the following:

R. Aloe, gr. j.
Iron by Hydrogen, grs. ij.
Ext. Nux Vomica, grs. $\frac{1}{4}$.

Make into a pill.

Sig.—Give one pill three times a day.

It is a good remedy in dysmenorrhœa, where the discharges are premature and accompanied with crampy pains

and chilly sensations. In these cases it is very efficient. Give it in alternation with Pulsatilla. Do not mix them. Again it is a good agent in menstrual colic with sharp, crampy pains and marked atony; Colocynth may also be required. It cures the toothache of pregnant women when the pain is not due to decayed teeth, and it also relieves the vomiting of pregnancy. It gives very good results in leucorrhœa, with marked atony, very profuse yellow discharges, associated with burning of the fauces at the time of the menstrual flow. Use five drops of Nux vomica to four ounces of water in teaspoonful doses three times a day, and inject alum water night and morning. Prolapsus uteri is sometimes relieved by it.

Nux is a tonic to the urinary organs, and may be used in atonic conditions of these organs, being especially valuable when given in paralytic retention of urine. It gives tone to the muscles of the bladder and thereby relieves the retention.

It is of service in vesical catarrh and in the nocturnal incontinence of urine, indicated in both by atony. Nocturnal seminal emissions are relieved by it.

It is also a stimulant to the reproductive system of man, and increases venereal appetite. For impotence, if desirable, Strychnine may be used here instead of Nux vomica. Use this permanent solution:

Dissolve four grains of Strychnine in one and one-half ounces of water, with enough dilute hydrochloric acid to make it soluble; to this add one ounce of alcohol and one and one-half ounces of water. Give this in water. This is a very good solution if minute doses of Strychnine are desired. If the desired dose be one-thirty-second of a grain of Strychnine take one ounce of this solution to three ounces of water and give a teaspoonful of the solution. The ordinary dose of Strychnine is from one one-hundredth to one-twentieth of a grain. It is a good agent in facial neuralgia. Dose,

one-sixty-fourth of a grain three or four times a day. It is very valuable in obstinate cases of ague or when a very powerful tonic is needed. Then use the following:

R. Solution of Strychnine,
Tr. Chloride of Iron, *aa.* fl ʒ ij.
Sulphate of Quinine, ʒ j.
Cinnamon Water,
Syr. Simplex, *aa.* fl ʒ ij. M.

Sig.—Give one or two teaspoonfuls every three hours.

If more Strychnine is wanted add more of the solution. Give this in obstinate cases of ague or neuralgia or when a thorough tonic is wanted. Strychnine is a very important medicine in the treatment of paralysis. If the trouble depends on an active inflammatory condition it is not beneficial, but if the trouble is reflex, as from sexual abuse, drunkenness, excessive use of tobacco, or lead poisoning, it is the remedy. Here give it in doses of one-sixtieth to one-thirtieth of a grain three or four times a day. It is valuable in many obstinate cases of spasmodic asthma. Administered in chorea, Strychnine at first slightly increases the muscular twitching and activity, and afterwards improves the patient's condition and proves curative. In the use of Strychnine remember it is very powerful in large doses and its effects must be carefully watched. Should convulsions or twitching of the muscles occur, stop its use. In poisoning by it give an emetic or otherwise evacuate the stomach, subdue spasmodic action by chloroform, morphine, etc., give fats and animal charcoal, and also give bromide of potassium in drachm doses at short intervals. Keep the patient perfectly quiet.

IGNATIA.

Bean of St. Ignatius.

BOTANICAL ORIGIN.—The seed of *Strychnos Ignatia*, Lindley; Nat., Ord., *Loganiaceæ*. Phillippine Islands.

Like *Nux vomica* this agent contains Strychnine and Brucine, and is a valuable stimulant and tonic. Its uses are practically those of *Nux*, but the drug is not so powerful in action. It has been asserted that it is more efficient than *Nux* in disorders of females where a stimulating tonic is desirable. *Ignatia* may be thought of when a patient presents with marked twitching of the facial muscles. Use the small dose.

R. *Ignatia*, gtt. xv.

Aqua, fl $\frac{5}{8}$ iv. M.

Sig.—A teaspoonful every two or three hours.

OLEUM TEREBINTHINÆ.

Oil of Turpentine.

SYNONYMS.—*Spirit or Spirits of Turpentine.*

BOTANICAL ORIGIN.—An oil distilled from Turpentine, an oleoresinous product of several species of *Pinus*, notably *Pinus palustris*, Miller; Nat. Ord., *Coniferæ*. Northern Hemisphere.

DESCRIPTION.—Only the rectified oil of Turpentine (*Oleum Terebinthinæ Rectificatum*) should be employed for internal use. It is a perfectly colorless fluid, having a mild but distinct odor and a peculiar terebinthinate taste. Turpentine becomes less agreeable in odor by age. It is slightly soluble in water. Ether and boiling alcohol readily dissolve it, the oil precipitating from the latter on cooling. Alcohol (3) and glacial acetic acid (1) also dissolve it.

This is a volatile liquid obtained from the sap of several varieties of pine trees, natives of America. The unrectified oil is nearly colorless and possesses a peculiar odor and taste. It becomes thick and dark on exposure to the air. The properties of turpentine are stimulant and anthelmintic, diuretic and cathartic, antispasmodic and astringent. Applied to the skin, in ten minutes a sense of burning is felt and the skin becomes red. In half an hour vesication results. If taken

in large amounts it causes vertigo, chilly sensations, etc., the pulse is greatly increased, the mouth becomes dry and parched, respiration is impeded, and death results. The urine passed is dark or bloody, and if the patient recovers, the nervous system remains very irritable.

In small doses Turpentine produces a sensation of warmth in the stomach, increases the pulse-rate and gives the urine a violet odor. In low forms of fever small doses are used as a stimulant. Thus in typhoid fever, or when typhoid symptoms are present, it is the very best remedy known for this purpose. Use it when the tongue is dry and red, the pulse feeble, the intestinal glands ulcerated, or enlarged and tender, the abdomen distended, and the mind wandering. Give ten drops in emulsion of Acacia every three hours. It is a good drug to prevent or subdue hemorrhage from the intestines in typhoid fever, given in ten drop doses every three hours. It is valuable only in atonic hemorrhage, but it is not the remedy when the pulse and circulation are strong. It is a very good anthelmintic, few agents being more certain. For this purpose give it in doses of one fluid drachm with a tablespoonful of castor oil the first thing after getting up in the morning. This seldom fails. It relieves epilepsy when caused by the presence of worms.

As a local application Turpentine may be used as a rube-facient or counter-irritant. It is also very effective in puerperal peritonitis. Take a flannel cloth large enough to cover the abdomen, dip it in hot water, wring it out and cover it with Turpentine and apply it to the abdomen. Change it every two or three hours. In congestion of the internal organs use it in the same way or with equal parts of sweet oil, rubbing it on with the hand.

Turpentine is also employed for its influence on the urinary organs, it being a certain diuretic. It stimulates the kidneys very powerfully, and, if given in large doses, arrests their

function, but in small doses it is perfectly admissible. Use it in atonic conditions of these organs when they are inactive and imperfectly performing their functions. Dose, ten to fifteen drops every three hours. It may be given with advantage in the second stage of gonorrhœa. With sulphuric ether it is very useful in the treatment of biliary calculi. Use equal amounts and give a teaspoonful every morning before eating. Turpentine is a good application to burning chilblains and some suppurative diseases of the auditory canal. Apply it to chilblains only when the skin is not broken. Rubbed upon neuralgic or rheumatic parts it stimulates and relieves pain.

When taken in small amounts the kidneys eliminate this oil, but in large amounts it is eliminated by the bowels. Turpentine is contra-indicated in all active inflammatory conditions of the urinary organs.

The following forms a very good liniment:

R. Olive Oil,
Laudanum,
Camphor,
Turpentine, *aa.* q. s. for the desired amount.

PHOSPHORUS.

Phosphorus.

DESCRIPTION. A semi-transparent solid, as usually found in commerce, perfectly colorless when pure, and possessing a peculiar, disagreeable, alliaceous odor. It usually occurs in cylindrical, flexible sticks, which exhibit, when cut, a wax-like lustre. Exposed to the air it gives off white fumes, which are luminous in the dark, and possess the garlicky odor in marked degree. It has a peculiar and characteristic taste, but should never be tasted except in a greatly diluted state. It is practically insoluble in water, in which fluid it is always kept. It is very soluble in chloroform and carbon disulphide, but is extremely liable to take fire when dissolved

in the latter. Absolute alcohol (350), boiling absolute alcohol (240), absolute ether (80), and the fatty oils (about 50) dissolve it.

This element was discovered by Brandt, of Europe, in 1669. It is obtained from the ashes of bones burned in the open air, and to which sulphuric acid, water, and charcoal are added. In the human body it is found in the bones and brain. In preserving it, it must be kept in tightly stoppered bottles in cold water and in a dark place.

The best preparation to use is specific Phosphorus, though several preparations are on the market. If it is desired in large doses it may be given in capsules, otherwise use the foregoing or a tincture. A good tincture is made by macerating fifteen grains of Phosphorus in one ounce of strong alcohol. Let it macerate thirty days with occasional agitation. This makes a saturated tincture, though all the Phosphorus is not taken up by the alcohol. This preparation and the first and second decimal dilutions are all very good preparations. Small doses do the most good.

Very large amounts of Phosphorus produce violent inflammation of the stomach and intestines, pain, vomiting, and death. In case of Phosphorus poisoning give an emetic of sulphate of copper in doses of three grains every five minutes. It acts both as an emetic and an antidote, forming phosphide of copper. Also give copious draughts of water with magnesia. Turpentine also forms a partial antidote.

Phosphorus is a powerful general stimulant and nerve tonic, and is useful in diseases attended with great prostration of vital power. It bears the same relation to the nervous system that iron does to the blood. It is a good stimulant to the venereal organs, strengthening sexual appetite and curing sexual weakness. In the treatment of diseases from sexual abuse, as in involuntary seminal emissions with marked atony and morbid irritability, it is the very best

remedy known. It is good in chronic nephritis and all atonic and irritable conditions of the kidneys and bladder, when the urine is milky. Use of the first decimal dilution from ten to thirty drops added to four ounces of water. Teaspoonful every three hours. It is used for its influence on the urinary and reproductive apparatus to relieve vesical and prostatic irritation.

Use Phosphorus as a nerve stimulant. In some cases of nervous derangement its influence is remarkable. In certain cases of rheumatism it is a very good drug, but generally it is not the remedy for this complaint. It is adapted to those cases in which there is great debility of the nervous system, attended with great pain, which suddenly subsides, producing rheumatic headache. Use of the second dilution from ten to twenty drops in four ounces of water. Dose, a teaspoonful every three hours. Phosphorus is invaluable in certain respiratory disorders. It gives good results in pneumonia. In the first stage it is not so useful as Aconite, nor does it act as well as Bryonia in the second stage, but in the third stage it is a very good agent. Use as above directed. In typhoid pneumonia, the more alarming the disease and the weaker the patient, the more strongly is Phosphorus indicated. It is a good agent in chronic pneumonia with secretion of mucus, pus, and blood, and when the patient is threatened with phthisis.

If properly used in such cases, it may save many lives, Administer either phosphorus or the hypophosphites. In chronic bronchitis, with bloody and mucous expectoration, it may be used with great advantage. In chronic laryngitis, with great dryness of and sensation of heat in the throat, and great depression of strength, it gives good results. Use it as a vital stimulant in low forms of fever, with muttering delirium, and loss of consciousness, attended with involuntary alvine and urinary discharges. Here give teaspoonful doses

of a mixture of three or four drops of the specific preparation in four ounces of water.

R. Sp. Phosphorus, gtt. x.
Aqua, fl $\frac{1}{2}$ iv. M.

Sig.—Teaspoonful three or four times a day.

It has a marked influence on the glandular system. For the condition producing enlarged glands it is a good alterative. Use it in scald-head, fistula, carious bones, etc., in scrofulous subjects. It is a very good drug in some bowel troubles, especially if the patient is scrofulous. Chronic diarrhœa, in scrofulous or phthisical patients, is greatly benefited by it. Associated with iron as an emmenagogue in chlorosis, it acts well in scrofulous females. It is a good constitutional remedy in nasal catarrh. Use it in the diarrhœa of phthisis when other medicines are unavailing. Employed in the scrofulous types of eye diseases, such as chronic conjunctivitis, and in amenorrhœa, dysmenorrhœa, and leucorrhœa, of the same class of patients, good results may follow the exhibition of phosphorus.

In fatty degeneration of any organ Phosphorus is the best remedy known, although like every other remedy it will sometimes fail to cure. Prominent among these are degenerations of the heart, brain, and spinal cord. In fatty degeneration of the liver, with a bloodless, waxy appearance of the face, it is the very best remedy. It is of great utility in malignant jaundice, with great prostration and delirium. In paralytic conditions of the system much may be expected from its use. When the trouble depends on a functional derangement of the spinal cord this is better than Strychnine. In many troubles of a nervous character, attended with pain, this is the remedy. Give one-sixtieth grain twice a day. Thus we use it in long-standing cases of neuralgia, which have long resisted treatment, though it sometimes fails. It is, as a rule, a good remedy in epilepsy. Use it when there is

great nervous exhaustion, and especially when it depends upon sexual abuse. For this condition it is the best single remedy with which we are acquainted. Take from twenty to thirty drops of the tincture in four ounces of water, giving a teaspoonful every three hours. It is a good drug for muscular weakness, as in children that are slow in learning to walk. Give minute doses of the 1x dilution; if anæmic, associate it with some form of iron.

Churchill says: "Tuberculosis results from a lack of Phosphorus in the blood, and this remedy is a specific in that disease." Whether this be true or not it certainly is a very good remedy for this condition. Use the syrup of lactophosphate of calcium. It is the best preparation to employ in this disease. Of this use one drachm three times a day.

Iron and hypophosphite of calcium are also very good agents. The latter is soluble in six times its weight of cold water. Give doses of from three to five grains three times a day.

MYRICA.

Bayberry Bark.

SYNONYMS.—*Wax Myrtle, Candleberry, Waxberry.*

BOTANICAL ORIGIN.—The bark of *Myrica cerifera*, Linne; Nat. Ord., *Myricaceæ*. North America.

This is a native shrub, growing from one to two feet high. Its bark is gray and when chewed excites the secretions of the salivary glands. Its leaves are aromatic and astringent. It grows from Canada to Florida. We use a tincture of the recent bark of the root. Use eight ounces of the root bark to sixteen ounces of 70 per cent. alcohol. Dose from five to twenty drops.

This drug is a general stimulant, but it is also a specific stimulant to all mucous surfaces. As such it is used in atonic conditions of these membranes with increased secretion. Give small doses. In large doses it is emetic. It is a good remedy

in atonic diarrhœa and dysentery, with great feebleness of the circulation, but should not be used in acute cases.

Bayberry is of value in atony of the cutaneous vessels. For atonic leucorrhœa and amenorrhœa it is one of our very best constitutional remedies. For this purpose a weak infusion may be used as an injection, and the tincture administered internally.

In scarlet fever Bayberry is a good general stimulant. As a topical application to the throat in this disorder, especially in the latter stages, when the tissues are much swollen and enfeebled, it acts both as a stimulant and antiseptic. For sore mouth and soft, flabby, bleeding gums it makes a good application. Old ulcers are improved by its use. Use it as a wash, or with powdered elm as a poultice. It is a favorite remedy among botanic physicians.

HEDEOMA.

Pennyroyal.

BOTANICAL ORIGIN.—The tops and leaves of *Hedeoma pulegoides*, (Linne) Persoon; Nat. Ord., *Labiata*. Common in dry situations in the United States.

This herb is stimulant, diaphoretic, and emmenagogue. It may be profitably used much more than it now is. Employ a tincture or the infusion. Make a tincture by using eight ounces of the green leaves to one pint of dilute alcohol. Dose, a teaspoonful.

When thus used Pennyroyal is very efficient to restore the cutaneous function, suppression of menses, etc., when due to colds. Use for this purpose one-half drachm in warm water every three hours. Its influence is less stimulant than tonic, and the infusion is less stimulant than the tincture. In fevers and rheumatic affections when the tincture is too irritating use the infusion.

When it has fully acted on the secretions in these complaints the circulation improves and the pain is relieved. In

the suppression of lochia a teaspoonful of the tincture in hot water is efficient in restoring it. Give this dose every hour or two. If the infusion is used, and it should be used where there is much febrile excitation, the tincture being too stimulating, give wineglassful doses. It is a good topical application in rheumatism. Oil of Hedeoma and alcohol, equal parts, applied with gentle friction over the part affected, give great relief.

ASARUM.

Wild Ginger.

SYNONYMS.—*Canada Snakeroot, False Colt's-foot, Broad-leaved Asarabacca, etc.*

BOTANICAL ORIGIN.—The rhizome of *Asarum canadense*, Linne; Nat. Ord., *Aristolochiaceæ*. Grows in the rich soil of woodlands throughout North America as far south as North Carolina.

This is a native plant found growing in shady places. The rhizome is the part used. Its odor is aromatic, and its taste bitter. Its properties are stimulant, carminative, emmenagogue, and diaphoretic. It was highly esteemed by the Indians as a parturient and as an abortive. It is a good stimulating diaphoretic, and resembles *Serpentaria* in its action, giving force to the circulation, and restoring the functions of the skin.

Asarum is useful in atonic dysmenorrhœa and flatulent colic. It is a good parturient when the uterus is feeble. It should not be administered in early pregnancy, as it might cause abortion. In low forms of fever, it proves a good tonic and stimulant. Dose of the tincture, from one to two drachms. (Tincture made from two ounces of root to one pint of dilute alcohol.) Of the infusion give a wineglassful made of the strength of one ounce of the drug to one pint of water. This drug is contra-indicated in active inflammatory states.

RHUS.**Poison Ivy.**

BOTANICAL ORIGIN.—The fresh leaves of *Rhus radicans*, Linne. (This species and *R. toxicodendron* are now regarded as identical.) Nat. Ord., *Anacardiæ*. North America, west to the Rockies and south to Texas.

SPECIFIC RHUS.—This preparation is made of fresh, undried *Rhus toxicodendron* leaves, gathered when mature, and at once manipulated. It is very concentrated, and must be used with caution. The acrid, poisonous constituents are volatile, and the vapor of the specific is irritating to some persons. Specific Rhus, when fresh, has a deep-green color, which gradually changes to brownish or yellowish green. It should be made fresh each season.

This is a native shrub growing in woods and shady places. Its leaves are alternate, and made up of three leaflets, two to four inches long. Its flowers are small, greenish white, and its fruit a green berry. It is found as a climbing vine, and is known as *Rhus radicans*, and as a low shrub-like plant when it is known as *Rhus Toxicodendron*, though botanists think the two merely varieties of the same species. Its active principle resides in the leaves and branches. When they are broken a yellow-white juice exudes, which turns black in the air. It emits its poison in the air around it when broken, or the poison may be so intense as to impregnate the air without the plant being broken. The poisonous principle is 'Toxicodendric acid'. Cows and goats eat the leaves with impunity, but it is poisonous to dogs. In man, if large amounts be taken, it is an acro-narcotic poison, but in small doses it is a general stimulant.

It has a very decided action on the skin and urinary organs, greatly increasing their functions. Its poisonous action on the skin may be produced by its internal administration. Contact with the skin is sufficient to poison some persons, while others are not at all affected by it. Its

effluvia is more intense when mixed with dew or other moisture, and many are poisoned by this means. When its poisonous action results it is manifested by a sense of itching, increased redness and inflammation of the skin. In some the eruption is excessive, and again it occurs in patches. Small vesicles appear and increase in size, being filled by a watery fluid. This sometimes becomes yellow like pus. After maturation of the vesicles they rupture, and a yellow scab is formed. The itching generally ceases when the vesicle ruptures. During its progress the arterial system is affected, there is an increased pulse, white tongue, burning and itching, intense headache, and even delirium. In some individuals the poison reproduces itself from month to month and from year to year, even though persons be far from the presence of the plant.

This is a very valuable remedy when indicated. For most troubles we prefer a 1x dilution of the specific Rhus. Many brain troubles are benefited by it. In cerebral irritation, when the face presents a pinched appearance about the eyes, and pulse is sharp and frequent, and, if in a child, it awakens suddenly from sleep with a sharp cry, Rhus is the remedy. For pain in the forehead, burning in the eyes or surface of the skin, with sharp pulse, and papillæ prominent on the tip of the tongue, give Rhus, no matter what the name of the disease may be. It is indicated by a frequent, small, sharp pulse, red mucous membranes, sordes on the teeth, tympanic abdomen, and acrid discharges from the bowels and bladder. Thus it is a very good remedy in some cases of typhoid fever. It is frequently indicated in other diseases with typhoid symptoms. It is also indicated in many cases of inflammation with bright redness and tumidity of the tissues, as in erysipelas, especially of the face, and in very young children. When the indications as given above are present, it is an absolute specific. In many inflammations, attended with an ichorous discharge, it is a very good remedy.

In the treatment of old ulcers, with indurated, glistening edges, administer Rhus. In these cases the tissues seem to melt away without sloughing. In carbuncle, as constitutional treatment, it seems to be very effectual. Rhus influences the glandular system. It may be employed for the cure of the tumid, red, and glistening swellings of syphilis. Here it will seldom disappoint. Few remedies are better than this when we have swelling of the submaxillary gland, especially where the induration is very hard. It is of service in mumps. It is a good agent in scrofula and scrofulous ophthalmia, with inflammation of the lids, burning and increased lachrymal secretion, with sensation as of sand in the eye.

R. Specific Rhus, gtt. x.
Aqua, fl \bar{z} iv. M.

Sig.—Dose, a teaspoonful every hour in acute cases; three or four times a day in chronic cases.

Rhus is of much value in low forms of fever, and in typhoid pneumonia, with red, glazed tongue and bad smelling expectoration of blood and pus. Rhus may be given in small-pox, with foul discharges and livid color of the skin; and in scarlatina and measles, with great depression of the vital powers. In purpura hemorrhagica, with iron, it is very efficient. Use it in the various forms of herpes, when there is burning and exudation of serous fluid, with itching. It is very efficient in these cases. It is a better remedy in acute inflammations of the skin than Aconite. In some cases of rheumatism it is the remedy. When the patient suffers most when at rest and when the body is warm, use Rhus, but if the patient suffers most when in motion, Bryonia is better. It is more useful in acute than chronic cases. It is also valuable in rheumatic paralysis. For the after-effects of rheumatism, such as stiff joints, useless and partially paralyzed limbs, it may be given with confidence. Toothache,

aggravated by warmth, or by warm fluids in the mouth, and associated with rheumatism, is cured by Rhus. Use the first decimal solution of the specific medicine. Of this use the following:

R. Rhus, 1x, gtt. x. to fl $\bar{3}$ j.

Aqua, fl $\bar{3}$ iv. M.

Sig.—Teaspoonful every hour or two in acute cases. In chronic cases give it twice a day.

ARNICÆ FLORES.

Arnica Flowers.

SYNONYM.—*Leopard's Bane.*

BOTANICAL ORIGIN.—The flower-heads of *Arnica montana*, Linne; Nat. Ord., *Compositæ*. Mountains of Siberia and Europe, and mountainous districts of the northern sections of this country west of the Mississippi River.

SPECIFIC ARNICA.—This preparation has a yellowish-green color, and is a very fine representation of the flowers. It possesses the fragrant odor of Arnica and imparts the flavor of Arnica to water. It is too concentrated to be used without dilution, either with water or diluted alcohol.

This is a perennial herbaceous plant, a native of Northern Europe. Its flowers appear in August, on the stalk, which is one foot high, and they are of a bright golden-yellow color. They are aromatic and possess an acrid, nauseous taste. The tincture is prepared from the flowers.

Arnica is a stimulant nervine and diaphoretic, and in large doses an acro-narcotic poison. It is a specific stimulant to the spinal nervous system. It is very good in diseases where there is a lack of ability to control the urine and fæces, its effects being produced very rapidly. Give it in doses of a fraction of a drop to five drops. It often renders good service in anæmia, when no inflammatory symptoms are present, and when associated with weak pulse and feeble circula-

tion, attended with general debility, and especially if attended with diarrhœa or dropsy. For this use a weak dilution. Prepare a tincture as follows:

R. Arnica Flowers, \bar{z} ij.
Dilute Alcohol, O j.

Macerate two weeks and filter, add enough alcohol to make one pint. Dose, one to ten drops.

Arnica is very much like phosphorus in its effects, and is a good drug in sexual debility from sexual abuse, and in paralytic conditions, as paralysis of the bladder, with no active inflammation, and especially when occurring in old persons.

Arnica is the best known remedy for paralysis of the optic nerve, generally called amaurosis. It is valuable in low forms of such diseases as typhoid fever, typhus fever, diarrhœa, dysentery, etc. In typhoid pneumonia, with dry tongue covered with foul mucus, great depression, and low, muttering delirium, it is a very good agent, when there is alarming depression and difficult respiration. Give it with an infusion or syrup of Senega—a teaspoonful of the latter and two or three drops of Arnica. This makes a good expectorant and vital stimulant. It is indicated generally in typhoid states. In doses of two or three drops every fifteen minutes it cures some cases of nervous headache. It is adapted to those cases in which there is marked depression and debility.

Arnica is a remedy for hectic fever, with colliquative sweating or diarrhœa. Few remedies are more reliable for relieving pain and muscular soreness from strains, over-exertion, etc. Give small doses of it internally and apply a weak solution of it externally. It is a good drug in gout and rheumatism, when the pulse is very slow and weak, and the skin cold. It increases nerve force, arouses the circulation, and increases the action of the excretory organs.

As an external application Arnica is very valuable, but it should not be used in full strength, or it may induce erysipelas through its irritant action, in patients with tender skins. The infusion is best for this purpose, and if properly used no danger attends its employment; or specific Arnica, one part to five of water, may be used. Apply this to contusions, bruises, cuts, lacerations, etc., and give small doses internally also. Make the infusion of the strength of one-half ounce of the flowers to one pint of hot water. Dose of this, from ten to thirty drops. The dose of the specific medicine ranges from a fraction of a drop to five drops. Never employ large doses of Arnica in any form.

MYRRHA.**Myrrh.**

BOTANICAL ORIGIN.—The gum-resin obtained from *Commiphora* (*Balsamodendron*) *Myrrha*, (Nees) Engler; Nat. Ord., *Burseraceæ*. East Africa and Southwest Arabia.

This agent has been used since the earliest history of medicine, and was brought as an offering to the infant Jesus. It is a gum-resinous exudation obtained from a tree, a native of Africa and Arabia. Its properties are stimulant, expectorant, emmenagogue, and diaphoretic. It may be given in doses of from ten to twenty grains. It is stimulant to the digestive organs, increasing the digestive power of the stomach and the desire for food. In large doses it causes heat and burning in the stomach, and produces profuse diaphoresis and great prostration. It has the property of diminishing discharges from the mucous membranes, especially of the respiratory and urinary passages. As an expectorant it is a very good remedy. It acts best when combined with other agents. By using it with other remedies, such as squill, their action is increased, and a result is obtained that can not be brought about by either administered alone. As such it is very useful in chronic affections of the respiratory or-

gans, as chronic bronchitis, with exhausting and unhealthy secretions and relaxed mucous tissues, without great arterial excitement or fever. For this use the following:

R. Syr. Prunus Vir.,
 Syr. Senega, aa. fl $\bar{3}$ ij.
 Comp. Tr. Myrrh and Capsicum (No. 6.), fl $\bar{3}$ ij. M.
 Sig.—Teaspoonful every three hours.

This is one of the best stimulative tonics and alterative expectorants in use. It lessens the cough and expectoration, reduces the mucous secretion, has a kindly action on the stomach, and sustains the strength of the patient. It is a very good form of administration in asthma, especially in old people. It prevents the exhaustion consequent from profuse expectoration. In this case use it as above directed.

Myrrh, though not very efficient as an emmenagogue when used alone, when employed with other remedies, as iron, Aloes, etc., increases their action and gives to the combination powers not possessed by any of the ingredients used separately. In amenorrhœa use the following:

R. Powd. Myrrh, grs. xxx.
 Aloes, grs. x.
 Macrotin (or Cimicifugin), grs. x.
 Make twenty pills.
 Sig.—Give one or two pills three times a day.

This pill is especially useful if constipation accompanies the uterine torpor.

Myrrh is a good remedy in atonic dyspepsia, with flatulence and frequent mucous evacuations from the bowels. Give it with some of the simple bitters, as Myrrh and Gentian, equal parts, in doses of from five to twenty drops. If nervous symptoms are prominent add Valerian so as to give equal parts of the three.

Myrrh may be exhibited with advantage in pulmonary catarrh, with excessive mucous secretions. It is a good agent

in chronic mucous flux from the digestive or urinary organs, employed alone or with some astringent.

Myrrh is valued internally and externally as a local application. It is a powerful deodorant and has no bad odor in itself. It is good for dressing wounds that are slow in healing, or those with granulations imperfect. It stimulates the growth of the granulations and changes the disagreeable character of the pus. In these cases the bowels and stomach are weak, and Myrrh is good to sustain their proper tone. In many conditions of sore throat and mouth, as swelling of the gums, apthous sore mouth, bad breath in dyspepsia and scorbutus, it acts as a topical stimulant and excellent deodorant. Use two drachms to four ounces of water, as a wash or gargle. This is also a good application for malignant sore throat, etc. Dose of powdered Myrrh, from five to ten grs.; of the tincture, from twenty drops to one drachm; of specific myrrh, from five to thirty drops.

CAPSICUM.

Cayenne Pepper.

SYNONYMS.—*African Pepper, Bird Pepper, Pod Pepper.*

BOTANICAL ORIGIN.—The dried ripe fruit of *Capsicum fastigiatum*, Blume; Nat. Ord., *Solanaceæ*. Thought to be indigenous to tropical America, and now cultivated throughout the tropics.

This is an annual plant, a native of the West Indies, but it is grown in the United States and Europe. Its fruit is a pod of red or dark orange color. It is a pure stimulant, carminative, and rubefacient. In large doses, as a teaspoonful of the powder, it acts as a pungent, acrid stimulant, and produces a sensation of heat, burning, and local irritation. In proper doses it is a powerful stimulant, arousing sensibility and promoting secretion. The vascular excitement attending its use does not correspond with its local action, as it quickens the pulse but little or not at all.

Capsicum improves the appetite and digestive power, hence it is a good remedy in atonic dyspepsia, and may be sprinkled on the food as a condiment, though other agents are better. It is a good stimulant in many paralytic conditions of the system when there is great torpor of the nervous system and the digestive organs, without organic change. Use it in flatulence from indigestion in doses of from five to ten grains. This causes the bowels to contract and expel the wind.

Capsicum is a very good drug in atonic conditions of the upper part of the throat. Many cases of hoarseness may be cured by it, especially from atony of the vocal cords. It is a very good remedy in some cases of hæmorrhoids, with a lax habit of body and torpor with constipation. These are cases in which aloes are useful, but do not give capsicum in recent cases, or where there is marked burning sensation in the rectum.

R Capsicum, gr. ij.

Aloes, gr. $\frac{1}{4}$. M. Make one pill.

In malignant intermittent fever Capsicum is a very important remedy, sometimes being as effective as quinine. Use it in doses of ten to thirty grains with quinine. It is valuable in tonsillitis if employed early. Gargle the throat with an infusion, and in many cases it will abort the inflammation. If it does not abort the disease, do not give it again until the active inflammation is subdued, and then administer it as a stimulant and tonic to the mucous surfaces. Low or inactive inflammatory fever, with a relaxed condition of the tissues and blood-vessels, is benefited by it. It is very valuable in the atonic dyspepsia of drunkards. Use it with Rhubarb in doses of five grains each.

It is useful as a gargle, or applied with a swab, in the sore throat of scarlet fever. It is very valuable in delirium tremens, being one of the very best agents in the *materia medica* for this condition. Give it in doses of from ten to twenty

grains every three hours. A very good preparation is the following :

R. Myrrh, $\bar{3}$ ij.
 Capsicum, $\bar{3}$ ss.
 Dilute Alcohol, O ij. M.
 Sig.—Dose, from two drops to one drachm.

This preparation is known as the Compound Tincture of Myrrh, or No. 6, of the Thomsonians, and is a very powerful diffusible stimulant—much more so than Capsicum alone. This is a very good form of administration for cramps in the stomach and bowels, and to arrest diarrhœa. In the collapse stage of cholera it renders great service, applied externally and administered internally.

Use the following preparation whenever the craving for alcoholic drink becomes severe :

R. Comp. Tincture of Myrrh, $\bar{3}$ j.
 Specific Nux Nomicâ, $\bar{3}$ ss. M.

Let the patient have twenty drops in water. This relieves the gnawing and irritation of the stomach.

Capsicum acts as a local stimulant when sprinkled upon indolent ulcers. An alcoholic preparation of it applied with friction gives relief in some forms of rheumatism, as lumbago, etc. A Capsicum plaster may be used like one of mustard. The dose of Capsicum ranges from ten to forty grains.

AMMONII CARBONAS.

Ammonium Carbonate.

SYNONYMS.—*Sal Volatile, Ammonium Sesquicarbonate, Hartshorn.*

DESCRIPTION.—This salt is not a definite compound, but a mixture of acid carbonate of ammonium and carbamate of ammonium. It occurs in crystalline translucent lumps, having a strong, pungent odor of ammonia, and an alkaline reaction. On exposure to air it loses ammonia and carbon dioxide, and leaves an opaque, porous lump (of acid carbo-

nate or bicarbonate), which, as a stimulant, is valueless. It has a sharp and saline taste. Cold water (5) slowly dissolves it. Alcohol dissolves the active constituent (carbamate of ammonium). This salt should be kept in a well closed container, and only the strongly ammoniacal, translucent pieces should be used, and the white and light porous lumps rejected. Hot water decomposes ammonium carbonate.

Boiling water and alcohol decompose this salt with the evolution of carbonic acid gas; the alcohol retains the stimulating constituent. It is stimulant, diaphoretic, expectorant, and in large doses emetic.

In broken-down constitutions, with greatly diminished vitality, when an antacid is needed, this is the best remedy known. Give doses of five grains in a tablespoonful of sweetened water as necessary. It is a very good agent in epilepsy and hysteria, but better in hysteria than in epilepsy. Dose, ten to twenty grains. In epilepsy associated with hysteria, the paroxysms being frequent and not fully developed, and the disease recent, it also gives good results. Asthenic conditions of the reproductive organs, as asthenic amenorrhœa, dysmenorrhœa, etc., are benefited by it. Dose, five grains. In asthenic pneumonia and bronchitis, and in gangrene of the lungs, it is a good remedy. In croup it sustains the strength and promotes the detachment of the membranes. Give from two to five grains to a child. Cancrum oris is benefited by it; give five grains in sweetened water every three hours. It is a good remedy in the eruptive diseases, especially when an alkali is indicated. It neutralizes undue acidity, increases strength, and the eruption is augmented. Use it also in low forms of fever, with great depression, for many times it is better than alcohol, especially where the latter acts as an irritant.

In the latter stage of typhoid pneumonia give this remedy with a cold infusion of boneset. The combination makes a

very good tonic and expectorant, as it lessens the pulmonary secretion, makes the expectoration easier, and sustains the patient's strength. It is a good stimulant in typhoid fever when alcohol is not favorably received. Here it improves the condition of the skin, sustains the nervous system, gives sleep, and produces no cerebral disturbance. When the brain is irritable use Ammonium Carbonate in doses of five grains every two or three hours. It is used as an antidote in cases of snake bites. Here it may well be given with alcoholic stimulants to sustain the patient's strength until the poison may be eliminated. It does not antidote the poison very much. It is the antidote to Digitalis, Tobacco, Aconite, and hydrocyanic acid. Give it internally if possible, or hold it to the nose to be inhaled. Be very careful that you do not cause enough to be inhaled to induce acute rhinitis. This remedy is very often used in sick headache resulting from undue acidity of the stomach. Dose, five grains. It also counteracts the intoxicating effects of alcohol. Empty the stomach and give five grains of the Ammonium Carb. every half hour, Use it in dyspepsia from undue acidity of the blood. This salt is a tonic to the nervous system and may be exhibited in chorea when an antacid is needed. It should not, in any disease, be administered for any great length of time.

If Carbonate of Ammonium be swallowed in poisonous doses give diluted acids, as vinegar or lemon juice, as antidotes.

STAPHISAGRIA.

Stavesacre.

BOTANICAL ORIGIN.—The seeds of *Delphinium Staphisagria*, Linne; Nat. Ord., *Ranunculaceæ*. Indigenous to the Mediterranean section of Europe.

ACTIVE PRINCIPLE.—*Delphinine*.

STAPHISAGRIA SPECIFIC has a greenish-yellow color and

a greasy feeling if rubbed between the fingers. When dropped into water the result is milky, and, if the *Staphisagria* be in large amount, globules of oil separate.

This is a small plant, one or two feet high, of the order of *Ranunculaceæ*, bearing blue flowers. (Our garden Larkspur is a related species.)

Staphisagria is an emeto-cathartic. In doses of from three to five grains it has been used as a vermifuge. The tincture is made from the seed after the fixed oil has been removed.

This is the remedy for chronic inflammation and atony of the genito-urinary apparatus. It should be used for irritation of the testes or prostate and urethra. Add ten to thirty drops of specific *Staphisagria* to four fluid ounces of water and give a teaspoonful every three hours, or less, as may be necessary. Used in this way it is a good remedy for prostaticorrhœa.

It gives relief in some diseases of the eye, as ophthalmia. It relieves the irritation and itching. It is also of service in amaurotic conditions of the eye. When black spots appear before the eyes in reading *Staphisagria* may be given. When the eyes are glued together in the morning, or in scrofulous affections of the eye, it may be used with benefit.

It has a marked influence on the nervous system and sometimes relieves neuralgia of the facial or superficial nerves of the neck. Many female troubles are relieved by it. It is a good agent in amenorrhœa and in some cases of dysmenorrhœa, as when the menses come at greatly prolonged intervals, and are unduly prolonged in period. Hysteria from chronic irritation of the uterus is radically cured by its use. It relieves chronic irritation and catarrh of the bladder. In most chronic cases the following prescription is proper:

R. Specific *Staphisagria*, gtt. x.

Aqua, fl $\bar{3}$ iv.

M.

Dose, teaspoonful four or five times a day.

It is of great value in cases of nocturnal emissions, if the patient is nervous and anæmic. If plethoric give bromide of potassium. It lessens the vomiting of pregnant women. It is also a good agent in seasickness. Staphisagria is clearly indicated in those conditions in which there is a sensation as if a drop of urine were rolling in the urethra; a sensation of incomplete urethral evacuation. It is employed chiefly as a stimulant to the urinary tract.

BALSAMUM PERUVIANUM.

Balsam of Peru.

BOTANICAL ORIGIN.—A balsamic exudation from the trunk of *Toluifera Pereiræ*, (Royle) Baillon; Nat. Ord., *Leguminosæ*. Balsam Coast of San Salvador along the Pacific Slope.

Peru Balsam acts as a stimulant to mucous surfaces. It is adapted to atonic states with free secretions. Its range of usefulness, therefore, will include such disorders of the respiratory tract as chronic laryngitis, and chronic bronchitis; such gastro-intestinal affections as gastric catarrh, intestinal catarrh, and chronic forms of dysentery and diarrhœa. Use it also in long-standing cases of cystitis and urethritis. Give small doses of an alcoholic solution administered in glycerin.

PENTHORUM.

Virginia Stone-Crop.

BOTANICAL ORIGIN.—The root of *Penthorum sedoides*, Linne; Nat. Ord., *Crassulacæ*. Wet situations in the United States.

This remedy has a pronounced action upon mucous surfaces. It relieves irritation and restores normal activity. Its action upon the gastric surfaces resembles that of Ipecac administered for its medicinal effect. The chief use for this agent is to allay irritation of the mucous tissues when there

is chronic inflammation. Nasal catarrh is markedly benefited by it when used by atomization. Dr. Scudder extols it very highly in diseases of the pharyngeal vault, posterior nares, and eustachian tubes. The dose, for its specific effect, should be from a fraction of a drop to five drops of specific Penthorum.

EUPHRASIA.**Eyebright.**

BOTANICAL ORIGIN.—The herb of *Euphrasia officinalis*, Linne; Nat. Ord., *Scrophulariaceæ*. United States in White Mountains and near Lake Superior.

This drug, both in infusion and poultice, exerts a good influence on conjunctivitis. Small doses internally administered seem to influence conjunctival inflammations. It is adapted to catarrhal conditions, and will exert a good influence in disorders of the mucous membranes of both the breathing and digestive organs when of a catarrhal character. It seems to have an affinity for the nasal and lachrymal mucous membranes, and is a remedy for coryza, with thin discharges, especially "snuffles" in infants. It prevents unpleasant eye disorders that are apt to follow in the wake of measles.

OLEUM CAJUPUTI.**Oil of Cajuput.**

BOTANICAL ORIGIN.—The essential oil distilled from the leaves of *Melaleuca Leucadendron*, Linne; Nat. Ord., *Myrtaceæ*. India.

DESCRIPTION.—A thin, light, blue-green liquid, having a peculiar, penetrating odor, and a camphor-like, bitterish, aromatic taste. It completely dissolves in alcohol. When rectified it is colorless. It should be kept in a cool situation in well-closed bottles.

Cajuput is a diffusible stimulant, diaphoretic, and antispasmodic. It is employed where there is great torpor of

the system, with languid circulation. In neuralgia, with marked torpor, it may be used alone or in combination. Use it both locally and internally.

R. Ol. Cajuput, gtt. v.
Sugar ʒ ss.

One-half teaspoonful in water every three hours.

In gout and rheumatism, and in retrocession of these disorders, the pain leaving the external muscles and attacking the internal organs, give the oil internally, and apply it to the part. The following makes a good liniment for lumbago:

R. Ol. Turpentine, ʒ iss.
Ol. Cajuput, ʒ ss.
Ol. Olive, ʒ ij. M.

Apply with gentle friction.

In hysteria with great depression:

R. Ol. Cajuput, gtt. v.
Tr. Valerian, gtt. xv. or xx. M.

Sig.—Give at one dose every three hours.

In flatulence three or four drops of this oil gives immediate relief in some cases. A small piece of cotton saturated with the oil and pressed into a carious tooth often relieves the torturing pain.

Cajuput is a valuable stimulant in Asiatic cholera. When that scourge visited Cincinnati the following preparation gave splendid results.

HUNN'S LIFE DROPS:

R. Ol. Cajuput,
Ol. Cloves,
Ol. Anise,
Ol. Peppermint, aa. fl ʒ j.
Alcohol, fl ʒ iv. M.

Sig.—Dose, from one-half to one teaspoonful every ten minutes in sweetened water, or brandy and water, until reaction is established.

Cajuput is quite permanent in its effects.

MARRUBIUM.**Horehound.**

BOTANICAL ORIGIN.—The tops and leaves of *Marrubium vulgare*, Linne; Nat. Ord., *Labiatae*. Native of Europe, but naturalized in this country.

Horehound should be gathered just before it flowers. A tincture may be made of eight ounces of the drug and one pint of sixty per cent. alcohol. Dose, from eight to ten drops. Make an infusion of one ounce of the drug to one pint of boiling water.

This agent is employed in respiratory troubles, particularly as a stimulant to the laryngeal mucous surfaces, and in asthma and chronic catarrh.

It may also be employed in amenorrhœa, and is a stimulant and tonic to the nervous system. It has a good influence on the stomach, and may be used with advantage in atonic dyspepsia. Make a syrup as follows: Macerate one ounce of the drug for two or three hours in a half pint of boiling water, strain and add enough water to have one-half pint of the infusion; add one pound of sugar.

CAMPHORA.**Camphor.**

BOTANICAL ORIGIN.—A stearopten obtained from *Cinnamomum Camphora* (Linne) Nees et Ebermaier; Nat. Ord., *Laurineæ*. China and Japan.

Camphor is stimulant, diaphoretic, antispasmodic, anodyne, expectorant, rubefacient, and narcotic. It acts principally upon the nervous apparatus, inducing an exhilarating state, and relieving pain. The mental operations are disturbed by large doses, and lassitude, giddiness, visual impairment, drowsiness, stupor, and convulsive movements succeed each other. In small and medicinal doses it excites the vascular system, heightening the temperature, and giving fullness to the pulse. The frequency of the latter is sometimes increased by it. It has a strong tendency, if the body

be kept warm, to excite diaphoresis, and may be used for this purpose even when febrile and inflammatory action is high.

Low forms of fever, particularly typhoid and low grades of inflammatory diseases, having an irritable and quick pulse, great restlessness, and morbid watchfulness, dry skin, low, muttering delirium, and subsultus, are greatly benefited by camphor. It is highly useful in Asiatic cholera.

Camphor enters into many mixtures for bowel disorders. It is often associated with pain-relieving agents, as in Diaphoretic and Tully's Powders. It is useful to calm excitation of the nervous system, and tends to induce restful sleep. Irregular muscular action calls for its exhibition. It seems to have a controlling action over the nervous manifestations of la grippe. The ordinary dose of camphor will range from one to ten drops of the tincture.

POLYGONUM.

Water Pepper.

SYNONYM.—*Smartweed.*

BOTANICAL ORIGIN.—The whole herb of *Polygonum Hydro Piperoides*, Michaux ; Nat. Ord., *Polygonaceæ*. Common in the United States.

This indigenous plant yields its virtues to water and alcohol. The infusion and specific Polygonum are the preparations to use. Its chief use is as a stimulant emmenagogue. For this purpose it is indicated when there is great torpor of the uterine system. It is an excellent remedy for suppressed menses when the condition is due to cold.

Epilepsy, especially where the fits are in some way connected with the menstrual suppression, has been successfully treated with the infusion. For asthma the infusion may be both inhaled and taken internally.

Polygonum is one of the good antidotes for Rhus poisoning. Use it locally and internally.

The dose of this agent ranges as follows : Specific Polygonum, two to sixty drops ; infusion one to two ounces.

PIPER.**Pepper.**

SYNONYM.—*Black Pepper.*

BOTANICAL ORIGIN.—The unripe fruit of *Piper Nigrum*, Linne ; Nat. Ord., *Piperaceæ*. India and Indian Archipelago, West Indies, Cochin China, etc.

Tincture of Black Pepper is prepared with 75 per cent. alcohol. It is a gastric stimulant and emmenagogue. Give it in congestive chill, associated with quinine. Administer it in atonic dyspepsia, alone or in combination with other tonics. As an emmenagogue it acts best when combined with other agents, such as macrotin (cimicifugin).

SABINA.**Savine.**

BOTANICAL ORIGIN.—The tops of *Juniperus Sabina*, Linne ; Nat. Ord., *Conifera*. Europe and Asia, near the Mediterranean, and also near the great lakes of the United States.

This agent is a powerful stimulant, emmenagogue, and abortive. The drug should be fresh and gathered in May. Both the oil and tincture are employed. The tincture may be prepared by taking of the tops eight ounces and one pint of 70 per cent. alcohol. Dose one to twenty drops. The dose of Specific Savine is from one to ten drops ; of oil of Savine, the same.

Savine is decidedly stimulant both locally and constitutionally. Watch its action upon the mucous surfaces. It is contra-indicated in active inflammation. It is not a safe drug to use during pregnancy except in very small doses.

Savine is of value in diseases of the urinary tract. It is serviceable in atonic conditions of the kidneys. It may be used to relieve chronic catarrh of the bladder and chronic

irritation of the urethra. It must not be used in any acute trouble of the urinary organs. It is a powerful emmenagogue and may be employed in both menorrhagia and amenorrhœa when torpor is a marked characteristic of these disorders.

ORIGANUM.

Wild Majoram.

BOTANICAL ORIGIN.—The herb of *Origanum vulgare*, Linne ; Nat. Ord., *Labiatae*. Europe, Asia, North Africa, and naturalized in Eastern United States.

This plant is found plentifully in limestone regions, and flowers from May to October. The entire plant is used medicinally. Make a tincture of eight ounces of the herb and one pint of sixty per cent. Alcohol. Dose, ten to thirty drops. The oil is used in liniments.

Origanum is stimulant, diaphoretic, and emmenagogue. It may be used in colds, due to suppression of secretions, when fever is absent. Amenorrhœa, with marked atony, is relieved by it.

XANTHOXYLUM.

Prickly Ash.

BOTANICAL ORIGIN.—The bark and berries of *Xanthoxylum Americanum*, Miller, and *Xanthoxylum Clava-Herculis*, Linne ; Nat. Ord., *Rutaceae*. North America.

This agent is a pronounced stimulant. If the warm infusion be freely used it produces diaphoresis. As a stimulant it is very active, producing general excitement. It is adapted to sluggish conditions.

Both the bark and the berries have been used in rheumatism, and as a gastric tonic and carminative. Atonic dyspepsia is greatly benefited by it. It is a remedy of much value in atonic diarrhœa and dysentery, and in colic and cholera morbus. Great reliance was placed upon it in the treatment of Asiatic cholera, in which disease it rendered excellent service. When masticated Prickly Ash bark and

berries excite the buccal secretions, and have been employed in neuralgic and semi-paralytic states of the mouth and immediate tissues. The dose of specific *Xanthoxylum* ranges from ten drops to one drachm.

CALENDULA.**Marigold.**

BOTANICAL ORIGIN.—The florets of *Calendula officinalis*, Linne; Nat. Ord., *Compositæ*. Cultivated in gardens.

This remedy has been used in conditions in which *Arnica* has proved beneficial locally. A feature claimed for it is that it prevents the formation of pus when applied to wounds, and favors healing with the least possible cicatrization. It has been successfully applied to ordinary wounds, as a dressing after the removal of epithelioma, to burns, and for the relief of catarrhal affections with raw and tender surfaces.

It is a perfectly safe drug, being non-poisonous, and seems to favor union by first intention. In the proportion of five drops of specific *Calendula* to one ounce of rosewater it has been used with good results in mild forms of conjunctivitis.

Calendula is aromatic, slightly stimulant, and somewhat diaphoretic, when internally administered.

SABAL.**Saw Palmetto.**

BOTANICAL ORIGIN.—The fruit of *Sabal serrulata*, R. and S.; Nat. Ord., *Palmaceæ*: Barrens from North Carolina to Florida.

SPECIFIC SABAL SER.—This preparation possesses the exact aroma of the fresh berries from which it is made. It has a strong, ethereal, aromatic flavor, and precipitates when mixed with water in large amount. In small amount it produces an opalescent mixture. If rubbed between the fingers a greasy sensation results, the strong odor of the berries remaining.

Saw Palmetto powerfully influences the male and female reproductive apparatus. It improves the functions of the ovaries, testes, prostate gland, etc. It is a remedy for irritable prostate. It is restorative in wasting conditions of the reproductive glandular apparatus. It increases sexual power.

Irritation of the bladder, when due to sexual troubles, hypertrophied uterus, or prostate, is said to be reduced by this agent. Enlarged breasts are a result of its action when taken for a continued length of time.

Chronic prostatic disorders, with difficulty in urinating, especially in old men, are relieved by this drug, and favorable mention has been made of its effects in inflammatory conditions of the uterine appendages. The specific Saw Palmetto may be given in from ten to twenty drop doses.

MOMORDICA.

Balsam Apple.

BOTANICAL ORIGIN.—The fruit of *Momordica Balsamina*, Linne; Nat. Ord., *Cucurbitaceæ*. Cultivated.

The tincture of this drug is stimulant, and resembles Arnica in its action, both locally and internally. In doses of from one to ten drops it is a stimulant to the nervous system. For muscular pains give it in doses of from ten to fifteen drops. Apply it externally to bruises, contusions, cuts, lacerations, etc.

The tincture is prepared by taking four ounces of the drug to eight ounces of fifty per cent. alcohol.

ACIDUM BENZOICUM.

Benzoic Acid.

SYNONYM.—*Flowers of Benjamin.*

DESCRIPTION.—An acid distilled from gum Benzoin, or made artificially from toluol. This acid occurs in satiny, white scales or feathery groups of friable needles, having a warm acid taste, and a faint but pleasant Benzoin-like odor. Ex-

posure to light causes it to darken, therefore, keep it in amber bottles well-stoppered. The acid here described is the *English Benzoic Acid*, the only kind which should be used in medicine. That known as *German Benzoic Acid*, though equally handsome, is produced from the urine of herbivorous animals, and should not be used in medicine.

Benzoic Acid is soluble sparingly in water (500), boiling water (15), alcohol (2), boiling alcohol (1), ether (3), chloroform (7), and freely in oils.

Benzoic Acid is stimulant to the mucous surfaces. It is very efficient in chronic cough, chronic catarrh, etc. In cases where the urine is constantly dribbling away from irritability or want of tone this agent generally gives relief. It is used as a stimulant to the brain when the latter is overworked. Very good results may be obtained from its use in obstinate cases of rheumatism and jaundice. Use it also as a tonic. It is one of the constituents of "Paregoric." Dissolve one ounce of Benzoic Acid in one pint of alcohol. Dose, ten to thirty drops.

NARCOTICS.

Agents which lessen both sensibility and nervous irritation, abolish the intellectual faculties, directly relieve pain, and produce sleep, are called narcotics. Unlike sedatives they first stimulate or excite the nervous and vascular apparatus, and afterward act as sedatives. By continuing or enlarging the amount given insensibility and sleep result. Attention is called to the fact that narcotics and sedatives have been included by some in the same class (see *Sedatives*). Some articles which have no narcotic power whatsoever have been thus classed with the narcotics, as is done when Digitalis, Lycopus, Veratrum, etc., have been included. Again agents are classed as sedatives and never used for, nor do they possess, narcotic power, as Tartar Emetic, Kalmia, Prunus Virginiana, etc.

Narcotics in doses insufficient to produce sleep induce a morbid wakefulness, and this fact should be borne in mind. In such cases the dose has only to be increased.

Narcotics not only relieve pain, thus serving as *anodynes*, but are also powerful *antispasmodics*.

The effects of narcotics are too well known to demand extensive consideration here. If further information is desired the reader is referred to larger works. The chief effects desired of this class of drugs are the relief of pain, the control of spasm, and the induction of sleep. Some agents not true narcotics may give hypnotic results.

STRAMONIUM.***Stramonium.***

SYNONYMS.—*Thornapple, Jimpson Weed, Jimson Weed, Jamestown Weed, Stinkweed, Apple of Peru.*

BOTANICAL ORIGIN.—The leaves and seeds of *Datura Stramonium*, Linne; Nat. Ord., *Solanaceæ*. A native of Asia, but naturalized in most parts of the world.

This plant is commonly known in some localities as Jimson. It is an annual plant, three or four feet high, with smooth stems, large deep green leaves and funnel-shaped flowers. Its fruit is a large capsule containing the seed. The whole plant has an unpleasant odor. It diminishes sensibility and relieves pain. Under its influence the pulse is not much affected but the pupils are dilated, the throat becomes dry, and intense nervous agitation ensues, amounting to delirium in some cases. It is not so powerful a remedy as Opium and its benumbing effect is not so marked, but in many cases it may be preferable to Opium, for it produces sleep by removing the cause of wakefulness. In poisonous doses it produces violent delirium, dryness of the throat, dilated pupils, and a scarlet rash resembling that of scarlet fever. But this may be differentiated from that disease from the fact that there is not the high temperature and rapid circulation of scarlet fever. It is a very valuable narcotic, antispasmodic, and anodyne. Large doses produce the opposite effect of small ones. It is a good neurotic, resembling Belladonna and Hyoscyamus most in its action.

Stramonium is valuable in diseases resulting from irritation of the cerebral nerves, in derangements of the abdominal organs, with irritation of the sympathetic, and in vertigo from sour stomach. In gastric headache, nervous erethism and restlessness, with unsteady condition of the nervous system, it is a good remedy. Among the indications for its use great restlessness and trembling of the hands are very prominent. It is valuable in acute delirium, when the patient is

noisy and violent, can not control his temper, and wants to destroy something. Give it in doses of a fraction of a drop to four drops.

Stramonium is a remedy for hysterical mania. Use ten drops to four ounces of water and give a teaspoonful of the dilution every hour. It gives good results in insanity with epilepsy, acting by promoting a better condition of the nervous system. In the treatment of hysterical convulsions, with alternate laughing and weeping, and in globus hystericus, when a sensation as of something solid in the throat exists, this is an excellent remedy. Headache, flushed face, and irritation of the sexual organs are usually present.

R. Specific Stramonium, gtt. x. to xv.

Aqua, fl \bar{z} iv.

M.

Sig.—A teaspoonful every fifteen minutes.

Some cases of paralysis, following convulsions, resulting from strong injections, from shock, or from the suppression of eruptions that should appear on the surface, are benefited by it. The symptoms indicating it are bloating and redness of the face.

Stramonium is a better remedy for some forms of cough than opium, as it does not restrain secretions. It is serviceable in whooping cough. Use it when the paroxysms are severe, with more or less hemorrhage and vomiting. In bleeding from the nose or mouth this is a good remedy, as it is also in hemorrhage caused by fits of coughing, or spasm.

In eruptive diseases Stramonium aids in developing the eruption, and, when indicated it quiets nervous irritability, and favors sleep. To bring out the eruption it is not equal to Belladonna. Use it when the face is flushed. Use it in diseases of the female organs, as dysmenorrhœa. Give from two to four drops every three hours. It relieves pain and promotes expulsion of the coagula. Use it for its influence on the bladder. Prepare a cataplasm of it and apply it to

the abdomen when there are painful conditions of the bladder.

Stramonium ointment rubbed on the part generally relieves rheumatism and hemorrhoids. Make the ointment as follows:

R. Extract Stramonium, $\bar{3}$ ij.
 Pulverized Opium, $\bar{3}$ ss.
 Vaseline, $\bar{3}$ j. M.

Stramonium leaves stewed in lard make a better preparation than the extract.

Stramonium gives speedy but only temporary relief in purely spasmodic asthma. Use the following:

R. Powd. Stramonium Leaves, $\bar{3}$ j.
 Powd. Anise Seed,
 Powd. Nit. Potas., aa. $\bar{3}$ ss. M. Triturate.
 Sig.—Burn a thimbleful of this under a conical vessel, as a funnel, and inhale the fumes.

Or you may use an equal amount of Stramonium and sage and have it smoked in a pipe until slight nausea is induced.

Stramonium is used as an antidote to the opium habit. For this purpose use the following:

R. Tr. Stramonium, $\bar{3}$ ss.
 Tr. Cardamom, $\bar{3}$ iiss. M.
 Sig.—Begin with ten drop doses and increase as may be necessary.

OPIUM.

Opium.

BOTANICAL ORIGIN.—The concrete juice obtained by incising the unripe capsules of *Papaver somniferum*, Linne; Nat. Ord., *Papaveraceæ*. Cultivated chiefly in Asia Minor, Egypt, and Japan.

CHIEF ACTIVE CONSTITUENTS.—*Morphine* and *Codeine* are the chief constituents, therapeutically considered.

DESCRIPTION.—Opium is found in commerce in chestnut-brown or darker, irregular or subspherical cakes, to which

adhere the remnants of poppy leaves and fruits of a foreign plant (a species of rumex). It may be plastic or even harder, has a distinctive bitter taste, and pronounced narcotic odor. It is inflammable. When pulverized it yields a yellow-brown powder. Its virtues are imparted to water, alcohol (which takes up about four-fifths of it), and dilute acids. Ether does not dissolve it. When assayed by the U. S. P. method, it must yield at least nine per cent. of crystalline morphine. There are several grades of Opium, as *Turkey* (Smyrna or Constantinople), *Egyptian*, *Persian*, *East Indian*, *European* and *American* (experimental grades).

MORPHINÆ SULPHAS.

Morphine Sulphate.

DESCRIPTION.—The sulphate of an alkaloid obtained from Opium. On account of its greater solubility the sulphate of Morphine instead of Morphine itself is chiefly used by the doctor. It occurs in beautiful, feathery, white, needle crystals, permanent, odorless, and possessing a silk-like lustre. It has a very bitter taste. Soluble in cold water (21), boiling water (0.75), cold alcohol (702), and boiling alcohol (144). Ether scarcely dissolves it. The hydrochlorate and acetate of Morphine are also eligible forms.

CODEINA.

Codeine.

DESCRIPTION.—An alkaloid obtained from Opium. It forms white, or nearly translucent crystals, devoid of odor, but having a feebly bitter taste. In warm air it slightly effloresces. Soluble in cold water (80), boiling water (17), cold alcohol (3), chloroform (2), ether (30), and very readily soluble in boiling alcohol.

Opium is the concrete juice of the *Papaver somniferum*, a species of the Poppy. The Poppy is a native of Asia, but is grown in Europe and the United States. In Turkey, India, Persia, and France it is grown extensively. It is an annual

plant from four to six feet high with flowers white or violet colored ; its fruit is a capsule of spherical form, two to four inches in diameter, containing many seeds. Opium is obtained from the capsule as soon as the leaves fall, by incising the side of the pod, when the juice exudes and is collected as a mass.

Opium of commerce is red or brownish, has a peculiar odor and a bitter, acrid taste. Its narcotic properties are chiefly due to the Morphine it contains, of which it should contain not less than nine per cent. Its properties are anodyne, narcotic, sedative, antispasmodic, soporific, and stimulant.

All animals are not affected in the same way or degree by Opium. Herbivorous animals are not much affected by it. Thirty grains are required to kill a rabbit, and a horse may eat from an ounce and a half to two ounces of it without much damage. But if injected into these animals hypodermatically it produces very marked effects. This is explained by the fact that their digestive fluid changes the nature of the drug before being absorbed. In man it produces the same effects, no matter which way it is given. If Opium be taken in doses of one and one-half grain by a healthy person, in half an hour a disposition to sleep comes on, accompanied by such a placid sensation that no noise or disturbance arrests his desire. The pulse becomes slightly quickened, the mouth becomes dry, and perspiration bathes the entire body. The sleep may be peaceful and lasts one or more hours. In doses of from one to three grains the excitement is more marked, the head feels full, there is burning in the ears, the ideas become confused, and delirium comes on, and is followed by exhaustion. During the latter stage the pulse becomes slow and irregular, the head heavy, the feeling of fullness becomes less acute, and intoxication results. If taken in poisonous doses, after the primary excitement, there is very great depression, the pupils are contracted, breathing

becomes stertorous, perspiration profuse, deglutition difficult, and the vessels full and muscles relaxed.

Opium produces sleep by lessening cerebral action. There are two stages of its action. During the first stage the patient is stimulated, the face is flushed, the eyes bright, and hyperæmia of the brain takes place. When this effect passes off re-action takes place, but the nervous system being exhausted, the blood stagnates and profound coma comes on, with stertorous breathing, and congestion of the brain follows. Post-mortem examination reveals engorgement of the vascular structure with dark or black blood. In its action as a stimulant it produces a very marked effect on the nervous system; all the nervous functions being affected, the drug first exalting and then depressing them.

It also produces a very marked impression on the digestive organs. While it produces a desire to sleep, it also induces disgust for food. By the prolonged use of opium the stomach becomes accustomed to it, and cravings are produced when it is withheld. This results from its effect of checking the secretions of the mucous membrane; therefore it diminishes appetite, but increases thirst. It likewise arrests digestion. Hence it should not be given when the stomach is engaged in the act of digestion. If it must be given at such times, give it hypodermatically. Under its influence the bowels become constipated, and the circulation is markedly affected. After a full dose the heart-action becomes stronger, the skin turgid, and a condition of general excitement ensues. After this its frequency may be reduced, but the volume of blood may not be much changed. As its effects continue, respiration becomes slower, the blood grows dark in color because it is not being aerated, and after a time this fluid becomes so impoverished as not to be able to support life.

Opium has a very marked effect on the skin, being one of the most certain diaphoretics when not contra-indicated. But

it diminishes the secretion of the kidneys and produces a condition of paralysis of the urinary organs, especially the bladder, and may cause retention of urine. In using this remedy it is necessary to remember that opposite effects may be produced by it according as it is given in large or small doses. In small doses, say one-fourth or one-half grain, it is stimulant and its effect is permanent. But if the dose be large its primary action is still stimulant and the excitement produced is very intense and brief in duration. After this its secondary effects are produced. So if a stimulant influence is wanted give the small doses, and for its sedative effect give one large dose. Opium may safely be employed when the pulse is soft and open, and the skin and tongue moist. It is contra-indicated when the skin is constricted, the eyes bright, the pupils contracted, and the tongue dry. It first acts as a cerebral stimulant and invites an increased amount of blood to the brain, and with this comes increased cerebral activity and restlessness, and this soon leads to exhaustion. After a time the influence ceases and the system will no longer respond to its stimulus.

Stupor, slowness of the pulse and respiration, and congestion of the brain follow. Although a cerebral stimulant, it may act as a sedative to other organs.

Opium contains several alkaloids, the most important of which is Morphine; another is Narceine.

Narceine has been recommended as a hypnotic and sedative. It has only one-fourth the strength of Morphine and its action is quite unlike that alkaloid. In large doses it purges and causes nausea and loss of appetite. In all its action it is a very uncertain drug.

Another alkaloid is Codeine. Some claim this produces sleep without causing constipation nor headache. Others think it useless. As a narcotic it is not so good a drug as Morphine. But it is useful in many respiratory troubles for lessening

cough and irritation of the respiratory organs. It is valuable here because it does not arrest the secretions like Morphine. It is a good hypnotic when the disease results from nervousness or some slight irritation of the brain. For this give the following:

R. Wild Cherry, fl $\bar{3}$ ss.
 Codeine, grs. iij. to iv.
 Simple Syrup, $\bar{3}$ iijss. M.

Another alkaloid is Narcotine. This may be given in doses of from one to three grains. It is an antiperiodic. As a hypnotic it is apt to fail even in large doses.

A fifth alkaloid is Papaverine. This possesses narcotic properties with no primary stimulant influence, and it produces no headache. Its results are not always reliable, and statements concerning its action are contradictory.

Morphine is the best alkaloid of Opium. As a cerebral stimulant, diaphoretic, and an anodyne and soporific, Morphine acts like Opium, though none of the alkaloids exactly represent the crude drug. One grain of Morphine equals six grains of good Opium. Morphine has advantages over Opium in some conditions. It is less apt to nauseate, does not restrain secretions so much, and is less stimulating to the circulation than Opium.

The salts of Morphine generally employed are the sulphate, hydrochlorate, and acetate, being each of equal strength. When speaking of Morphine in this connection the sulphate will be understood unless otherwise specified. Morphine is not always the best preparation to use. In diarrhœa, for restraining excessive discharges, or as a stimulant in low forms of fever, Opium is to be preferred. In using Opium or Morphine great care is necessary, as in determining the amount of either proper to be administered, the condition of the patient, the severity of the pain, or the condition of the nervous system must be considered. As an

anodyne and soporific, under ordinary circumstances, the commencing dose of Opium is one grain, and more than two grains should never be given at first until the action of the drug on the patient is discovered. Less than one-half grain is stimulant and produces no tendency to sleep. If the patient were suffering from loss of sleep from cerebral anæmia, then this dose would promote sleep. As a stimulant in low forms of fever Opium must be given in doses of one-fourth grain every two to four hours. When the patient is suffering from exhaustive discharges, and both a stimulant and astringent is needed, Opium may be used. As a rule, the dose of Opium may be repeated safely in an hour, provided the drug be given in a soluble condition. If an old, dry, hard Opium pill be given it may be several hours before it is absorbed, and a dose repeated under these conditions might produce harm.

Opium forms an element of several preparations, some of which, with their relative strength, are here given. A very common one is Laudanum. A teaspoonful of Laudanum contains sixty minims or about one hundred and twenty drops, and 10.5 minims or about twenty drops equal a grain of Opium, or the usual dose of the latter, hence a teaspoonful of Laudanum contains nearly six grains of pure Opium. The deodorized tincture of Opium has the same strength as Laudanum, and it may be substituted for Laudanum when the latter disagrees with the stomach.

Paregoric contains about one-fourth grain of Opium in a teaspoonful. Hence a tablespoonful may be given at a dose to obtain the effects of one grain of Opium. Dover's Powder contains one grain of Opium in ten grains of the mixture.

Owing to the controlling influence of Opium over pain it is used more than any other remedy for this effect. Mankind dread pain, and when suffering will resort to any means for relief. Pain should be relieved by removing the cause; but

when conditions are such that this can not be done then give some remedy to relieve the suffering of the patient. Opium offers the very best remedy in such cases, all other narcotics being inferior to it. When pain is intense and speedy relief is demanded, Morphine hypodermatically gives this effect most rapidly and permanently, with less unpleasant results than when Opium is used. The dose is generally one-fourth grain, but in some cases one-eighth, one-third, or one-half grain may be best. A good solution for hypodermatic use is made by dissolving one and one-half grains of Morphine in one drachm of distilled water. In ten drops of this solution there is one-fourth grain of Morphine, or the usual dose. This gives relief in a few minutes.

Opium in small quantities is stimulant, and although not a food, it increases power for the time being, and thus prevents complete exhaustion. Its action is through the nervous system. Some savages in making long journeys take Opium to sustain them when they lack food, using it themselves and feeding it to their horses. In large doses it is sedative and narcotic. During the stage of narcotism all the functions of the body are depressed. Pain is often the result of extreme debility, either general or local; thus anæmic persons have pains in one part of the body and then in another. Neuralgia often comes on from nervous troubles.

For such states, Opium, to relieve pain, and a nourishing diet, form the treatment. Opiates are very good in painful conditions of the digestive organs. Under ordinary circumstances they destroy the appetite, but in diseased conditions of these organs they may improve the appetite and digestion. Thus when food acts as an irritant and hurries through the digestive tract poorly digested, causing pain and great disturbances, Opium with Bismuth or Nux relieves the trouble. In gastralgia, Morphine is the remedy, to be given with Bismuth. Use the following:

R. Morphine, gr. j.
 Subnitrate of Bismuth, $\bar{3}$ j.
 Peppermint Water, fl $\bar{3}$ ij.

Give a teaspoonful every two hours. Vegetable and mineral tonics may be profitably employed in connection with this, such as iron or quinine. Opium is a good remedy in diarrhœa or dysentery. In the latter disease it may be a good, bad, or indifferent remedy, according to the manner in which it is used. In acute dysentery it is a very good agent combined with other more permanent and specific remedies. To relieve tenesmus inject Laudanum, from ten to fifteen drops, in one ounce of starch water. This relieves pain and irritation, gives sleep, and thus tends to restore the system to its normal condition. In the treatment of cholera, cholera morbus, etc., this is the most reliable drug in use. But when using it in cholera we must keep in mind the nature of its action. In small doses it is stimulant, but in large doses it will kill the patient by its depressing influence. Hence it must be used here in stimulant doses. During the prevalence of cholera many people will have an exhausting diarrhœa which may or may not terminate in cholera, but it renders the person much more liable to an attack, and it must be arrested. Use the following:

R. Tinct. Opium,
 Tinct. Camphor,
 Essence Peppermint,
 Tinct Kino, aa. fl $\bar{3}$ j.
 Tinct. Capsicum, fl $\bar{3}$ ss.
 Neutralizing Cordial, fl $\bar{3}$ iiiss. M.

Sig.—Give teaspoonful doses every half hour if the case is severe ; if mild, three times a day.

Sometimes a single dose arrests it. After each evacuation from the bowels the patient should be careful to avoid the use of much fluid, and should have applied to the bowels a mustard plaster. In cholera, when nothing can be taken

into the stomach or retained in the rectum, give a hypodermatic of one-fourth grain of Morphine. This will stop the diarrhœa, vomiting, cramps, etc. Under these circumstances this is the most reliable treatment that can be adopted. But it must not be given in narcotic doses.

Opium is indispensable in severe spasmodic troubles, with much pain, and is, therefore, one of the most reliable drugs in the treatment of colic, as nephritic and painter's colic. When the pain is spasmodic and intense administer Morphine one-fourth grain hypodermatically. If relief is not obtained in a quarter of an hour give another one-fourth grain. Under ordinary circumstances Opium constipates, but when constipation results from spasm of the bowels Opium relaxes the muscular spasm and relieves the constipation. In the passage of biliary calculi relief from pain must be had speedily and Morphine gives it. It also produces relaxation which favors the passage of the calculi. A hot bath may be profitably employed to assist in relaxing the part. In spasm of the urethra also give Opium or Morphine in full doses, and employ the warm hip bath.

Opium may be used as an anti-abortive, and in this direction it is a very certain drug. A common cause of abortion, not criminal, is overexertion. When it is threatened inject from twenty to thirty drops of Laudanum into the rectum; this relieves the pain and puts the patient to sleep; she awakes relieved.

Opium is a good drug in nervous diseases. It is a remedy of great value in delirium tremens to produce sleep, for the long continued wakefulness may result in death, and rest and food are essentials to a cure. But unless rightly used it may kill the patient. Under ordinary circumstances this would not result, but if the kidneys are affected it is very liable to produce harm. Even if there is no disease of the kidneys contra-indicating its use and the face is flushed, the

pulse full and bounding, the tongue red and turgid, the eyes bloodshot, and there is pain in the head, with wild delirium, Opium would kill such a patient. But if the skin is moist and relaxed, the tongue moist and dirty, the face pale, and the circulation feeble, Opium may be safely used. It sustains the nervous system, affords a proper degree of stimulation, and induces sleep. We must not be too hasty in its use. Give one-eighth grain of Morphine, or at most one-fourth of a grain every three or four hours until sleep is produced. If the patient eats and sleeps he will recover ; if not he will die.

Morphine is the very best remedy known in puerperal convulsions, being worth more than all others combined. It is not contra-indicated in this case by the usual symptoms contra-indicating its use. Give it in rather large doses if the case be severe, say one-half grain, and repeat in a short time if necessary. These convulsions may be controlled by chloral, chloroform, bromide of ammonium or potassium, etc., but Morphine is the remedy par excellence. Opium is also a good parturient. When labor progresses slowly from rigidity of the os uteri in its circular fibers, give Opium. It relaxes these fibers more effectually than any other remedy, and at the same time stimulates the other fibers to contraction. It may be used in all faults of labor pains, if they depend upon the contraction of the circular fibers.

In traumatic tetanus keep the patient fully under the influence of Morphine until the spasm is over.

Morphine relieves dyspnoea and pain in angina pectoris. Use it hypodermatically. It strengthens the heart and relieves the congestion of the lungs. The dyspnoea that preparations of Opium relieve comes on in paroxysms, especially at bedtime. If the trouble is constant it does no good.

Opiates are valuable in surgery; thus in operations on the lower bowels, as upon fistula in ano, hæmorrhoids, etc., rest

of the part is required for several days. If the bowels be thoroughly emptied by an enema and Opium then be given, total rest for several days may be obtained. Morphine hypodermatically given relieves the pain attendant upon fractures. In inflammatory affections, Opium in full doses is sometimes valued for its sedative effect. This is more true of the bowels than of the respiratory tract.

Opium, or its preparations, are seldom called for in fevers. It is, however, a good remedy in enteritis and peritonitis, tending to keep the bowels quiet, and lessen pain. In respiratory affections Opium must not be given until the secretions are free.

BELLADONNA.**Deadly Nightshade.**

BOTANICAL ORIGIN.—The root of *Atropa Belladonna*, Linne; Nat. Ord., *Solanaceæ*. Indigenous to Central and Southern Europe and Asia Minor; flourishing in woodlands; also cultivated.

CHIEF ACTIVE CONSTITUENT.—*Atropine*.

ATROPINÆ SULPHAS.**Atropine Sulphate.**

DESCRIPTION.—The sulphate of an alkaloid obtained from *Belladonna*. This is the form of Atropine most often employed in medicine.

A permanent and indistinctly crystalline white powder, without odor, neutral in reaction, and having a nauseous, very bitter taste. Soluble in water (0.4), alcohol (6.2), chloroform (694), and ether (2270).

SPECIFIC BELLADONNA is now of a light wine color. Formerly it was green from chlorophyll, which added nothing to its value, the green coloring matter of plants being useless in therapy. Specific Belladonna is energetic, and must be used in small doses.

This plant is a native of Southern Europe, but it also grows in the United States in shady places, in rich soil. It has very beautiful purple flowers; these are followed by green berries that assume a purplish color when ripe, somewhat resembling cherries. All parts of the plant exhale a nauseant odor, and possess narcotic properties. Its principal alkaloid is Atropine. This is soluble in alcohol (3), water (130), ether (16), chloroform (4), and glycerin (50).

Atropine in the market is in the form of needle crystals, colorless when pure, but usually yellowish, inodorous, acrid, and bitter; or in the form of a more or less non-crystalline powder. Its properties are substantially the same as those of Belladonna, but it is much more speedy in action, requiring only ten or fifteen minutes. The best preparation is Sulphate of Atropine (see above) which is most freely soluble in water. Herbivorous animals are but slightly affected by Belladonna, but it is a violent poison to the Carnivora. A pigeon may be killed by two grains, a rabbit by ten to fifteen. In man, if taken in large amounts, it is a powerful narcotic poison. Children are sometimes poisoned by eating its berries, mistaking them for cherries. In cases of poisoning by it the following symptoms are prominent: Burning of the throat and stomach, difficult deglutition, followed by delirium, wild and furious, dilated pupils, eyes insensible to light, face flushed, nervous system prostrated, pulse feeble, twitching of the muscles, scarlet rash over entire body, deep coma, and convulsions preceding death.

Belladonna, pathologically, is irritant to the cerebral mass and nerve centers, producing excitement and hyperæmia of a very active character, nausea, insomnia, active determination of blood to the head and face, headache and intolerance of light. When very severe, stupor and exhaustion supervene. It has a marked effect on the special senses of vision and of hearing, producing strange sights and sounds, they

being either pleasurable or fearful. Post mortem examinations reveal a marked congestion of the cerebellum and medulla.

In its therapeutic action Belladonna causes contraction of the capillaries and is the remedy for congestion, which condition is manifested by dilated pupils, and dull, expressionless face. Pereira says, "There are three degrees of its action. It first diminishes sensibility and irritability in the ordinary medicinal dose. Secondly, it produces a marked effect on the cerebro-spinal system, causing blindness, numbness, and difficult deglutition, with pulse small and the secretions increased. In the third stage all these are intensified." Dilatation of the pupil is owing to a relaxation of the fibers of the ciliary muscles. This may result from its sedative influence on the center of vision, or from congestion of the nerve centers, thus suspending their functions.

Belladonna may be regarded as a powerful stimulant to the vaso-motor centers and to the capillary circulation. It is antispasmodic in spasm of involuntary muscles, and locally applied it is a powerful sedative. In spasm of voluntary muscles it is not a good remedy. It is a very good agent in spasmodic colic, lead colic, spasmodic dysmenorrhœa, spasmodic constriction of the bowels, etc. Obstinate cases of constipation are sometimes cured by it. It is a remedy for nervous cough and spasmodic asthma. It should be directly applied to the part on which its action is desired. In spasm of the urethra annoint a bougie with a combination of the extract of Belladonna and vaseline. In spasm of the sphincter ani or os uteri it may be applied to the parts as suggested. In medicinal doses Belladonna increases the heart action by its paralyzing influence on the inhibitory centers. It stimulates the sympathetic and paralyzes the other nerves. By its action on the heart and capillaries it increases the blood pressure. It also stimulates the vaso-motor centers. In

large doses it produces spasm and convulsions. In some cases of headache it seldom fails, and a single drop may give relief. This occurs when the pain is *nervo-congestive*. If the headache comes from stomach troubles, as gastric debility, it is not a good drug. In such cases give *Nux*.

In convulsive diseases *Belladonna* is a very good remedy. In puerperal convulsions it is very useful, though inferior to morphine. Epilepsy is relieved by it when there is evidence of congestion.

Epilepsy results from irritation of the medulla, and this drug relieves the irritation. In infantile convulsions, when epileptiform, it often proves serviceable. It relieves chorea by its action upon the motor ganglia. It is the remedy in many febrile diseases, though not so valuable as *Aconite*. In almost all forms of fever it renders good service, but it is especially excellent in scarlet fever. In this disease it quiets delirium, aids the development of the eruption, lessens the effect of the poison on the nervous system, improves the condition of the kidneys, and aids in the expulsion of the poisonous matter from the blood. We seldom omit it in this disorder, and the more congestive the form, the better it acts. *Aconite* and *Belladonna* are the best remedies for this disease. They cure all curable cases. Some regard it as a prophylactic against that disease. We are not strongly of that opinion. The use of five drops in four ounces of water, given in teaspoonful doses three times a day, may be of some use in this direction. If it does not prevent the disease it will do no harm.

Belladonna influences the bladder and kidneys. Its tendency is to increase the amount of urine and its solids. It is a stimulant to the urinary tract, and in small doses relieves irritation. In incontinence of urine in small children it is a good remedy when this trouble results from a poor pelvic circulation, or chronic irritability of the bladder. Some of

these cases result from worms and then Santonine is the remedy. In the first class of cases :

R. Specific Belladonna, gtt. v.
Water, fl \bar{z} iv. M.

Give a teaspoonful three times a day.

It is a very good remedy in diabetes insipidus. In this disease apply a Belladonna plaster over the loins and administer the specific medicine internally.

In large doses Belladonna causes dryness of the mouth and throat through its effect on the chorda tympani nerve. Hence it is a good remedy in salivation, but to get good results it must be given in full doses. Use Atropine Sulphate from one one-hundredth to one-fiftieth grain, or English Extract of Belladonna one-fourth of a grain in pill form. In full doses it produces dryness of the skin. Therefore, use it in exhaustive sweating, as of phthisis. But in many of these cases, though the sweating be arrested, the dryness of the throat and cough produced by it more than counterbalance its good effect. Use same dose here as for its influence on the salivary glands.

Overactivity of the salivary glands during pregnancy is benefited by Belladonna, when it is given in quantities sufficient to produce dryness of the throat.

R. Specific Belladonna, gtt. v. to x.
Aqua, fl \bar{z} iv. M.

Dose, a teaspoonful every three hours.

Many obstinate cases of neuralgia are cured by the use of Belladonna. In these cases, where there is excitement of the circulation or increase of temperature, use it with Aconite. Employ the usual dose of each. It is a very good drug in diphtheria, in fact one of our best remedies, but to be efficient it must be given in the early stages of the disease. It does not give satisfaction when the disease is fully de-

veloped. But when given early it interferes with the exudation and the formation of false membranes. Give the usual dose with Aconite, and alternate these with *Phytolacca* every half hour.

In inflammation of the throat, not diphtheria, with more or less fever, redness and swelling, soreness and difficult deglutition and unpleasant dryness of the throat, use *Belladonna* in alternation with Aconite. Administer the usual dose every half hour.

Belladonna is an excellent remedy in erysipelas, when the skin is deep red and the patient complains of a burning sensation, and when the inflammation does not affect the sub-mucous areolar tissues and the surface is free from vesicles. Always give it with Aconite if fever is present. In spasmodic asthma, *Belladonna*, *Hyoscyamus* and *Stramonium* are all good remedies, but when the dyspnoea is paroxysmal, with but little bronchial secretion, use *Belladonna*. If the trouble be very severe and immediate relief is demanded give morphine one-sixth to one-fourth grain, and Atropine sulphate one one-hundredth grain hypodermatically. This generally gives relief. *Belladonna* is a good remedy in whooping cough; in the earlier stage of this disease it is usually not needed, but in the latter stage it is generally indicated. It lessens the severity of the paroxysms and increases the intervals between them. It is a good remedy in habitual constipation. Use of the English extract one-fourth grain two or three times a day.

In ophthalmic practice Atropine is extensively used. It is employed in iritis to prevent adhesions, and it is used to dilate the pupil so that the interior of the eye may be examined. Morbid adhesions may be broken up by its use. For these purposes it must be applied directly to the eye in a solution of from two to four grains in one ounce of distilled

water. This solution in doses of from two to five drops is a very good form of administration for its systemic effects.

Belladonna is useful to relieve pain when locally applied, as in painful abscesses, etc. If applied early it prevents supuration. Use it on recurring boils for the same effect. It is of much value in neuralgia, lumbago, etc. For lumbago apply a Belladonna plaster over the affected part. It is one of the best remedies to arrest the mammary secretion, as when the child dies or there is prompt necessity for weaning the infant. Use one part of the specific to three parts of glycerin and paint it on the breast once or twice a day. If it comes in contact with the broken surface it produces its constitutional effects. With vaseline it may be used as an ointment.

The dose of Belladonna depends on the condition of the patient and the effects desired. As a remedy for congestion we use from five to ten drops of specific Belladonna in four ounces of water and give teaspoonful doses of the solution every hour. Always carefully watch the constitutional effects of both Belladonna and Atropine

HYOSCYAMUS.

Henbane.

BOTANICAL ORIGIN.—The flowering tops and leaves of *Hyoscyamus niger*, Linne; Nat. Ord., *Solanaceæ*. Collected from second year's plants. Indigenous to Europe and Asia and naturalized in some portions of North America.

CHIEF ACTIVE CONSTITUENTS.—*Hyoscyamine* and *Hyoscine*, both alkaloids whose salts are employed to some extent in medicine.

SPECIFIC HYOSCYAMUS.—This preparation is of a green color and preserves the full qualities of the herb.

This plant is a native of Europe and Asia, but grows in this country also. It is from two to four feet high, with large pale green leaves and yellow, funnel-shaped flowers.

A tincture and an extract of the leaves, besides the specific medicine, are used. Its properties are narcotic, antispasmodic, and anodyne. It is a member of the Nightshade family. In large doses it is an acro-narcotic poison, causing vomiting, great thirst, impairment of vision, dryness of the throat, dilated pupils, rapid and intermittent pulse, delirium and death. Post-mortem examination reveals redness and inflammation of the bowels. If the patient recovers a bloody diarrhœa succeeds.

Hyoscyamus is used as a nerve stimulant to relieve pain and promote sleep. In small doses it is a stimulant to the cerebro-spinal centers. If sleeplessness results from want of innervation this drug may be used in small doses. Like Opium it is narcotic in large doses. It is of very great power in the typhomania of typhoid fever. Add from ten to fifteen drops to four ounces of water and give in doses of a teaspoonful every hour. In delirium tremens, when the delirium is low and muttering, give it in stimulating doses to sustain the nervous system. It is well adapted to such cases in old toppers. Very good results are obtained from its use in hysteria and all nervous derangements. In hysteria, with frequent desire to urinate, though but small quantities of urine pass, use this remedy, given as previously suggested.

Compared with opium as a hypnotic and anodyne, though not so reliable, it is many times preferable for these reasons: It relieves spasms, quiets the nervous derangement, and produces sleep, with no arrest of secretions, and it does not constipate, nor does it arrest the flow of bile or urine. It may be employed when opium is contra-indicated. It is a very successful agent in pulmonary affections. It lessens the cough and irritability and does not arrest the secretions. In inflammatory conditions of the liver and kidneys it may be used to relieve pain, and here it is better than opium, for it acts without producing headache.

Given at bedtime it relieves syphilitic bone pains. In phthisis, combined with Wild Cherry, it gives much relief. In some cases of neuralgia, with anæmia and great depression, it is a good drug. It may be given to quiet nervous irritability and produce sleep in children. Use for this purpose ten drops of Hyoscyamus in four ounces of water and give a teaspoonful every hour. In functional diseases of the heart in nervous persons, as palpitation, it gives relief. For painful hemorrhoids and cancer, applied locally, it is also a good remedy. Use one or two parts of Hyoscyamus to from five to fifteen parts of vaseline and give the drug internally at the same time. If a more pronounced effect is desired give the extract in doses of one-fourth to one grain.

For puerperal convulsions, associated with a nervous condition bordering on mania:

R. Specific Hyoscyamus, gtt. v. to x.
 Aqua, fl ℥ iv. M.
 Sig.—Teaspoonful frequently.

SULPHONAL.

Sulphonal.

SYNONYM.—*Diethylsulphon-dimethyl-methane.*

DESCRIPTION.—This drug occurs in nearly tasteless, colorless, and odorless crystals. Soluble in cold water (450), boiling water (15), cold alcohol (50), and ether, and very readily soluble in boiling alcohol.

This drug is but slightly soluble in cold water, and completely so in hot water and alcohol. Any of these solutions may be used. Sulphonal is not narcotic, but in many cases it is the best hypnotic known; in other cases it has no more effect than sawdust. In its action it does not increase nor diminish the temperature, and it has no effect on the secretions nor bowels, It simply acts on the nervous system. It has no effect on the digestive organs and never destroys the appetite.

When given it must be powdered, and is best given in hot tea. It does not act immediately, but undergoes some change in the body, and requires two or three hours for its effect. Hence it should be given that length of time before its effect is desired.

Sulphonal is a good hypnotic in the anæmia of typhoid fever, producing a quiet, refreshing sleep with no bad effects on the nervous system. Give it in doses of ten grains, though twice as much may be safely given. It is a very efficient hypnotic for persons who can not sleep from over-activity of the brain. Give such a patient a dose two or three hours before bed-time and he will have a good night's rest. To patients who suffer mentally from gonorrhœa and cannot sleep, owing to the unpleasant thoughts of the disease, give this remedy. In some cases of wakefulness from cough this remedy may be used. It does not entirely stop the cough, but it gives rest and sleep. It is also of some little value in rheumatism, but if the pain be very severe it is not very effective. In all cases of sleeplessness from severe pain it does little good and is not the proper remedy.

It is a very good remedy for teething children provided the child can not sleep. Here give one or two grains of Sulphonal, and even if this does no good it will do no harm. It is effective in mild chronic cases of mania, given in doses of from ten to twenty grains. It has been given in doses of one drachm. When the patient sleeps from its influence he should not be awakened, as giddiness and headache are apt to follow. Let him alone until he awakens naturally and no unpleasant effects will ensue.

DULCAMARA.**Bittersweet.**

BOTANICAL ORIGIN.—The young branches and twigs of *Solanum Dulcamara*, Linne; Nat, Ord., *Solanaceæ*. Europe, Asia, and North America.

CHIEF ACTIVE CONSTITUENT.—*Solanine*.

SPECIFIC DULCAMARA.—This preparation is made of the true and not of the false Bittersweet. Much confusion has existed with some persons concerning these plants, which are utterly unlike, both in appearance and qualities.

This plant is known as the Woody Nightshade. It is a woody vine, with its leaves alternate, acute, smooth, and of a bright green color, with drooping, purple flowers, the calyx being very small and greenish-purple in color. It grows in hedges and woods in good soil. The flowers are followed by brilliant scarlet berries, which remain for a long time on the vine.

This plant contains an alkaloid, Solanine, and a glucosid, Dulcamarin. Solanine is in the form of a white, amorphous powder, or white, fine crystals, bitter to the taste and having very little odor. It is not soluble in water, but is soluble in alcohol, ether and glycerin. The vines of all the members of this family are more or less poisonous, but their fruits are used as food. Potatoes, tomatoes, etc., belong to this class. Much diversity of opinion exists with regard to the medicinal qualities of this drug. Taylor reports a case in which a person took four ounces of the extract or one hundred and eighty berries and there was no effect. Another reports that thirty berries killed a dog in three hours. These various opinions may be reconciled in the fact that the active principle varies in the different seasons of the year. In large doses in man it produces giddiness, trembling of the limbs, and loss of sight, vomiting, purging, convulsions, and death. The alkaloid Solanine, though a decided poison, is not very

energetic in its action. Three grains may destroy life. It increases cutaneous sensibility and destroys life by paralysis, very much like Strychnine or Nicotine. It produces no stupor, delirium, nor coma.

Dulcamara has a great influence on the organs of secretion and excretion, and its principal value is as an alterative. Next to specific Dulcamara the tincture of the twigs is the best preparation. Prepare it from eight ounces of the twigs to one pint of alcohol. This makes a very good tincture and may be given in doses of three or four drops every three or four hours.

An infusion of one ounce of the twigs to one pint of water may also be used in tablespoonful doses, either preparation exerting a specific influence on the skin, being very valuable in chronic cutaneous diseases. It is a good alterative in obstinate cases of pustular, vesicular, or scaly eruptions on the skin. Give from five to ten drops of the tincture three times a day. It is useful in catarrhal troubles resulting from cold and suspended cutaneous secretion. Give it in small doses.

R. Specific Dulcamara, gtt. x. to xv.

Aqua, fl $\bar{5}$ iv.

M.

Sig.—Teaspoonful doses every three hours.

Catarrhal diarrhoea of small children is benefited by it. It is useful in some cases of chronic rheumatism. In acute rheumatism it should be associated with Aconite if there be fever, but in chronic cases, when the patient lies in a damp house and is much exposed to cold, it gives best results.

Dulcamara is a useful remedy in most acute troubles brought on by colds. Small doses of it give permanent relief in suppression of the menses, caused by cold, and associated with headache, nausea, and chilliness. It is a good agent for difficult breathing, cough, and pain in the chest, when due to colds and exposure. Some cases of head-

ache, resulting from colds of a catarrhal character, are relieved by Dulcamara. It is a good agent in nasal catarrh used with local remedies. In retrocession of eruptions and in their first development, this remedy is often useful. Amaurosis and asthmatic troubles, from suppression of secretions, are improved by its use. It is a good alterative in scrofula and in syphilis, in the secondary or tertiary stages. It exercises a good influence on the kidneys and digestive organs.

SOLANUM CAROLINENSE.

Horse Nettle.

BOTANICAL ORIGIN.—The whole plant of *Solanum Carolinense*, Linne; Nat. Ord., *Solanaceæ*. From New York south and westward.

SPECIFIC SOLANUM CAROLINENSE.—This is made of the root of the plant and contains the alkaloid *Solnine*, discovered by Prof. Lloyd. The drug is quite energetic in overdoses.

This remedy was brought forward for the relief of convulsive diseases, particularly epilepsy. It has been extolled in epilepsy when the paroxysms take place mostly at the menstrual epoch. Good results are also reported from its use in infantile and hysterical convulsions and in puerperal eclampsia. The drug is probably much over-rated. The dose ranges from ten to thirty drops of specific *Solanum Carolinense*.

CANNABIS.

Indian Hemp.

SYNONYMS.—*Cannabis Indica*, *Hemp*, *Gunjah*, *Ganga*, etc.

BOTANICAL ORIGIN.—The flowering tops of the female plant of *Cannabis sativa*, Linne; Nat. Ord., *Urticaceæ*. The U. S. P. requires that grown in the East Indies.

SPECIFIC CANNABIS INDICA is of a green color and contains the green coloring matter of the fresh plant. It is highly resinous and when mixed with water produces cloudiness in small amount and a precipitate in large portion.

This plant is a native of wet places. It is a native of Persia, grows ten or fifteen feet high, and appears very much like common hemp, though there is a great difference in their medicinal qualities. A resinous substance which exudes from the stalk and leaves, or may be obtained by boiling in alcohol, is the part used.

Cannabis is narcotic, anodyne, antispasmodic, and sedative. As a narcotic it is safe, and no bad results may come from its misuse. It may be used as a narcotic or hypnotic when opium would prove objectionable. Under its use the breathing becomes regular, the pulse and skin remain normal, the pupils are slightly contracted, and there is no arrest of secretion, nor loss of appetite under its influence. If a powerful narcotic is needed give opium. When there is atony of the uterus it is a good agent in protracted labor as a stimulant, but its action is not permanent. It is useful in painful conditions of the stomach, as gastralgia, gastric ulcers, etc., and should be selected where opium can not be employed. It arrests the pain but does not disturb the appetite nor secretions. It has great power over painful spasms. It relieves pain in neuralgia, rheumatism, etc. Give of the tincture from one to three drops. It is valuable in chorea, relieving abnormal muscular action and giving sleep.

Strangury is controlled by Cannabis when the attacks assume spasmodic form. It is a good remedy in nervous diseases, with palpitation of the heart, neuralgia of the uterus, etc. Use it in hysterical convulsions. Headache attending the menopause is cured by it. Sick headache, resulting from fatigue or from menstrual trouble, is benefited by it. In these headaches give five drop doses.

In Bright's disease, when the urine is bloody, give the remedy ; give it also in the acute stage of gonorrhœa. Here it relieves spasms of the urethra, and lessens the tendency to chordee. In amenorrhœa and dysmenorrhœa it proves very

serviceable, as it does also in irritability of the bladder. The tincture of the English extract is a good preparation. Dissolve one ounce of it in one pint of alcohol. Use of this tincture from one to ten drops.

CONIUM.

Hemlock.

BOTANICAL ORIGIN.—The fruit of *Conium maculatum*, Linne; Nat. Ord., *Umbelliferæ*. Europe and naturalized in America.

CHIEF ACTIVE CONSTITUENT.—*Conine*.

This agent is resolvent, sedative, antispasmodic, and narcotic. It kills by paralyzing the spinal cord. In very small doses it is stimulant to the vascular and nervous systems. Large doses are narcotic. Locally it acts as a sedative. It produces sleep usually by relieving pain, thus removing the cause, and not, like opium, by benumbing sensation. Vary the dose according to its action upon the muscular functions of the patient. It may be employed in tetanus and in teething as an antispasmodic. Its alkaloid is very poisonous. Prussic acid destroys but little more quickly than does *Conine*.

Conium may be used as an alterative to impress glandular enlargements and for the relief of the pains of syphilis. Use it in chorea and epilepsy when due to sexual abuse. It relieves pain in rheumatism and neuralgia.

R, Specific Conium, gtt. v. to x.

Aqua, fl ℥ iv. M.

Dose, a teaspoonful as often as necessary.

Or the English extract may be given in doses of from one-half to two grains. The drug is of some value in acute mania and whooping cough. It is thought by some to exert some power over syphilis. Conium is contra-indicated by debility.

The following makes a good ointment for painful parts:

R. English Ext. Conium, ʒ ij.
 Vaseline, ʒvj. M.
 Sig.—Apply locally.

PASSIFLORA.**Passion Flower.**

BOTANICAL ORIGIN.—The root and stalk-base of *Passiflora incarnata*, Linne; Nat. Ord., *Passifloraceæ*.

SPECIFIC PASSIFLORA is made of the root and attached stem stalks. It has a green color and gives better effects than when made of the root alone. The first specific was of a brown-red color, being made only from the root, but now, as already stated, it is a deep green.

This new remedy is antispasmodic, hypnotic, and tonic. It quiets nervous irritation and promotes sleep. *Passiflora* should be used in atonic conditions. It tones up the sympathetic nervous system and improves the circulation and nutrition. Use this remedy in asthenic insomnia. In insomnia, with flushed face and determination of blood to the brain, it will do no good. In such cases give Gelsemium or bromide of potassium. *Passiflora* is of use in some cases of spasm in children, and it may be employed as a nervine at the menstrual period. In the insomnia of fevers, particularly low forms of typhoid, beneficial results are obtainable from this drug. The dose depends upon circumstances. Usually from ten to twenty drops every half hour, or every two or three hours.

PISCIDIA.**Jamaica Dogwood.**

BOTANICAL ORIGIN.—The bark of *Piscidia erythrina*, Jacquin; Nat. Ord., *Leguminosæ*. West Indies.

This agent is both soporific and sudorific. It has been used with some success in sick headache and neuralgia, particularly facial neuralgia. Its chief use, however, is as a hypnotic, being very valuable, it is said, in the insomnia of

aged individuals. While other agents which quiet nervous irritation, such as Pulsatilla, may be first selected, if these do not succeed in allowing sleep to take place, Jamaica Dogwood may be used. It should be given a trial in preference to the more powerful agents, such as opium. Administer from one-half to one teaspoonful at a dose. It sometimes produces nausea and other unpleasant symptoms.

CHLORALAMIDE.***Chloralamid.***

SYNONYMS.—*Chloramid, Chloral-formamide.*

DESCRIPTION.—This is a patented drug said to be obtained by the interaction of chloral and formamide. It is a feebly bitter crystalline compound, soluble in alcohol and water (9).

Chloralamid is one of the new hypnotics, and is reputed better than either chloral or sulphonal. There are contradictory statements regarding its safety, some claiming it safe under all circumstances, while others declare it dangerous where there are heart complications. One drawback to its use is its uncertainty in producing hypnotic effects. It may also induce vomiting.

Chloralamid is recommended as a sleep producer for the senile and neurasthenic, and for phthisical individuals. Chorea has been treated successfully with it, but as one class of this affection is self-limited in its course, too much can not be attributed to this drug. The dose recommended is from twenty to fifty grains in warm water. We have but little practical knowledge of this drug, but should recommend the smaller amounts as a beginning dose.

ANTISPASMODICS.

Agents which calm excited nerve centers so as to allay that irregular and oftentimes violent action of the muscular fibers (both voluntary and involuntary), popularly known as *spasm*, are called *antispasmodics*.

As spasmodic affections may arise from a number of causes so antispasmodics are of various kinds and act in various ways. A sedative may prove antispasmodic when indicated. Many of the antispasmodics are closely related to the narcotics, though many of them have nothing in common with that class of agents. We will notice but six in this group, many other drugs spoken of elsewhere acting also as valuable antispasmodic remedies.

ASAFETIDA.

Asafetida.

BOTANICAL ORIGIN.—The gum-resin yielded by the root of *Ferula fetida* (Bunge) Regel; Nat. Ord., *Umbelliferae*.

Asafetida is stimulant, antispasmodic, laxative, expectorant, emmenagogue, and nervine. It is a general excitant, causing acceleration of the circulation, quickened respiration, alvine mucous discharges, genito-urinary irritation, with increased sexual desires, and it also increases the broncho-pulmonary secretions. Dizziness and headache may ensue from its use in improper doses.

This agent is valuable in spasmodic affections arising from functional derangements. It is employed in hysteria, gastric and intestinal spasms, and in various catarrhal conditions,

when not accompanied with inflammation. It is a good remedy in atonic states of the stomach and bowels when associated with flatulence. It is likewise useful in flatulent constipation. The dose of this gum-resin is from two to ten grains. A tincture may be employed if desired.

EUPATORIUM AROMATICUM.**White Snake Root.**

BOTANICAL ORIGIN.—The root of *Eupatorium aromaticum*, Linne; Nat. Ord., *Compositæ*. Low woods in the United States.

This agent is diaphoretic, nervine, antispasmodic, and expectorant. Used freely in warm infusion it provides a valuable diaphoretic in acute pneumonia. Use it also in acute pleurisy and acute bronchitis. In these conditions it works well with *Asclepias*. It is useful in many febrile and inflammatory states where diaphoresis is desired and a stimulant is permissible.

As a nervine and antispasmodic it seems to exert a pronounced action upon the brain and nervous system, relieving irritation and tending towards a restoration of normal action. It is adapted to some forms of hysteria, chorea, and convulsive and spasmodic affections, and allays the restlessness, morbid watchfulness, and the subsultus tendinum of the last stages of low forms of fever. The dose ranges from five to thirty drops of specific *Eupatorium aromaticum*.

VALERIANA.**Valerian.**

BOTANICAL ORIGIN.—The rhizome and roots of *Valeriana officinalis*, Linne; Nat. Ord., *Valerianæ*. Europe, in both dry and damp situations.

This agent has a special affinity for the nervous system, being gently stimulant and antispasmodic, but not producing narcosis. Heaviness in the head accompanied with dull pain and other nervous disturbances, such as impaired intellect,

result from the taking of large doses. Large doses also increase the renal secretions and lessen the frequency of the heart-beat.

In medicinal doses it acts as a cerebral stimulant. It is adapted to those nervous conditions arising from enfeebled circulation in the cerebral structures. When thus indicated it controls pain, allays irritability, induces rest, and consequently sleep follows, but not from any narcotic property of the drug.

This drug is useful, as above indicated, in hysteria, hemi-crania, hypochondriasis, and especially in chorea, when given with *Macrotys*. Macerate two ounces each of *Valerian* and *Macrotys* in a pint of dilute alcohol and give the patient a teaspoonful three times a day.

CAFFEA.

Coffee.

BOTANICAL ORIGIN.—The seed of *Coffea Arabica*, Linne; Nat. Ord., *Rubiaceæ*. Tropical climes.

CHIEF ACTIVE CONSTITUENT.—*Caffeine* (methyl theobromine or trimethyl-xanthine), occurring in white, silky, feebly bitter needles, somewhat soluble in water, but more so in chloroform and alcohol. The citrate is largely used for nervous headache.

SPECIFIC COFFEE.—This preparation is made of the green Coffee and not of the burned. It is, therefore, quite different from the Coffee used as a beverage.

Coffee is stimulant and antispasmodic. It is of some value in nervous cough, with spasmodic constriction of the larynx. Employ it for dizziness in the head in nervous females. Drink a cup of strong Coffee without milk or sugar for nervous headache.

Coffee may be given for nervousness in children and for the mania arising from the abuse of alcoholics.

Large doses of coffee increase sexual propensities, while small doses lessen them. Remember that strong Coffee may form an important part of the treatment in cases of narcotic poisoning.

Persons who are habitually accustomed to the use of Coffee are not readily impressed by it in a medicinal way ; on the contrary, it is a useful remedy for those not accustomed to its use.

DROSERA.

Sundew.

BOTANICAL ORIGIN.—The whole plant of *Drosera rotundifolia*, Linne ; Nat. Ord., *Droseraceæ*. In boggy situations in Eastern North America and in Europe.

SPECIFIC DROSERA.—This preparation is made from the recent plant, but has an exceptionally dark color. Sometimes considerable precipitate is produced by age.

This drug is an excellent antispasmodic. It is a remedy of great value in cough. Use it where the cough is one of explosive character, the act being spasmodic and the air passages dry. It is a remedy for whooping cough and the cough of measles. It relieves also the cough of phthisis. For these purposes the following prescription will answer :

R. Specific Drosera, fl ʒ j.
Aqua, fl ʒ iv. M.

Sig.—Dose, a teaspoonful every hour.

It acts well in combination with Sanguinarine nitrate in tickling, dry cough.

BROMOFORMUM.

Bromoform.

SYNONYM.—*Tribromomethane*.

DESCRIPTION.—A sweet, agreeable, colorless liquid, produced by acting upon methylic alcohol and caustic potash with bromine. Its taste resembles that of chloroform. It

is an oily fluid insoluble in water, but soluble in both alcohol and ether.

This remedy is antispasmodic, antiseptic, and analgesic. Like its analogue, chloroform, it is also anæsthetic. This drug has been applied to ulcers, tuberculous and otherwise. Its chief use, however, is as a remedy for pertussis, from two to five drops being given three or four times a day. It is said to be a prompt and efficient remedy.

ANÆSTHETICS.

Agents capable of occasioning a temporary suspension of general sensation and consciousness, through their power of inhibiting the action of the higher brain centers, are known as *anæsthetics*. If their use be continued long enough the spinal cord and medulla become also impressed. The first effect of an anæsthetic is to increase the intellectual faculty, and this is followed closely by the stage in which the emotional functions become excited, after which narcosis takes place.

Anæsthetics are among the most valued of drugs. Under their use convulsions are subdued and surgical and other painful operations are performed without inflicting a particle of suffering to the patient. Care must, however, be observed in administering them, and each individual drug should be well studied before the beginner attempts to administer it. Always see that the patient is kept breathing, for upon this function depends the life of the patient.

Anæsthetics are *general* when they affect the whole system through the cerebro-spinal centers, producing narcosis. They are *local anæsthetics* when they produce circumscribed loss of sensation in parts to which they are applied. In the latter instance they act directly upon the peripheral nerves. (For *Cocaine* see *Coca* under *Tonics*.)

Anæsthetics, as a rule, are contra-indicated in grave cardiac disorders, as hypertrophy of the heart, valvular ossification, atheromatous states of the vessels, aneurisms, etc.

These agents destroy life through paralysis of the medulla centers.

MENTHOL.**Menthol.**

BOTANICAL ORIGIN.—A stearopten derived from oil of peppermint (from *Mentha piperita*, Smith) or from Chinese or Japanese oil of peppermint (from *Mentha arvensis*, Linne, var. *piperascens*, Holmes), and *Mentha canadensis*, Linne, var. *glabrata*, Holmes; Nat. Ord., *Labiatae*.

DESCRIPTION.—Colorless prisms or needles of a pure and strong peppermint odor, and an aromatic, warm taste followed by coldness when air or water is drawn into the mouth. Very slightly soluble in water, but freely so in alcohol, chloroform, ether, and oils.

This agent is used as a local anæsthetic. Applied to the skin it produces a burning, painful sensation, succeeded by coldness and numbness. It may be used locally for the relief of urticaria, pruritis ani, boils, carbuncle, toothache, neuralgia, sciatica, painful eczema, and hay fever. We have obtained good results from a weak solution of Menthol in olive oil as an application in pruritus vulva.

AMYL NITRIS.**Amyl Nitrite.**

DESCRIPTION.—This drug contains, besides variable amounts of undetermined compounds, about eighty per cent. of Amyl Nitrite (chiefly iso-amyl nitrite). It is a clear or pale yellow fluid, having a distinctive, fruit-like, ethereal odor, and a sharp, aromatic taste. It is very volatile and inflammable, scarcely dissolves in water, though ether and alcohol mix with it in all proportions. Glycerin also dissolves it. In solution in the latter solvent it gradually decomposes, forming amylic alcohol and ethyl nitrite. It should be kept in amber-colored vials, well secured, and in a dark, cool place. When exposed to the air Amyl Nitrite decomposes and leaves an alcoholic residue.

This drug is a very active agent and should be employed with care. When its vapor is inhaled it causes a cough, fol-

lowed by flushing of the face, throbbing of the carotids, quickened pulse, feeling of tension and giddiness in the head, and quickened respiration. If the dose be too large respiration becomes quickened and labored, blood pressure greatly lessened, and the arterial tension greatly relaxed.

By its powerful influence on the spinal cord Amyl Nitrite lessens nervous action. In doses of one-half grain given hypodermatically, or by mouth or inhalation, the face becomes flushed, the heart's action increased, the heat of the head, face, and neck is increased, as is likewise the entire cutaneous function. Its increasing of the heart action is due to its lowering of arterial tension by depressing the action of the vagus. Hence when arterial tension is desired to be lowered use this remedy, as its action is very rapid and certain. Though being a rather dangerous preparation it is not more so than others of equal value and power. It is the great remedy for angina pectoris, arresting almost every case and giving relief almost immediately, and its effects continue for considerable time. It is to be taken whenever an attack is threatened, and persistence in this treatment often works a radical cure. It is a very good agent in some cases of asthma, giving relief from the dyspnoea almost immediately. The more this disease depends on nervous derangement and the less upon structural lesion the more is this remedy indicated. It is a good drug in cardiac dyspnoea from anasarca or hypertrophy of the heart. It is very useful in very obstinate cases of whooping cough, when unusually severe. It gives present relief in neuralgia until a more permanent remedy has time to act. Certain cases of epilepsy are controlled by it. It is somewhat valuable in those cases where a long interval elapses between the attacks, but more so when they occur often. By inhaling its vapor from the hand or bottle the paroxysms may be prevented. In epileptics who have one attack immediately following another,

until ten or twenty spasms occur, this remedy will almost instantly stop the trouble.

By simply smelling Amyl Nitrite many cases of sick headache are cured. It is a good drug in troubles of nervous females at the menopause, as flushes of heat, followed by sweating, palpitation of the heart, and great prostration. Give it internally in small doses as follows: Dissolve fifteen drops in one ounce of alcohol and give from one to ten drops on sugar three times a day.

A few drops give relief in dysmenorrhœa. If its decided effect is desired let the patient inhale the vapor, as it is much more certain administered in this way. It varies greatly in its effects in different persons. Some can inhale from five to ten drops with no inconvenience, and in others a single whiff may produce a decided impression. Hence it should be given at first in small doses until its effects on the person are known.

CHLOROFORMUM.

Chloroform.

DESCRIPTION.—A liquid containing 99 to 99.4 per cent. (by weight) of absolute Chloroform and from 1 to 0.6 per cent. of alcohol. Chloroform is a heavy liquid, mobile, diffusible, colorless and clear, possessing a sweet, burning taste, and a peculiar and characteristic, ethereal odor. It volatilizes even at a low temperature. Though it is not inflammable, its vapor, when heated, burns with a green flame. Its density at 59°F. should not be below 1.490. It dissolves sparingly in water (200) and in all proportions of alcohol, ether, benzin, benzol, and essential and fixed oils. Its solvent powers are very extensive. It is easily decomposed by sunlight or daylight, hence it should be kept in bottles wrapped in dark paper, and placed in dark situations.

As death sometimes results from the use of Chloroform, every physician necessarily inquires whether or not he is

justifiable in using it. Death resulting from its use is very unfortunate for the physician as well as the patient, because the friends will think surely the doctor is to blame for the accident. But though life is occasionally destroyed by it, yet we are justified in using it for reasons hereinafter mentioned. Chloroform was discovered by Samuel Guthrie, of Sackett's Harbor, New York, in 1831, simultaneously with a physician in Paris named Soubeiran, and with Baron Liebig in Germany. In 1838 and '39 it was introduced at Liverpool by Waldeyer, and by him it was made known to Dr. Simpson as a substitute for sulphuric ether. Simpson had been looking for something in that line and he at once began experimenting with it. During the first experiment he and several of his friends experienced sensations of pleasure and soon became insensible. It was first used in public upon a patient undergoing an operation for necrosed bone, and Chloroform soon became popular as a substitute for ether.

In this country ether is used more than it is in Europe, where Chloroform has generally displaced it. Chloroform has some advantages and some disadvantages. It is a powerful solvent of many drugs, as camphor, gums, resins, iodine, etc. Its vapor is very heavy, being four times the weight of air. A warm atmosphere will hold more vapor of Chloroform than a cold one.

Chloroform is anæsthetic, antispasmodic, stimulant, and sedative. If given internally in small doses, as from three to five drops in a teaspoonful of water, it produces a sensation of warmth in the stomach and relieves any pain or spasm in that organ. If given in teaspoonful doses it produces a diminution of the pulse, slight reduction of the circulation, and slight anæsthesia. If locally applied and its vaporization prevented it diminishes the sensibility of the part, and if applied for some time it produces painful sensations and finally vesication. As compared with ether, Chloroform is more

direct and permanent in its effects, and less of it is required for anæsthesia. Its odor is more pleasant and less irritating, but ether is claimed to be safer. Chloroform is sedative and ether is stimulant, in all stages of their action. Some use a mixture of the two, the one counteracting the effects of the other, as regards sedation and stimulation. Some use a mixture of alcohol, Chloroform, and ether, called the A. C. E. mixture. The action of Chloroform, like that of ether, is chiefly on the brain and spinal centers. Inhalation of its vapors produces a lowering of arterial pressure, while on the heart it has a powerfully depressing influence, and when death results from it it is generally from cardiac paralysis, the patient dying almost instantly, even when the smallest amount may have been taken. Death from ether results from asphyxiation. Some persons have taken a pint of Chloroform without ill effects, and others have been killed by a fluid drachm of it.

When Chloroform is first inhaled pleasant sensations rapidly follow and soon the patient becomes boisterous after the stage of anæsthesia comes on.

Snow divides its action into five stages: The first stage is that during which slight effects are produced while the patient is perfectly conscious; the second takes in the dreaming, wandering state of the mind; this deepens into unconsciousness in the third stage; during the fourth stage there is relaxation of the voluntary muscles and stertorous breathing; in the fifth respiration is impeded, and deathly pallor of the face and death ensue. Other writers give only three stages of action, the first resembling alcoholic intoxication, and, in persons who are habitual drunkards, this stage may not be at once overcome. Others during this stage have merely a blunting of sensation, but remain conscious. This stage produces a very good condition for an obstetrical patient. During the second stage consciousness and sen-

sation are abolished and the muscles are relaxed. This is the stage for surgical operations. During the third stage there is profound narcosis with stertorous breathing. During the first stage the pulse is slightly quickened, in the second nearly normal, in the third very rapid and weak. Before giving Chloroform have the patient under the most favorable circumstances. Have abstinence from food for a few hours preceding its administration or vomiting may result, and should this take place the patient may inhale pieces of food into the trachea, thus causing disagreeable strangulation. If the patient is very weak give an alcoholic stimulant, as an ounce of brandy or whisky, before administering Chloroform. Have the patient undressed, or at least with the clothing very loosely applied, especially over the neck and chest. Have him in a recumbent position and use a napkin for an inhaler. Use as little of the drug as possible, though you will find that the greater the nervous excitement, the more Chloroform will be required. Have your patient calm and quiet, and believing that everything will be done for his safety. When its effects become manifest, watch the respiration and the color of the face, lips, and cheeks. If the face becomes purple and pallid, danger is near; when the breathing becomes stertorous, danger is at hand; also, if the patient gasps for breath, there is the greatest of danger! If respiration ceases, all means must be used quickly for its restoration.

Use artificial respiration. Have one person make pressure on the abdomen and alternately have another manipulate the chest, thus imitating respiratory movements. Lower the head, draw the tongue forward from the glottis, slap the chest, use electricity, etc. The danger is not always proportionate to the amount inhaled.

None but C. P. (chemically pure) Chloroform should ever be used. Enough air should be admitted to greatly attenuate

the vapor of the drug. Five per cent. of Chloroform vapor has produced death. As a rule three and one-half per cent. should not be exceeded. Use sufficient time in administering it, and don't get excited. Always have an assistant at hand. In performing surgical operations, when the patient is pinched, or his eyelids are turned up, he flinches, or looks conscious, give more Chloroform. Some conditions contraindicate its use. It is dangerous in extensive disease of the heart and lungs, though in some of these cases it is better to give than to withhold it. It may produce blood poisoning in the latter stage of pregnancy.

Chloroform being powerfully antispasmodic, it is the remedy for all spasmodic troubles. Thus in spasmodic asthma no other remedy compares with it. It is the one unfailing remedy. It does not cure the disease, but it always relieves for the time being. In such cases give enough to produce muscular relaxation and normal respiration. It is the remedy for hysteria when other remedies fail. This remedy never fails. Give it in bad cases only as a last resort, and then carry it to anæsthesia. It checks puerperal convulsions until other and appropriate remedies can act. Here it may be given with morphine. It is very useful in infantile convulsions, when no inflammation is present, as in some of these spasmodic disorders a speedy action is necessary, and without such a remedy in some of these cases the child will die. Some will die anyway. After the patient is under its influence give other remedies to prevent a return of the convulsive movements. Chloroform may be required to control the movements in tetanus and chorea, and to give temporary relief from pain in some forms of colic.

It is a very important drug in obstetrics, being safer in this state than in almost any other condition. It relieves pain and does not interfere with the force and frequency of uterine contraction, while it promotes relaxation and relieves

suffering. Use it in cases of turning or in any other severe operation, unless the patient be very much enfeebled by hemorrhage. In these cases do not use it unless necessary, and then do not administer enough to render the patient unconscious. She can give you much valuable information if conscious, though her pain may be subdued. Use it, unless contra-indicated, where there is great and unbearable pain, abnormal labor, to extract retained placenta, and in using the forceps. When performing craniotomy bring the woman fully under its influence. It may be employed in puerperal mania, where the woman is furious, and the trouble is not due to cerebral hemorrhage.

Chloroform is a good local anodyne. Use it in painful neuralgia, rheumatism, lumbago, etc. To relieve localized neuralgia, as of the face, wet a handkerchief with Chloroform and apply it to the part until the pain vanishes. Neuralgia has been cured by injecting Chloroform near the painful nerves. It causes great pain and swelling, and sometimes an abscess, but these soon pass away.

The following is a very elegant and efficient liniment for relieving pain :

R. Chloroform, fl ʒ vj.
 Tr. Aconite, fl ʒ ij.
 Spts. Camphor, fl ʒ iiss.
 Glycerin, fl ʒ ss. M.
 Sig.—Rub on the painful part.

This a good liniment in pulmonary troubles, as pleurisy, and for neuralgia, rheumatism, or pain in any part of the body.

In such troubles as hernia, gall-stones, fractures, and dislocations, use Chloroform by inhalation.

In delirium tremens, with marked depression, the following is a very good preparation :

- R. Chloroform, fl ʒ j.
 Dilute Alcohol, fl ʒ xij.
 Tr. Capsicum, fl ʒ xiiij. M.
 Sig.—Give this in teaspoonful doses in water.

This combination may be used also for spasmodic hiccough and flatulent colic. Use from ten to fifteen drop doses in water.

The following is a good mixture for irritating cough :

- R. Chloroform, fl ʒ ij.
 Beach Wood Creosote, fl ʒ j.
 Alcohol, q. s. fl ʒ j.
 Sig.—Inhale fifteen drops by atomization or other means.

ÆTHER.**Ether.**

SYNONYM.—*Sulphuric Ether.*

DESCRIPTION.—This is obtained by the distillation of alcohol with sulphuric acid, and it is then purified by distilling it with a solution of caustic potash, or preferably with a saturated solution of calcium chloride together with lime. It is a transparent, colorless liquid, containing 96 per cent. of ethyl oxide or absolute Ether and about four per cent. of alcohol with a little water, and having a specific gravity of 0.725 to 0.728. It has a burning, sweetish taste, and a peculiar and characteristic odor. It is soluble in water (10) and mixes freely and in all proportions with alcohol, chloroform, oils, both fixed and volatile, and in benzol and benzin. It is highly inflammable and must be used with great care because its vapor when mixed with air is very explosive.

It boils at 98.6°F. Its vapor is very heavy, being two and a half times heavier than air. Mixed with equal parts of water it contracts and loses bulk. No residue is left on evaporation.

The properties of ether are stimulant and anæsthetic. Applied to the surface and allowed to evaporate it lowers

the temperature, but if evaporation is prevented it produces pain, redness, and vesication. Parts may be frozen with a spray of Ether, produced by means of atomization. As a stimulant it is like alcohol, but its effects are more rapid and less permanent. It is a general stimulant, producing a full, strong pulse, pleasant state of mind, followed by a sense of depression and sleep. Its action is on the nerve centers. It first stimulates them and increases their functions, and then it depresses them. Its greatest value is as an anæsthetic. It is safer than Chloroform, though not so powerful. Chloroform is more pleasant and less inflammable. In the use of Ether as an anæsthetic great care is necessary. Only C. P. (chemically pure) must be used. The stomach must not be full or vomiting may result, and the patient may draw particles of food into the air passages. A sponge provides a good inhaler, or a folded towel may serve the same purpose. Either may be inserted in a paper cone. To produce insensibility, about one ounce, as a rule, is necessary. Hold the inhaler close over the mouth, but do not entirely exclude the air. The inspired air containing from sixty to seventy per cent. of Ether is safe. Administer it with moderate rapidity only. If given too rapidly unpleasant choking sensations are produced. When first inhaled it produces a burning sensation in the fauces. This is followed by exhilaration and buzzing in the head. Some weep, some laugh, and others rage, but in the second stage there is complete loss of consciousness, respiration becomes irregular, and when the stertorous stage is reached it must be given very carefully, or rather temporarily stopped, as stertor is an indication that the respiratory muscles are becoming paralyzed. If the face becomes pale or livid it indicates failing of the heart or respiratory organs. Its first effect is on the respiratory organs, and when death results from its use it is from paraly-

sis of the respiratory center. The heart continues to beat after respiration ceases.

Ether is valuable in obstetrics when there is great excitement of the nervous system and fear on the part of the patient. It may be used to relax a rigid os uteri, or to lessen the severity of pain.

In surgical operations it serves a good purpose. It may be used to subdue severe after-pains. A few whiffs of Ether relieves them greatly. Always observe the following proposition: In ordinary cases of obstetrics it is best to let nature alone, but in difficult cases when there is great nervous irritability and attending danger, Ether may be used. In case manual or operative interference is demanded use Ether by inhalation.

In puerperal eclampsia, use Ether until the patient becomes quiet and other remedies can be employed. Begin its use as soon as there are indications of an approaching convulsion, giving sufficient air in all these cases and stop administration of the Ether when coma comes on. Any of the volatile Ethers may kill sometimes, but in obstetric practice the Sulphuric Ether is the least liable to kill. It is also excellent in cases of hysteria, especially the hysterical convulsions occurring after child birth, arresting the paroxysms when properly used. It is the remedy in infantile convulsions when the trouble does not depend upon a morbid irritability of the nervous system with organic change. Always give enough to arrest the spasmodic action. In spasmodic asthma, when the paroxysms are severe, give an inhalation of Ether as an adjunct to internal treatment.

A few whiffs of Ether relieve nervous headache. Pour a little in the palm of the hand and inhale. To make its effects even more permanent in this state bathe the forehead with it. It is a good palliative in the treatment of neuralgia till more permanent remedies can act, and its effects very soon pass

off. It is very valuable in dysmenorrhœa when the pain is unbearable. Pain following the extraction of teeth is also relieved by it. It is sometimes a very good agent in delirium tremens.

Ether is both an antispasmodic and pain-relieving remedy. It relieves pain during the passage of biliary or urinary calculi, and it also promotes their expulsion by producing muscular relaxation. Bring the patient fully under its influence. It is a good agent to relieve pain or cramps in the stomach given by the mouth. HOFFMAN'S ANODYNE is made as follows: R. Sulphuric Ether, fl $\bar{5}$ j.

Alcohol, fl $\bar{5}$ ij. M.

Sig.—Give a teaspoonful in water until relief is obtained.

This gives a more permanent effect than Ether, relieving pain, promoting the expulsion of fluids and producing sleep. It is excellent in melancholy and depression of the spirits. As a topical application it is of value to check vascular excitement. It lowers the temperature and relieves pain, hence it is a good local application in strangulated hernia. It may be used in low forms of fever or when asphyxia is threatened.

CARDIACS.

In works on materia medica the remedies given under this head are variously classified, sometimes as sedatives, some of them, like *Digitalis*, as narcotics, etc. We have ventured in this connection to apply to the few drugs here considered the term *cardiacs*.

Cardiacs are vascular stimulants. They improve the nutrition of the heart and strengthen its contractile power as well as that of the blood vessels. They are all more or less different in action, yet they all are adapted to weakened conditions of the heart, and may be employed to give strength and regularity to the circulation. For their peculiar action the reader is referred to the respective drugs.

DIGITALIS.**Foxglove.**

BOTANICAL ORIGIN.—The leaves of *Digitalis purpurea*, Linne; Nat. Ord., *Schrophularinæ*. The leaves of plants grown in sandy soils; second year's growth only are official. Europe, also cultivated in gardens.

SPECIFIC DIGITALIS.—This is made of the imported, selected English herb. It possesses all the qualities capable of being abstracted and retained by an alcoholic menstruum. In many cases it is found that an aqueous preparation of *Digitalis* is desirable, and the infusion of *Digitalis* should be used. This, however, must be freshly made.

This is a biennial plant, a native of Europe. Its stem is from three to five feet high, its leaves large, alternate, and

deep green, and its flowers purple, hence it is called Purple Foxglove. The leaves are used and should be gathered from the mature plant during its second season. Its properties are sedative, narcotic, and diuretic. It is a sedative to the heart by improving the strength of that organ, thus acting as a cardiac tonic.

Digitalis rests the heart by prolonging the asystole, thus allowing the chambers to become better filled with blood. In proper doses it is a valuable drug, but in large doses it is poisonous. If poisonous doses be taken, it produces nausea, vomiting, salivation, giddiness, flushing of the face, cold sweat, swelling of the lips and tongue, fetid breath, intermittent pulse, convulsions, and death. It is an acro-narcotic poison; it paralyzes the heart, produces cramps in the limbs, depresses nervous functions, and irritates the digestive organs. The intermittent pulse in case of cardiac debility indicates *Digitalis*. Pereira says, "there are three degrees of its operation. First, when given in small doses frequently repeated it affects all the organic functions, but produces no effect on the cerebro-spinal function; all the other functions are depressed. Its influence on the circulation is not regular, sometimes exalting and at other times depressing it. Secondly, when large doses are given the previously named symptoms are increased in intensity. In the third degree, vomiting, purging, griping of the bowels, irregular pulse, cold sweat, great debility, convulsions and death take place."

In small doses *Digitalis* is a stimulant to the heart, but in large doses powerfully sedative. Its influence is best in atonic states. It may be used as a sedative in some fevers, acting somewhat like *Aconite* in these cases. It should be employed in small doses in chronic cases. Being a powerful heart tonic, it is a very good agent in heart disease with enfeeblement. It is the true opium for the heart. In sufficient doses it is one of the most powerful of sedatives,

though a stimulant to the kidneys as well. Applied to abraded surfaces it produces irritation and inflammation. It increases the circulation of the stomach by irritation of its mucous coat. In moderate doses it is stimulant to the muscles of the heart, and contracts the arteries.

Digitalis is one of the best remedies in the materia medica for dropsy, when the heart action is feeble. In general dropsy, when the breathing is difficult and distressing, especially when lying down, and the jugular veins are enlarged, the face pale or dusky, the urine high-colored and scanty, and the pulse frequent, feeble, fluttering, and irregular, we have the case for its exhibition. It gives increased power to the heart, and, being eliminated by the kidneys, it stimulates them to greater activity. Use it in many cases of cardiac disease where the heart action is feeble and rapid. These cases usually terminate in dropsy, and this is a good agent to prevent such a termination. It is valuable in rheumatism when the patient is threatened with heart failure from the effects of the disease. Use the infusion prepared as follows : Macerate one drachm of the leaves in eight ounces of boiling water. Give a teaspoonful every two hours ; this produces its effects very rapidly. The dose of the tincture ranges from one to ten drops ; of specific *Digitalis* from one to five drops.

Digitalis is sometimes used as a sedative and diuretic in scarlet fever. For this purpose we have better sedatives. It is of value, however, when dropsy supervenes after that disease. Hemorrhagic conditions, such as uterine hemorrhage, have yielded to *Digitalis*. It causes contractions of the uterus. It may be employed with *Ergot* in this trouble, as well as in hæmoptysis.

CONVALLARIA.*Lily of the Valley.*

BOTANICAL ORIGIN.—The rhizome and roots of *Convallaria majalis*, Linne; Nat. Ord., *Liliaceæ*. Indigenous to Europe, but both naturalized and cultivated in America.

CHIEF ACTIVE PRINCIPLES.—*Convallamarin* (cardiac stimulant) and *Convallarin* (purgative):

SPECIFIC CONVALLARIA MAJALIS.—This preparation is made of the fresh root of the plant. Confusion has arisen in some cases concerning this drug and false species have appeared in market. Fortunately Eclectics have not had to contend with these conditions for unusual care is exercised in selecting the true species for our specific.

Besides a tincture of the root a tincture of this plant may be made by using two parts of ninety-eight per cent. alcohol to one part of the plant. The doses of this is from one to ten drops in a little water.

Use this remedy to lessen the pulse when there is sluggish and obstructed capillary circulation. In moderate doses it slows the action of the heart and at the same time increases its power. In large doses it increases the heart's action. Its effect is tonic to the heart and blood vessels and hence it may be used in atonic conditions of these organs.

It is used considerably with *Digitalis*. It is superior in some respects to *Digitalis*, in not impairing the condition of the digestive organs, and in many cases it seems to exert a better tonic influence than *Digitalis*. *Digitalis* may destroy life by paralyzing the heart, but such action never results from the use of *Convallaria*.

Its properties are diuretic and heart tonic. It is a good remedy in dropsy and rheumatism, used for its influence on the circulatory organs. Give from one to ten drops four times a day. It is indicated in dropsy with feeble circulation and diminished blood pressure. Dose, from one to ten drops every three hours.

STROPHANTHUS.***Strophanthus.***

BOTANICAL ORIGIN.—The seed of *Strophanthus hispidus*, DeCandolle, after having been deprived of its awn; Nat. Ord., *Apocynaceæ*. Africa and Asia.

CHIEF ACTIVE CONSTITUENT.—*Strophanthin*, a glucoside.

SPECIFIC STROPHANTHUS.—This preparation is made of the cleaned *Strophanthus* seed. It is a very energetic remedy and must be used with care. The value of *Strophanthus* in Eclectic medicine has been established by the specific *Strophanthus*, which with us is the standard and not the seed or any other preparation thereof.

From this plant the natives of West Africa prepare the *Kombe arrow-poison*—a powerful muscle poison.

In small doses *Strophanthus* increases the appetite and improves digestion through its bitter and tonic properties. Its chief action, however, is that of a cardiac tonic. It is likewise diuretic. A few drops of a solution of the glucoside (1 in 1000) dropped into the eye produces local anæsthesia. This anæsthesia is said to be more powerful than that of cocaine. As a heart tonic it slows the beat, increases the energy of the heart muscle, and gives the organ rest by prolonging the interval between contractions. When a fatal dose is given the heart is arrested in diastole. While not cumulative, the doses may be too frequently given, and thus be equal to cumulative effects. Diarrhæa may be induced by its prolonged use.

This agent is a drug for weak heart and may be employed in cases similar to those in which *Digitalis* is employed, but not well borne. It is probably weaker in action than *Digitalis*, but, on the other hand, it produces no change in the size of the arteries, and, therefore, does not add an extra burden to the heart as *Digitalis* sometimes does. *Strophanthus* may be employed in cases of gradual heart failure, especially when occurring in the aged. The form in which

it acts best is that in which dyspnœa is marked and there are pains resembling those of angina. It is one of the newer remedies for dropsies of cardiac origin.

When dyspnœa and uræmia are concomitants of Bright's disease this drug renders good service, and it likewise reduces the dropsical accumulations which may result from this or other chronic affections of the renal secreting apparatus.

Strophanthus may, therefore, be employed where a cardiac stimulant and a diuretic combined are needed. The dose of specific Strophanthus may range from a fraction of a drop to five drops.

CACTUS.

Night-Blooming Cereus.

BOTANICAL ORIGIN.—The flowers and stem of *Cereus* (*Cactus*) *grandiflorus*, Linne ; Nat. Ord., *Cactaceæ*. Mexico.

SPECIFIC CACTUS GRANDIFLORUS.—This preparation has established with us one of the most useful of our medicines. It is made of the green stem of the true species, the sweet-scented *Cactus grandiflorus*. Among florists much confusion exists concerning this plant, for many other species are sold under that name. It is essential that the true *Cactus grandiflorus* be used, and that it be worked green and with the right menstruum. Otherwise this most important remedy will be of no value.

This plant is a native of Mexico, but is cultivated as a hot-house plant, and admired universally for its wonderful, large and showy, pearly or cream-white, nocturnal flowers, which are strongly fragrant.

The effect of *Cactus* is to strengthen the heart's contractile power, to regulate its movements, and to improve its general condition. It does not produce the unpleasant effects of *Digitalis*, and is an excellent cardiac tonic.

Large doses of Cactus produce gastric irritation, belching of acrid gases, and, in some cases, bilious diarrhœa and melancholia. To make a tincture add eight ounces of the comminuted drug to one pint of alcohol. Specific Cactus is an excellent preparation.

Cactus is sedative, diuretic, and antispasmodic. It acts upon the sympathetic nerves, and especially upon the cardiac centers. It is the drug to employ when there is a sense of oppression around the heart, and associated with mental depression. Use it in cases of hypochondria with fear of death, the patient firmly believing the disease to be incurable, but the doctor knowing better. Employ it in heart troubles resulting from nervous derangement. It is of much value in the functional cardiac derangements of nervous females, particularly during the menstrual period.

For the headache of menstruation :

R. Specific Cactus, gtt. x. to xxx.

Aqua, fl $\bar{3}$ iv.

M.

Sig.—Dose, a teaspoonful three or four times a day.

Prof. Scudder says of Cactus that it is neither sedative nor stimulant. According to our view it is a sedative, but not a depressant. Possibly its best property is that of a heart tonic. It may even be used in organic heart troubles, for, while it does not cure, it improves the nutrition of that organ.

SEDATIVES.

Agents which decrease or wholly quiet irritation and correct sympathetic innervation are denominated sedatives. By many sedatives and narcotics have been included in one class, but there is an important difference, which, we think, entitles sedatives to a class distinction, and that is that they produce sedation without first being excitant (stimulant). The first action of a narcotic is that of stimulation, after which it acts much like the sedatives in that it produces sedation. Further, sedatives do not act upon the intellectual functions, directly relieve pain, nor produce sleep.

Sedatives, as before stated, correct sympathetic innervation. This they do when given in proper, small doses. When given in large doses they act as depressors, hence the belief which many hold that agents classed as sedatives are depressants. When the true medicinal action of sedatives is obtained it is never that of depression, but tends rather toward normal action.

Sedatives are *direct* and *indirect*. *Indirect sedatives* are those which, through some influence other than direct action upon the nervous system, produce sedation. Thus the secondary effect of an emetic may be sedation.

Direct sedatives are absorbed into the blood and exert their action upon the nervous system in whole or part, relieving irritation. Their action is transient and directly opposite to that of stimulants. They markedly affect the circulation and control inflammatory and febrile excitation. Locally applied their sedative effects are produced much the same as

when taken internally. They are often topically applied in neuralgic and other painful and inflammatory local affections.

Some of the sedatives, as *Veratrum*, *Aconite*, etc., are frequently alluded to as the *special sedatives* from their marked action in relieving nervous irritability and in controlling circulatory disturbances. They likewise produce pronounced relaxation. (Compare *Narcotics*.)

VERATRUM.

American Hellebore.

SYNONYMS.—*Indian Poke*, *Swamp Hellebore*, etc.

BOTANICAL ORIGIN.—The rhizome and roots of *Veratrum viride*, Solander; Nat. Ord., *Liliaceæ*. United States as far south as the Carolinas.

CHIEF ACTIVE CONSTITUENTS.—*Jervine* and *Veratroidine*.

SPECIFIC VERATRUM.—This is made of recent (not green) *Veratrum* root. It is very energetic and must be used with caution. Many authorities consider that *Veratrum* depends exclusively upon an alkaloid for its medicinal value, but Prof. Lloyd considers that the association of the alkaloid and resinous constituents must be unbroken to give the full effects of this valuable drug. No solution of *Veratrum* alkaloids will produce the therapeutical action of specific *Veratrum*.

This is a native plant found growing in swamps and wet places. The rhizome is the part used and should be gathered in the autumn after the leaves fall. Several preparations are on the market which are of greater or less value. A very good tincture is made by taking eight ounces of the rhizome and macerating it two weeks in one pint of alcohol. Filter and use doses of from one to fifteen drops. Norwood's Tincture is another very good preparation. Our specific *Veratrum* is also a very powerful and reliable medicine.

Veratrum was used by the native Indians not so much as a medicine as for a poison. Certain tribes, when selecting a

chieftain from among the candidates, gave each of them a drink of a strong infusion of this plant, and the one who could stand the most of it was regarded the strongest and best able to endure hardship, and hence was chosen chief. In some parts of the East, farmers use it to protect their grain from the ravages of birds, by soaking the seed in the decoction. When the birds eat it they become paralyzed and are easily captured, but if they are not soon caught they recover and escape. Though so very powerful it does not make a very permanent impression on the system. In large doses it produces a reduction of the temperature, slowness of respiration, and circular dilatation of the pupil, impeded muscular motion, hiccough, headache, nausea, great prostration; the body becomes covered with clammy perspiration, pain in the stomach and bowels ensues, lividity of the skin supervenes, and life is threatened.

But although causing such alarming symptoms no deaths are reported from it. When given in sufficient quantities it produces vomiting and thus prevents fatal termination. In some cases given in doses of from five to ten drops to pregnant women abortion results, brought on by the excessive and frequent vomiting produced. This does not take place from any specific effect the drug has on the uterus, but from the prolonged constitutional disturbance which it produces.

Osgood, in 1835, made the medical profession acquainted with *Veratrum* and its action, though Tully had previously called his attention to it. In 1850 Norwood again came out with some opinions concerning it. He says that vomiting produced by it is solely from spasmodic action of the stomach with no action of the diaphragm. This action is not very severe, but protracted. *Veratrum* increases secretion from the lungs, liver, and kidneys, but depresses the circulation.

Veratrum is used in fevers and inflammations to reduce excited cardiac action, and restore secretions, as well as to

lessen the temperature. Here the danger to life and the destructiveness of the disease are in proportion to the increase of the temperature. Hence any agent that will lessen temperature and circulatory excitement will be indicated in the treatment of them, provided it produces no bad effects in itself. Our sedatives come in here, and are good agents in all such cases. Even though a sedative may meet all the primary requirements of the case, yet other remedies act more effectively when the sedation is accomplished. In large doses *Veratrum* is a very powerful arterial and spinal depressant, producing muscular weakness and paralysis. Therefore, it must not be given in large doses; but to obtain its sedative effect it must be given in small doses frequently repeated. Though powerful, its action is not permanent, and if ten drops be given in cases of increased vascular excitement and temperature, it produces a marked impression for a time, but in three or four hours the excitement is as great as ever. If given in doses of two drops sedation is slow, but when obtained is more permanent. Another objection to large doses is that it soon affects the stomach and can not be tolerated. In small doses it is stimulant to all the vegetative processes through its action on the sympathetic nerves, and removes obstructions to the circulation as well as increases heart power. As obstructions to the circulation are removed the heart beats less frequently to do its work, because of increased power and lack of resistance. It is a good remedy for inflammation of serous tissues with a cordy, wiry pulse. Here a sedative effect must be obtained rapidly, as a loss of a few hours may result in a fatality. Thus in peritonitis, especially puerperal peritonitis, the inflammation must be checked. Give doses of two drops every half hour; if this produces nausea give smaller doses, and when the sedative effect is obtained lessen the dose. This treatment may many times arrest the inflammation in pneumonia, when associated

with a full, bounding pulse. It generally controls the inflammatory action, lessens cough, and in every way improves the patient. Aconite is a better remedy here than Veratrum unless the pneumonia is markedly sthenic. Veratrum is the best known remedy to prevent inflammation in injuries to the abdominal walls, as by blows, etc. Give full doses if inflammation is threatened. It is far superior to Aconite in these cases.

Veratrum is a good remedy for puerperal convulsions. It must not be relied upon here alone, but it prevents inflammation and favorably influences the stomach, secretory organs and absorbents.

It is a very good drug when a sedative is needed in the early stage of acute dropsy given in alternation with Digitalis; the effusion sometimes rapidly disappears under its employment. It is valuable in the early stage of phthisis to control a violent condition of the circulation, and to bring down the temperature. Give it in one-half drop doses. It likewise proves useful in hemorrhages of an active character. In acute inflammatory rheumatism it lessens the pain and promotes elimination of the rheumatic poison.

Heart troubles, such as active cardiac hypertrophy, are relieved by Veratrum. In these cases the pulse is full, strong, and intense, the carotids pulsate forcibly, the eyes are blood-shot, and there is cough, headache, and weight in the upper epigastrium, while the heart may beat so violently as to shake the bed, and sleep is entirely prevented. This remedy relieves the excitement, the heart action becomes normal, the cough improves, and the patient is in every way better. Give one drop in water five or six times a day. If the pulse is feeble and rapid Digitalis is preferable.

Veratrum is a very good remedy in delirium tremens where the pulse is full and bounding, and the eyes red and blood-shot, with evidence of inflammatory action. Veratrum

improves the circulation and innervation, and gives sleep. Excellent results are obtained from its use in such diseases as spinal irritation, spinal convulsions, acute mania, cerebro-spinal meningitis, or any undue excitement of the spinal nervous system. In urgent cases large doses may be given.

Veratrum appears to be a specific in orchitis and is not without value in Rhus poisoning, and in certain forms of erysipelas.

ACONITUM.

Aconite.

SYNONYMS.—*Aconite Root, Monkshood, Wolfbane.*

BOTANICAL ORIGIN.—The tuber of *Aconitum napellus*, Linne; Nat. Ord., *Ranunculaceæ*. This poisonous plant grows in the mountain regions of Asia, Europe, and the northwestern portion of North America.

CHIEF ACTIVE CONSTITUENT.—*Aconitine*, an alkaloid too poisonous for use, though used to some extent in medicine.

SPECIFIC ACONITE.—This is one of our most important remedies. It is made of fresh Aconite and is very energetic. The color of specific Aconite is light brown-red, and it is a fearful poison in overdoses. Physicians must bear in mind that no antidote will counteract an overdose of specific Aconite, and that while very light in color it is very active in effects. Do not use in larger doses than we commend.

This plant is of the order of *Ranunculaceæ*, an order which comprises many valuable medicinal plants, as *Pulsatilla*, *Helleborus niger*, *Delphinium*, *Cimicifuga*, etc. Aconite is a native of the mountainous regions of Northern Europe and Switzerland. The stem is erect and simple, the leaves palmate and green, the flowers blue or purple, and the plant is cultivated for ornament. Its root resembles the Wild Turnip and its specific name is given it on that account. Its generic name is from a Greek word meaning rock. The plant is known by the common name of Wolfbane because it destroys

wolves, dogs, and cats, but horses eat it freely. The root is spindle-shaped, about the size of the finger, appearing much like horse-radish, for which it has been mistaken by some with serious results. It may, however, be distinguished from horse-radish by its shape, the root of the latter being of the same size for some distance from the base, while Aconite root is tapering, and lacks the pungent odor of the former.

Different estimates of Aconite are made by different writers. Fleming says concerning its toxic effects that five drops at a dose of a strong tincture causes a sensation of warmth in the stomach with slight nausea, dyspnoea, tingling of the lips and tongue, and diminished pulse and respiration. If in an hour a second five drops be given all the previous symptoms become more pronounced, the pulse sinks to forty or fifty, and respiration to thirteen or fifteen per minute. Vomiting may occur and continue for a day. If in another hour five drops be again taken all the poisonous symptoms increase, the face becomes deathlike, there will be frothing at the mouth, the voice, sight, and hearing are lost, wandering delirium ensues, and death ends the scene.

Aconite is not a new remedy, for it was in use in 1762. It was then used as a diuretic, diaphoretic, and narcotic, and to increase the flow of urine, relieve pain in rheumatism, and paralysis.

Aconite is a stimulant to the sympathetic nervous system, increasing the power of the heart to move the blood, and putting the vessels in better condition for its passage. The same system of nerves govern the heart and blood vessels, and a remedy that influences one also influences the other. Aconite is both stimulant and sedative. It is a very certain remedy to reduce the frequency of the pulse and an excited condition indicating lack of power in the heart and capillaries. Aconite reduces the frequency of the pulse by removing obstructions and giving cardiac power. It is indicated by a

frequent, small pulse ; by the hard, wiry pulse ; by the open, compressed pulse ; by the rebounding pulse ; by the irregular pulse ; and in any marked enfeeblement of the circulation. With Belladonna it is the remedy in congestion of the nerve centers, or to relieve cough from congestion. It controls undue activity of the excretory organs, as of the skin, kidneys, and bowels.

Dr. Phillips says that the ancients, who were well acquainted with mineral poisons, considered Aconite more deadly, and subsequent experience has proven that they were not far from wrong. Every part of the plant is poisonous, even the odor being so to some highly sensitive persons, causing fainting or temporary loss of sight.

When any considerable quantity of the juice enters at a wound on the skin, pain, cardialgia, suffocation, mental anxiety, and syncope result. If the twigs or leaves be chewed a sensation of numbness is produced that lasts many hours ; if the quantity be large death speedily ensues. Before death, pungent heat in the stomach, palate, fauces, painful numbness of the limbs, general tremor, severe vomiting, and a weak, irregular pulse, purging, suffocation, and death ends the scene. This indicates, the mind generally being all right until death, that it is not narcotic. A dog under its influence follows his master, but he has no feeling of touch nor pain. Death results from cardiac paralysis, the poison first acting on the medulla and then paralyzing the pneumogastric nerve. The cerebro-spinal nerves become paralyzed and voluntary movement is lost. The muscles are not affected, nor are the spinal cord and sensory nerves. Because of this powerful and poisonous effect it must be given with great care and in small amounts.

In all inflammatory diseases, as much of the difficulty as depends upon the exalted circulation and temperature will be removed by Aconite. Hence, use it in all acute inflam-

matory troubles, whether local or general. In local inflammation there is a tendency to exudation, adhesions, indurations, and enlargements. Such results will be prevented by Aconite better than by anything else. Some remedies depress the temperature more rapidly than Aconite, as Antifebrin, Antipyrin, and so on. But these do not lessen the danger from the disease, as does Aconite. Aconite is the great antiphlogistic of the materia medica. No remedy influences the capillary circulation better than Aconite, relieving congestion of those vessels. If the capillaries are obstructed arterial engorgement results, as the blood then has no outlet. This produces congestion, and then inflammation with increased heart action ensues, from the greater resistance to be overcome. This engorgement of arteries may be in any part, as the brain, lungs, etc., and gives rise to inflammation of those organs. No remedy in use will better prevent this than Aconite. Our two great sedatives are Aconite and Veratrum. The direct cause of sedation is their action on the nervous system, though they act secondarily on the vascular system. To control great vascular excitement give Veratrum, but in great nervous excitement, with small, rapid pulse, Aconite is the remedy. Aconite is the remedy to relieve pain when there is a small, rapid pulse, capillary congestion, and nervous excitement. Aconite cures quickly in cases of uncomplicated inflammation, generally giving immediate relief.

Aconite is the backbone of the Homœopathic practice. It acts in small doses with great certainty, and it has a wide range of application. Indeed it is the most valuable agent in the materia medica, but we must not expect it to cure everything; if cases are well selected it never fails to do its work. In cases of pure inflammatory rheumatism, independent of any organic lesion, and with no septic processes going on in the blood, Aconite is an absolute specific.

Aconite as a medicine is sure and rapid. It aids in the diagnosis of simple fever. If in twelve hours of treatment with Aconite, the patient is not well or markedly improved, he has more than a case of simple fever. In typhoid fever it will not arrest the disease as in simple fever, because there is a lesion of the blood which will not yield to any treatment at once. Homœopaths say that Aconite will not reduce the pulse one beat nor promote one drop of secretion in typhoid fever. We believe it an important remedy here and often indicated, and does good work in some cases, though Bap-tisia, as a rule, is better.

Aconite is of some value in cardiac diseases. In palpitation of the heart relief comes from it owing to the fact that it relieves the irritation upon which the trouble depends. For spasm of the heart with a sense of suffocation and a feeling as if the heart's action were about to stop :

R. Specific Aconite, gtt. v.

Aqua, fl \bar{z} iv. M.

Sig.—Teaspoonful every five minutes.

Asthma, with increased temperature, is also benefited by Aconite. Aconite is exceedingly effective in measles, small-pox, scarlet fever, etc., where there is hot, dry skin, excited circulation, and marked febrile action. Here it controls the temperature as soon as the eruption develops ; Belladonna is frequently demanded also. Aconite is the very best remedy to develop the eruption, control the temperature, and place the skin in good condition. It must not be expected to control the fever until the eruption appears. In the early stages of pneumonia no drug is its equal. It acts well even with Veratrum when the latter is indicated, because Aconite not only controls temperature and circulation, but acts directly upon the diseased structure. Aconite is a good remedy in pleurisy, though in some cases Bryonia is better, as is the case in the second stage of pneumonia. In pleurisy, in the

early stage, with a marked chill, cough, sharp pain on respiration and pressure on the intercostal spaces, Aconite is again the remedy. But after the acute pain subsides and considerable effusion takes place, the patient lying on the affected side, Bryonia is the remedy. We generally advise the use of Aconite and Bryonia in both stages of the disease.

Aconite is a very good agent in rheumatism. All simple inflammatory cases will be cured by it in two or three days, but in more complicated cases it may run five or six weeks in spite of everything. Aconite is not specific in rheumatism because the latter is a defect of the blood, but it helps toward a cure. Inflammatory rheumatism may affect the internal organs, as the lungs, liver, bowels, urinary apparatus. etc. Aconite checks inflammatory action in every place and it may here be given with some appropriate antirheumatic, for such combinations often act better than either remedy administered singly.

Aconite is a remedy for intermittent and rheumatic fevers; it is just as good here as in simple fever when indicated. It is the remedy for chill as well as for fever (in any stage, hot or cold), causing equalization of the circulation. Aconite is a very good drug in gastric fever, associated with a yellow tongue, bad taste in the mouth, and diarrhœa consisting of the passage of undigested food. Here use Aconite and Ipecac.

In erysipelas, when high fever is present, never omit Aconite. Aconite is an excellent medicine in many forms of inflammation of the skin. It assists in controlling the inflammation, and other remedies may be used for their specific influence on the disease. In inflammatory forms of brain disease Aconite may be given internally and applied locally. For topical use add one drachm to one pint of water. It is a good agent in apoplexy, with hot, dry skin and flushed face, when the trouble is due to hyperæmia of the superficial ves-

sels. But if the cerebral vessels are ruptured no remedy will cure.

R. Specific Aconite, gtt. v.
Aqua, fl \bar{z} iv. M.

Sig.—Teaspoonful every fifteen minutes.

Aconite is a good local application in most inflammatory troubles such as inflammation of the throat, with heat, dryness, and difficult deglutition.

If used early it scatters the inflammation and removes the swelling incident to tonsilitis. With Belladonna it is the remedy for dry, raw, sore throat. It is very effective in acute inflammatory laryngeal and bronchial troubles.

It is a good remedy in croup. If given early in psuedo-membranous croup it will abort or prevent the disease. It arrests the inflammation, prevents the effusion and coagulation, and promotes the absorption of abnormal products. It is one of our best remedies in catarrhal and spasmodic croup. Emetics are largely used here, but they are not always the best remedies. Give the emetic when the secretions are abundant and loose, and then continue with Aconite. In the large majority of cases Aconite alone is sufficient to cure.

R. Specific Aconite, gtt. iij. to v.
Aqua, fl \bar{z} iv. M.

Sig.—A teaspoonful every fifteen minutes.

Aconite is useful in many troubles of the female. In some conditions it is a good emmenagogue. Recent amenorrhœa, from cold, with increased temperature and circulation, is relieved by Aconite. It is a good agent in the vomiting of pregnancy; by its influence on the nerves it deadens their sensibility and removes the irritation. Give small doses two or three times a day for some length of time.

Aconite is one of the chief drugs in the treatment of diarrhœa, dysentery, and cholera infantum. Ipecac is the other great remedy for these troubles. In dysentery it may be used with Ipecac or magnesium sulphate. Bowel troubles of

an inflammatory character, and especially those resulting from colds, usually demand Aconite as a part of the treatment.

Aconite administered internally and applied locally relieves neuralgia, especially in the head, if not the result of some irritation, as from peripheral irritation or from bad teeth. Aconite, with Belladonna, usually gives relief. Women, at the menopause, often complain of "a rush of blood to the head"; this results from arterial torpor and produces pain, unrest, alternate chills and flushes of heat, palpitation of the heart, dyspnoea, fullness of the stomach, the bladder feels distended and there are frequent attempts to micturate. Give the usual doses of Aconite every half hour until relief is obtained. In hemorrhage from the uterus, lungs, nose, and excessive menstruation, it proves serviceable. Here it is indicated when the circulation is excited and the face is dry and hot. As a local application it is an anæsthetic and may thus be used to relieve pain.

In poisoning with Aconite remove it from the stomach as soon as possible and give animal charcoal in water followed by an emetic. For this sulphate of copper or sulphate of zinc may be used for rapid action. Stimulants may be given until the depressing effects pass away. Vinegar is, in a measure, antidotal to Aconite, at least it relieves the tingling sensation produced in the throat by the drug. If the amount of Aconite be very large death will surely result.

BRYONIA.

Bryony.

BOTANICAL ORIGIN.—The root of *Bryonia alba*, Linne, and *Bryonia dioica*, Linne; Nat. Ord., *Cucurbitaceæ*. Hedges and thickets of Southern and Central Europe.

SPECIFIC BRYONIA.—This is made of the recent selected drug imported from England. Commercial Bryonia is often

worthless from the attacks of worms and the effects of age. It must be worked promptly and with the right menstruum.

These are perennial plants, natives of Europe. All the plants of this order (Cucurbitaceæ) are succulent, creeping, or climbing, as the cucumber, squash, melon, etc. The root is the part used. It is large, forked, and bitter, and yields its properties to alcohol and partially to water. In large doses it is a drastic purgative, active and corrosive in action, destroying the mucous coat of the bowels, and giving rise to an uncontrollable diarrhœa. Its antidote, when given in poisonous doses, is an infusion of galls.

The physiological action of Bryonia is as follows: It excites the peripheral nerves and capillaries, producing symptoms of inflammation and nervous irritation. It is indicated when absorption of inflammatory or sanguineous or serous exudation is desired, no remedy being better in these cases. It is further indicated by a hard pulse, pain in the orbital and frontal regions, flushing of the right cheek, and irritating cough, with pain and soreness. It relieves irritation of the sympathetic nerves, lessens arterial tension and frequency of the pulse, promotes the elimination of heat, and puts the vascular system in good condition.

Bryonia is a very excellent remedy in lung diseases. In affections of the serous and synovial membranes it is the best remedy known.

Bryonia is a good agent in rheumatic affections, being more or less useful in all forms of rheumatism. It is a good remedy in rheumatic headache and sharp pain in the temporal region. For frontal headache and hemicrania, with tenderness of the scalp, and sharp, tearing pains, aggravated by motion, it is the direct remedy. If fever be present give it with Aconite. One controls the inflammatory action and the other the blood lesion. With Aconite it is an excellent drug in acute rheumatism, and in the chronic form it is one

of the very best medicines, especially when the joints are swollen and stiff. When the swelling attacks the finger-joints it is an absolute specific. In rheumatism of the spine, in children, when the parts are stiff and painful, it renders good service. It always does best in these cases when the pain is severe. Rheumatic toothache is relieved by it also.

Its influence on the blood is very salutary in scrofulous affections. In all scrofulous affections of the eye and ear, as scrofulous ulcerations, and in white swelling, associated with burning, stinging pain, very excellent results may be obtained from Bryonia. It proves useful in partial deafness following scarlet fever, with swelling of the glands.

Bryonia is a leading remedy for cough. In chronic cough, worse in the morning after eating and causing the patient to vomit, it is the most reliable remedy. In cough, with tickling of the throat, and in those cases excited by talking, walking, etc., it is also curative.

R. Specific Bryonia (1x dilution), gtt. xxx. to xl.
Aqua, fl ℥ iv. M.

Dose, a teaspoonful every hour.

Few cases of pneumonia and bronchitis occur without demanding this valuable drug. In bronchial troubles, with frothy and bloody expectoration, it lessens the cough and the amount of the expectoration. Use Bryonia in the typhoid pneumonia sometimes present as a complication of typhoid fever. When the pleura is affected be sure to give this drug. Should the chest become at all affected in typhoid fever give Bryonia early. In inflammations of the serous membranes and viscera, when fever is most pronounced, Aconite is the best remedy, but when serous exudation occurs Bryonia is the remedy. In all these cases these two remedies are indicated and may be given alternately. The decimal dilution is the best to use.

In all acute respiratory disorders first give Aconite and if

this does not relieve give Bryonia. It is the remedy for pleurisy, with sharp, cutting pain, and in so-called bilious pleurisy—associated with jaundice—it is very serviceable, and is particularly useful in those cases in which there is a burning sensation in the lung, and expectoration of tenacious mucus. For simple pleurisy, from a chill or cold, Aconite is the best remedy, but when insidious or complicated, Bryonia is the remedy. Give it in pleuro-pneumonia for its absorbent effects.

Bryonia gives good results in brain disorders, with serous exudations. It is also valuable in pericarditis, especially that form which results in hydropericardium.

Give Bryonia in mammitis where there are tender, swollen, and knotty mammary glands. Here associate it with Aconite. Hepatic affections, developing pain on pressure, and associated with high-colored urine and jaundiced skin, are benefited by Aconite and Bryonia alternately. It gives fine results in ordinary jaundice and in indigestion, where the food seems to lie heavy like a stone in the stomach. It is said to be of value in typhus fever with gastric distress, diarrhœa, and tympanitic abdomen. Bryonia, in most cases, seems to act best in the first attenuation.

PULSATILLA.

Pasque Flower.

BOTANICAL ORIGIN.—The fresh herb of *Anemone Pulsatilla*, Linne, and *Anemone Pratensis*, Linne; Nat. Ord., *Ranunculaceæ*. Europe.

SPECIFIC PULSATILLA.—This preparation is one of the most important remedies. Made properly it is invaluable; made carelessly it is valueless. The herb must be gathered quickly, as its life is short. It must be at once covered with alcohol and worked fresh. Dry Pulsatilla is of no value in our practice. Specific Pulsatilla has a green color which be-

comes darker by age ; when a year old it is much darker. It should be made fresh each season.

These are perennial plants, flowering in May and again in August and September. Their flower stalks are six or eight inches high, their leaves downy, and their flowers pendulous and purple. They are natives of Europe, where they grow in exposed places, hence they are commonly known as wind flower. Several varieties are indigenous to the United States. Use the specific *Pulsatilla*, which represents sixteen ounces of the plant to one pint of fluid, in the first decimal dilution ; or a higher dilution may be employed if desired.

In a concentrated form *Pulsatilla* is a local irritant to the mucous surfaces, giving a sensation of rawness, with bad breath and bad taste in the mouth, with acrid eructations. It produces a mucous diarrhœa and irritation of the whole urinary tract, with frequent desire to micturate, accompanied with tenesmus, etc. It causes catarrhal affections of the membranes of the nose, at first checking, and afterwards increasing their secretions. It also causes a sensation of constriction of the chest, with cough and expectoration, venous congestion, chilliness, and the patient finally becomes unconscious, depressed and sleepy. It stimulates the genital organs of the female, and causes leucorrhœal discharges and pain. In small doses it is specific in its action on the mucous surfaces of the eye, stomach, small intestines, urinary and sexual organs, checking irritation in these parts.

Pulsatilla is a good drug in scrofulous ophthalmia, rheumatic ophthalmia, and should never be omitted in the ophthalmia following measles. Weak and reddened eyes, when attended by pain after reading, are benefited by this remedy. Give it internally and apply to the eye a wash containing ten drops of specific *pulsatilla* in a half glass of water. Diseases of the internal ear are relieved by this agent, thus earache

in children from colds and exposure to winds, is many times cured by this remedy without local treatment.

It is a very good application, when diluted, for sore eyelids. It acts better when diluted than in full strength. The conditions indicating its use are opposite those for gelsemium.

Pulsatilla is the remedy for sick, nervous headache, with no determination of blood to the brain. The patient is pale, chills run up the back, and the limbs are cold. It is the remedy for headache at the menstrual period, when the menses are scanty or obstructed, the patient being pale and nervous. This drug relieves the pain and promotes the discharge.

Gastric headache, with a greasy taste in the mouth, accompanied with nausea, and bilious headache, with marked pain in the forehead, are promptly met by this agent. It is not the remedy when the suspension and headache depend upon fever or inflammation, as when resulting from cold. In this case Aconite is the remedy. But if no fever be present give Pulsatilla.

Pulsatilla is a good remedy in hysteria, though not at once arresting the paroxysm, as does some other remedies. It is useful in those cases where there are copious and frequent discharges of pale urine. It overcomes constipation in hysterical females, and it likewise relieves diarrhœa. In the constipation of nervous, hysterical females give it in alternation with *Nux vomica* every two hours.

In dysuria of pregnant women, accompanied with pain and tenesmus in the bladder, this is also a good remedy. It is of much value in catarrh of the urinary apparatus, especially in females, and also in the same cases in delicate men. Chronic diarrhœa is sometimes cured by Pulsatilla. In any sub-acute inflammation of the mucous surfaces, with mucopurulent discharge, use this remedy. For leucorrhœa use it both locally and internally. For the former purpose take of

the specific medicine one-half drachm to one pint of water ; inject into the vagina. When the discharge is milky, the patient pale, nervous, and chilly, the menstruation irregular, and headache, etc., present, give Pulsatilla in alternation with Iron. This improves the blood and relieves the anæmia. Gonorrhœa and amenorrhœa are both cured by Pulsatilla.

This drug also improves asthmatic breathing in females from menstrual suppression, and when due to pregnancy, and aids in difficult labor. It is a good remedy in uterine colic. It is not so good as Colocynth to arrest the disease, but it prevents its frequent return. Its effects are not immediate, but it is a good radical remedy. Give it in dysmenorrhœa between and during menstrual periods.

As a nervine Pulsatilla is useful in some cases, though generally inferior to other drugs. It may be used in atonic states when the patient is anæmic and nervous, but it is not the remedy for nervousness resulting from irritation of the brain or spinal cord. It gives good results in chronic irritation of the sexual organs. Pulsatilla specifically influences the skin, and is valuable in measles, chicken-pox, etc. In measles it is inferior to Aconite for developing the eruption, but when the patient suffers from catarrhal troubles and diarrhœa, Pulsatilla alternated with Aconite serves a good purpose. Pulsatilla specifically influences the mucous surfaces of the entire intestinal tract. It is a good remedy in some cases of dyspepsia in females. The cases relieved by it have little or no pain, more or less nausea, the tongue coated white, and the patient is nervous. It is indicated in cough, especially when sympathetic, as from stomach troubles. In some cases of rheumatism it may cure, though it is not so often indicated as Bryonia or Aconite, but in sub-acute rheumatism in delicate persons, when the pain is continually shifting from one part to another, this drug is an excellent remedy. Use the first decimal dilution.

ACIDUM HYDROCYANICUM DILUTUM.***Dilute Hydrocyanic Acid.***

SYNONYM.—*Dilute Prussic Acid.*

DESCRIPTION.—A liquid containing two per cent. by weight of absolute Hydrocyanic Acid and ninety-eight per cent. of water. It is a very poisonous, transparent fluid, colorless and volatile, possessing a peach-kernel odor, and being first cooling, and afterwards acrid to the taste. It should be very cautiously tasted if at all. It must be kept in well-stoppered, amber-colored vials.

This acid is made by distilling ferrocyanide of potassium and sulphuric acid with water. It slowly decomposes in the presence of light, and must, therefore, be kept in dark bottles. It is found in many plants, in the flowers and leaves of cherries and plums, and in the bark of wild cherry. In large doses it first stimulates the terminal branches of the vagus and through this affects the heart and lungs. If the dose be very large it paralyzes the organs and death results from asphyxia. Locally applied it first stimulates and then deadens sensibility; internally administered it influences the temperature, lowering it somewhat.

In proper medicinal doses it is sedative, anodyne, and antispasmodic. Moderately large doses stimulate and produce a very brief intoxication. In very small doses, as a teaspoonful dose of a dilution of from two to five drops in four ounces of water, it is a good agent in congestive headache. It relieves cough and quiets irritability of the air passages. Thus it is used in the cough of phthisis, quieting the cough, but not lessening the secretions. Here it may be given with syrup of Wild Cherry, always in small doses at first. In full doses it is a very good remedy in angina pectoris, though inferior to nitrite of amyl or nitro-glycerin. Whooping cough and any other spasmodic cough, as that of asthma, is relieved by this acid.

Administered in hysteria it removes the gloominess of the patient's mind. It is a good drug in dropsy of the heart or organic change in that organ, lessening its tumultuous action and increasing its contractile power. It relieves gastralgia, gastrodynia, cramp of the stomach, painful menstruation, cramps of the uterus, etc. In large doses this is a virulent poison, producing death with alarming rapidity. Very little can be done in poisoning with it, but if the patient be seen early and no paralysis of the respiratory centers is evident, give one-sixtieth grain of Atropine hypodermatically. Chlorine gas is also of some use. The theoretical antidote is sulphate of iron. Keep up artificial respiration, and allow a stream of ice-cold water to fall from a height upon the spinal column.

CAMPHORA MONOBROMATA.

Monobromated Camphor.

DESCRIPTION.—Monobromated Camphor is a permanent salt, both in the air and light. Water scarcely dissolves it, glycerin slightly, while alcohol, chloroform, ether, and oils freely affect its solution.

This compound is in the form of fine, colorless, elongated, or needle-like crystals, of a mild camphoraceous taste, and having also an odor somewhat like Camphor. In the lower animals it diminishes respiration and the pulsations of the heart, and reduces the temperature. It is a cerebral stimulant, hypnotic, and also a sedative nervine. It is a very good remedy in mental troubles. In fully developed mania it is not so good a drug as chloral, but it is useful when the mania is not so pronounced, and there is slight derangement of the nervous system, with increased temperature. When, during sleep, the patient's temperature increases, and he is distressed by mental irritation, this salt quiets him and gives him sleep. Give doses of from two to three grains every two or three hours. It is of value in some

cases of delirium tremens, as when wild, and the temperature is increased. Give two grains every hour until relief is obtained. In simple insomnia two grains given at bedtime, and once or twice during the night, give prompt relief.

Monobromated Camphor is useful in palpitation of the heart, in the same dose as above directed, when the trouble results from nervousness. Mild cases of hysteria and chorea are benefited by it. It is valuable in infantile convulsions in mild cases. It is not so good as chloroform to arrest them when severe. In small children give one grain every hour in mucilage. The child may take from fifteen to twenty grains during the day. It is a better drug to prevent the return of spasms than to arrest them.

LYCOPUS.

Bugle Weed.

BOTANICAL ORIGIN.—The herb of *Lycopus virginicus*, Linne; Nat. Ord., *Labiatae*. North America.

SPECIFIC LYCOPUS is made from the green herb and has a deep green color, quite different from the red-brown color of the fluid extract of *Lycopus*.

This is one of our native plants. Its properties are sedative, narcotic, tonic, astringent, and diaphoretic. Next to specific *Lycopus* a tincture of the plant is the best preparation. It may be used in place of *Aconite* or *Veratrum* to some extent. It is a very good agent in chronic pulmonary troubles, with great debility. It reduces frequency of the pulse and increases the patient's general strength. It reduces abnormal vascular excitement and creates no bad results. It is somewhat like Wild Cherry in this action, producing a marked effect on the sympathetic nerves and improving digestion and nutrition.

It is a splendid remedy in consumption, giving strength, quieting nervous irritability, controlling rapidity of the circulation, etc. Give drop doses on sugar every hour.

In acute pulmonary troubles it is also a very good drug, relieving pain and cough and giving rest to the brain. It is of much value in pulmonary hemorrhage, being one of the best agents for this condition, unless the latter be severe, when Ergot is the proper remedy, to be given hypodermatically, or gallic acid may be given in doses of five grains by the mouth. Lycopus given from day to day prevents a recurrence of the hemorrhage.

Lycopus is, therefore, a good remedy when the bleeding is frequent but not profuse. Lycopus is also a nerve tonic. It is useful in cases of wakefulness, when given in doses of two or three drops at bedtime. It is a remedy for palpitation of the heart in nervous people and a good astringent in diarrhoea and dysentery. Its astringency, however, is very slight and it probably cures by its tonic properties. Hemorrhage from the uterus may be arrested by it. In all cases with a slight tendency to hemorrhage and when a mild, soothing tonic is needed, this is a good remedy. Give of the specific medicine from fifteen to twenty drops in four ounces of water. Dose, a teaspoonful.

GELSEMIUM.

Yellow Jasmine.

BOTANICAL ORIGIN.—The rhizome and roots of *Gelsemium sempervirens*, (Linne) Persoon; Nat. Ord., *Loganiaceæ*. From Virginia to Florida.

CHIEF ACTIVE CONSTITUENT.—*Gelsemine*, a powerfully poisonous alkaloid.

SPECIFIC GELSEMIUM.—This preparation is made of the green root of Gelsemium. While many chemists assert that the alkaloid *Gelsemine* is the active constituent of Gelsemium, the fact remains that it will not do the work of specific Gelsemium. Neither will any preparation made of the dry root. The value of Gelsemium was largely established in Eclecti-

cism by the use of specific Gelsemium, and this preparation is made of the green drug.

This is a common plant in our Southern States. Its flowers appear in early spring and have a fragrant odor. The part generally used is the dried root, which is found in market in pieces from one to three inches long and one inch in diameter, of a brown color, bitter taste, and strong, unpleasant odor. To obtain the best preparation it should be prepared from the fresh, undried root. Its virtues are wholly extracted by alcohol, and partially by water. The root contains an alkaloid called *Gelsemine*, gallic acid, volatile oil, and coloring matter.

In large doses Gelsemium causes vertigo, impairment of vision, drooping of the eyelids (ptosis), dilatation of the pupil, and feeble heart action. Poisonous amounts increase the above symptoms and the lower jaw drops, speech is lost, respiration becomes difficult, the pulse is intermittent, and death from asphyxia ensues. Its medicinal properties were discovered by accident. A master in the South, when sick, sent a slave to dig some roots, but by mistake he got the rhizome of Gelsemium. It nearly killed the man, from the large doses taken, but it cured the fever. Its properties are sedative, narcotic, febrifuge, and antispasmodic. In proper doses Gelsemium controls irritation of the cerebro-spinal centers, and is very powerful in this respect. It prevents determination of blood to the brain, as indicated by the flushed face, bright eyes, contracted pupils, great restlessness, and agitation of the nervous system. It is contra-indicated when the eyes are dull, the pupils dilated, and the circulation feeble. Under these circumstances it is poisonous even in small doses, causing both paralysis and death.

As an antispasmodic, when indicated, its results are very good, as when given in spasms of teething children. It arrests the spasm and prevents its return. It may be given

before spasms supervene, thus saving time and unpleasant results. In cases of general morbid excitement of the nervous system it is a very good drug. Use it in scrofulous females of a plethoric condition, with undue redness of the eyes, and irritation of the brain. Under such conditions it is valuable in hysteria. Give enough to produce its decided effects, such as double vision and muscular relaxation. Begin with one drop of specific Gelsemium and increase the dose until the desired results are obtained, or use from one to five drops of the specific medicine every fifteen minutes until the spasm is arrested. It is a good drug in obstinate tonic convulsions, with cramps and muscular rigidity. Use large doses as above directed. Use it in muscular pains from over-exertion. Add from ten to twenty drops to four ounces of water and give a teaspoonful every three hours. It is valuable in many cases of palpitation of the heart in hysterical females. As a palliative in controlling the disagreeable symptoms in heart disease, such as a sensation of fullness in the head and dimness of sight, etc., it is exceedingly effective. R. Specific Gelsemium, gtt. x.

Aqua, fl $\bar{3}$ iv. M.

Sig.—Give a teaspoonful every two hours.

Gelsemium is often indicated in fevers and inflammations, generally to be administered in connection with Aconite. It has not the controlling influence over temperature and circulation that Aconite has, but its influence is chiefly on the nervous system, quieting nervous excitation. It is a very successful drug in simple or remittent fevers of infants, when there is a tendency to spasms, and also in some cases of intermittent fever. In these cases it may be used in connection with Aconite.

In eruptive diseases it is of value to control nervous irritation, but not to develop the eruption. Employ it in neuralgia due to nervous disturbances, when there are muscular

twitchings. Bowel troubles, as diarrhœa, dysentery, etc., when spasmodic in character, are benefited by Gelsemium. It relieves tenesmus and pain, but not so well as opium. Use it in painful menstruation, etc., for full doses are effective, relieving pain and promoting the discharges. It relieves spasmodic cough, as whooping cough, asthma, etc. Gelsemium is a favorite drug in obstetrics, to relax the os uteri when rigid, thin, and sharp, and to control great restlessness, and also in puerperal convulsions, and to prevent them. Spasmodic after-pains are promptly checked by it. In using this remedy remember that it paralyzes the motor centers of the brain and the respiratory centers of the medulla.

Gelsemium is a prompt remedy for spasmodic affections of the urinary tract. Urethral and cystic spasms are quickly checked by it. It relaxes the ureters during the passage of calculi. It benefits some cases of spermatorrhœa in plethoric individuals.

POTASSII BROMIDUM.

Potassium Bromide.

DESCRIPTION.—This permanent salt occurs in white or colorless, cubical crystals, or in white granules, devoid of odor, but intensely salty in taste. Soluble in cold water (1.6), boiling water (1), cold alcohol (200), boiling alcohol (16), and glycerin (4).

This salt was discovered in 1826 and introduced into England in 1836. It decomposes in the presence of mineral acids and must not be given with them. In the lower animals it impairs sensibility and muscular action, paralysis of motion preceding that of sensation, the voluntary movements being first affected and then the respiratory movements, the general circulation becomes sluggish, the capillary circulation diminished, the heart-action enfeebled, the iris paralyzed, and convulsions and death ensue. It is a sedative to the

heart and cerebro-spinal centers. In man it diminishes reflexes and irritability of the fauces and pharynx.

It is also sedative to the excito-motor function of the spinal cord, and impairs general sensibility, produces tottering gait, loss of vision, drowsiness, sleep, febrile reaction and loss of appetite. All these phenomena result from its power of restraining the capillary circulation in the nerve centers. It is a very powerful nervo-sanguine sedative. Some class it among the alteratives, and as such it is useful in enlargement of the spleen, in goitre, and in catarrhal and ovarian diseases. It is inferior to potassium iodide as an alterative.

For nocturnal emissions this salt is the very best known remedy, for by lessening the amount of blood in the organs it makes emissions practically impossible, but it must not be given to pale, anæmic men or it will make them worse. Give it when the patient is full-blooded, plethoric, and to those who are excited in both the nervous and vascular systems. Employ it in gonorrhœa to prevent erections. Give for these genital disorders not less than twenty grains three or four times a day, which dose may in some be increased to thirty or forty grains. Always give it in plenty of water.

Potassium bromide is not the remedy for anæmic diseases. In hysteria, in plethoric persons, it is a good remedy, especially if the trouble arises from irritation of the reproductive organs. When there are regular muscular twitchings, as of the face and throbbings in the abdomen or uterus, this is the remedy. It is one of our best drugs in nymphomania. It is a good agent in the cure or relief of nervous symptoms at the menopause. Give from ten to twenty grains of Potassium Bromide three or four times a day. It is a powerful drug in the arrest of insomnia, in sthenic cases, but not in anæmic subjects. Give it when there is a fullness and throbbing of the cerebral vessels, flushed face and great agitation

of the mind. Apply cold to the head and give this salt internally. It may be used when opium is contra-indicated. Use it in headache with the same symptoms, giving from twenty to twenty-five grains at one dose and afterward reduce it to ten grains every half hour. In delirium tremens give it in doses of from ten to twenty grains with the same amount of chloral. Marked results are obtained from the employment of this salt in acute insanity, with violent maniacal manifestations. Give twenty, thirty, or forty grains every three or four hours.

Owing to its power over spasms Potassium Bromide relieves whooping cough. Give from three to five grains to a child from three to five years old. Infantile convulsions may be prevented from returning by using this drug after arresting them with chloroform. Give one grain for each year in age. It is largely used and frequently with success in epilepsy, though some cases can not be cured with it nor with anything else. I have cured more cases of this disorder with Bromide of Potassium than with any other remedy, when the patient is extremely susceptible to external impressions. If the patient is depressed give ammonium bromide; if plethoric, give, Potassium Bromide. Morbid sensibility of the nervous system, as from fright, which may result in epilepsy, is generally curable by this agent. Some cases of epilepsy result from organic lesions, or may be congenital, and such cases it does not cure, though it renders the paroxysms less severe and fewer. Begin with fifteen grains in a wineglassful of water four times a day. If this is not enough forty grains may be given. Keep this up until an eruption appears on the skin, then reduce the dose. The remedy must be continued six or eight months, even after the patient appears to have been cured. Do not entirely withdraw the drug even after the resulting acne indicates that the system is well saturated with it.

Potassium Bromide is a good antispasmodic in puerperal convulsions. Give from fifteen to twenty grains every two hours. It is valuable in spasmodic asthma, nervous palpitation of the heart, vomiting of pregnancy, and so on. It is of some use in Strychnine poison, given in doses of one drachm at short intervals.

AMMONII BROMIDUM.***Ammonium Bromide.***

DESCRIPTION.—Ammonium Bromide appears in commerce as a crystalline, white powder, gradually changing to yellow on exposure and becoming acid in reaction. Its taste is pungent and saline. Soluble in water (1.5), boiling water (0.7), alcohol (30), and boiling alcohol (15).

This salt acts very much like its congener, potassium bromide. It is used in cerebral and spinal convulsions, and to lessen sexual excitement.

This drug will promote sleep when that function is interfered with by cerebral excitement. It is more irritating to the stomach but less depressing to the heart than the corresponding potassium salt. The dose is from five to twenty grains in water.

CHLORAL.***Chloral Hydrate.***

DESCRIPTION.—This compound occurs in separate, transparent, and colorless crystals, having a penetrating, aromatic, sub-acrid odor, and a bitterish and caustic taste. When exposed to the air it slowly volatilizes, and should therefore be kept in well-closed bottles, and in a dark, cool place. Rubbed with a like quantity of menthol, camphor, thymol, or carbolic acid, it liquefies. Soluble freely in water, ether, and alcohol, and is also dissolved by chloroform, oils, carbon disulphide, benzin, and benzol.

The properties of Chloral are sedative, anæsthetic, narcotic, and hypnotic. No other remedy of recent origin has been so extensively used as this one, it having been from the first very popular. It was first used in Germany and afterwards in England before being employed in the United States. So, although first made years ago, its properties were not known generally until quite recently. It was first used as a narcotic; in small doses it is hypnotic. Liebig did most to make it popular, having read a paper upon it before a medical society in Berlin in 1869. Richardson says, "It produces insensibility to pain and promotes sleep, quiet sleep, unlike the excited sleep produced by opium, but more like natural sleep." Its physiological effects on the lower animals reveal its nature. Chloral may be given by mouth, enema, or hypodermatically.

By the last method it is very liable to produce inflammation and ulcers. It first acts upon the cerebral ganglion cells, then on the spinal groups of ganglia, and lastly on those of the heart. Its action is very much like that of small, frequently repeated doses of chloroform. Deep and prolonged anæsthesia may be produced by it. During its action the temperature is reduced, as is muscular tonicity, its first effect being on the sympathetic ganglia. In small doses it arrests to some extent the coagulability of the blood. In large doses it destroys the blood corpuscles.

As it produces sleep it may be used in cases of sleeplessness with great nervous excitement when opium can not be used. In acute mania this is the remedy. In any case of delirium tremens, when opium would be dangerous, this may be used. It is indicated here by great cerebral excitation and tendency to inflammation of the brain. Give ten or fifteen grains of Chloral every three hours until sleep is induced. It is also good in hysteria in plethoric females.

As it relieves pain, Chloral may be used in many painful

diseases, as neuralgia, rheumatism, cancer, and minor surgical operations, such as fractures and dislocations. Use it in the conditions named when there is increased action of the heart and nervous excitement. After operations, when the temperature rises and the patient is excited and delirious, twenty grains of Chloral may be given every three hours, as its tendency is to prevent the deposition of fibrin in the circulatory system, thereby rendering it valuable in febrile and inflammatory troubles. It is a good agent to overcome muscular resistance or spasm, as in the passage of gall-stones, urinary calculi, etc. It renders the pain less severe and thus favors the expulsion of the concretions. It may be given with morphine if desired.

Chloral is a very useful remedy in both medical and surgical affections to overcome spasmodic complications. Use it for its antispasmodic action in strangulated hernia. It is valuable in tetanus, especially in the idiopathic form. Give thirty grains at bedtime when the temperature is very high, and, if necessary, thirty grains more at midnight. Feed the patient eggs and beef tea. This treatment increases the intervals between spasms, but it does not lessen their severity very much. Administered as above directed it cured seventeen out of twenty cases of tetanus at Calcutta. It is useful in cases of lingering diseases, when painful, and some soothing remedy is needed. It does not derange the digestive functions. Use it in the treatment of cancer. After opiates have been used and the appetite is lost substitute this remedy. It is useful in nearly all spasmodic troubles, as severe spasmodic after-pains (here it does not restrain the secretions), spasmodic asthma, etc. For the latter condition give from fifteen to twenty grains at bedtime. In some cases of phthisis it may be employed with much advantage to relieve the sensation of constriction in the chest, though in many cases it is contra-indicated.

In the treatment of delirium tremens (see above), when the brain suffers from want of stimulation, opium or alcohol are the usual remedies. But in those cases where the brain and nerve centers are over stimulated Chloral is the remedy. It is the remedy for great excitement, with dry skin and tongue, and it is contra-indicated in great atony and debility.

Chloral makes a good local application, being one of the very best antiseptics in the materia medicā. As such it is of great utility in diphtheria. Dissolve from twenty to twenty-five grains in one ounce of glycerin and paint the solution on the diphtheritic membrane. It overcomes the bad odor and promotes the removal of the membrane. Apply every hour or two. A combination of Chloral and camphor is a good pain controlling application. Use equal parts triturated together and apply it to the painful parts. Chloral is a good anodyne in neuralgia. A solution of from two to five grains of this salt in one ounce of water is a good antiseptic, and relieves itching of the mucous surfaces.

Compared with opium as a sleep-producing agent, when sleeplessness results from nervous excitement and active hyperæmia, Chloral is the first best and bromide of potassium the next best remedy. If it results from severe pain then opium is the remedy. In some cases Chloral and morphine may well be given together. One is sedative and the other stimulant. Morphine one-eighth grain and Chloral six or eight grains may be given at a dose. It has been said that Chloral is as poisonous as Strychnine, and so it is when contra-indicated. Cases of death from thirty grains of Chloral have been reported. When properly used two drachms may be safely given in divided doses during a day. When a decided effect is desired give fifteen grains in a tablespoonful of water or simple syrup. In poisoning with Chloral first give an emetic, and afterwards Nux, brandy,

Digitalis, or morphine as stimulants. Also use local means of stimulation. The heart must be kept beating. *Chloral should not be given when there is marked depression.*

ANTIPYRINUM.***Antipyrine.***

SYNONYMS.—*Antipyrin, Phenazon, Analgesine, Methozine.*

DESCRIPTION.—A bulky, crystalline powder, white, whitish, or reddish-white in color, nearly odorless, and slightly bitter in taste. Soluble in water ($\frac{2}{3}$), alcohol (1), ether (50), freely in benzene (benzole), and sparingly in benzin.

Antipyrine is one of the new coal-tar products. It is antipyretic and diaphoretic, and both of these properties it possesses in a remarkable degree. Its diaphoretic action is so great as almost to render it objectionable because of the debilitating effect produced by it. It is all-powerful in depressing the temperature. Many remedies reduce temperature, but not all in the same way. Some interfere with heat production and others promote its rapid elimination. This remedy is one of the latter class. In proper doses it is a heart tonic, increasing the blood pressure slightly and dilating cutaneous vessels, and is without bad effect on the blood or respiration. It is largely eliminated by the kidneys, and in rare cases it disagrees with the stomach and produces nausea and vomiting. It may be used whenever there is great necessity for reducing the temperature. Antipyrine is useful in phthisis for this purpose, but the sweating it produces is so debilitating as to make it oftentimes objectionable. In surgical fever, when the temperature rises very high after an operation, it is highly useful. Here it may be employed in doses sufficiently large to reduce the temperature and thereby check the inflammatory process. It is a good remedy in diseases of the respiratory organs in so far as the lesion depends on increased temperature. Thus in pneumonia it serves this purpose, though it has no direct action on the

diseased structures, as has Aconite. It is useful in some cases of pleurisy, to give present relief, though it has no direct action on the pleura, as has Bryonia. The dose given is generally small, not more than five or six grains, though it has been given in doses of thirty grains every hour for three consecutive hours with no serious results. This dose is, however, dangerously large, but in small doses it is a safe remedy. Children may take one grain every hour until three doses have been taken.

Antipyrine is a good remedy in some cases of headache, giving relief very rapidly, though it proves insufficient after a time. It is valuable in some cases of dysmenorrhœa, with increased temperature. Some claim it to be a good par-turient. The maximum dose is thirty grains, though, as a rule, five grains or less will be found proper under most circumstances.

ACETANILIDUM.

Acetanilid.

SYNONYMS.—*Antifebrine, Antifebrin, Acetanilide, Phenylacetamide.*

DESCRIPTION.—This drug is “the acetyl derivative of aniline” (U. S. P.), obtained by acting on aniline with glacial acetic acid and subsequently purifying the product. It forms shining, white, mica-like, crystalline laminæ, or a white, crystalline powder, without odor, permanent, and possessing a feebly burning taste. Soluble in cold water (194), boiling water (18), cold alcohol (5), boiling alcohol (0.4), ether (18), and freely in chloroform.

Antifebrine is another member of the coal-tar group. Acetanilide is the same thing under another name. Antipyrine is soluble in water but this compound is not very much so

It has a pungent taste. As an antipyretic its action is more permanent than that of Antipyrine; it slows the pulse,

promotes sleep and in some cases causes sudden collapse. It is not so safe a drug as Antipyrine, five grains of it producing the effect of fifteen grains of the former, hence it is generally used in doses of from two to five grains. It is a good agent in rheumatism to reduce temperature and relieve pain. Erysipelas, when the temperature is very high, is also benefited by it. Here give five grains of Acetanilid every two hours.

PHENACETINUM.***Phenacetin.***

SYNONYMS.—*Phenacetine, Para-acetamidophenetol.*

DESCRIPTION.—Paraphenetidin, a body obtained from pnenol, when acted upon by glacial acetic acid, yields Phenacetin. It occurs in odorless, tasteless, and colorless scales, slightly soluble in cold water, more freely in boiling water (70), and in alcohol (16).

This remedy is the best drug of the group of coal-tar products. It is antipyretic and diaphoretic. It is of much value in typhoid fever to increase the comfort of the patient. It does not shorten the disease at all. Use it as the two preceding drugs are used. In phthisis, in doses of two grains, it is useful to control high temperature; here it is better than Antipyrine, as it does not produce such profuse sweating as that drug. It is practically insoluble in water and may be given in capsules or floating on water. Its greatest value is in preparing the patient for quinine when the latter is needed. When the skin and tongue are dry quinine is contra-indicated. Phenacetine moistens the skin and tongue, and thus allows quinine to act favorably. Any one of the three preparations, Antipyrine, Antifebrine, or Phenacetine, may be used. Antifebrine is cheap and safe in small doses. The others are more expensive because patented. All are good remedies for headache.

ANTIKAMNIA.***Antikamnia.***

DESCRIPTION.—This agent is a white powder of uncertain composition, being a patented preparation. It is employed as a sedative and pain-relieving agent. It is efficient in some neuralgic forms of headache, and in inflammatory rheumatism. It is said to contain Antifebrin, therefore its action upon the heart must be watched, as with all of the coal-tar products. The dose of Antikamnia ranges from two to ten grains, the smaller or medium-sized doses being preferable.

SALIX NIGRA AMENTS.***Pussy-Willow Buds.***

BOTANICAL ORIGIN.—The catkins or aments of *Salix nigra*, Marshall; Nat. Ord., *Salicaceæ*. Common in the United States.

SPECIFIC SALIX NIGRA AMENTS.—This preparation is made of the green aments of the black willow and not of the bark, leaves, or root. Probably much disappointment has arisen over the fact that manufacturers of medicines, and physicians as well, have not discriminated in these different products. Specific *Salix Nigra Aments* has a light-green color and an herby flavor. It has an entirely different therapeutic action from preparations of *Salix Nigra* bark.

This remedy is a valuable sedative and tonic to the reproductive organs. It is an important remedy in spermatorrhœa to relieve irritability. It is the remedy to moderate sexual passion, and is adapted to those extreme forms of sexual disorders, nymphomania and satyriasis, where the trouble is due more to sexual irritation than to mental action. The specific medicine is an excellent preparation. Use from ten to twenty drops three or four times a day.

ÆSCULUS.**Buckeye.**

SYNONYMS.—*Ohio Buckeye, Smooth Buckeye.*

BOTANICAL ORIGIN.—The fruit and bark of *Æsculus glabra*, Willdenow; Nat. Ord., *Sapindaceæ*. Along river banks in the Western States, particularly Ohio.

SPECIFIC ÆSCULUS GLABRA.—This preparation is made of the fruit and not of the bark. Commercial fluid extract of *Æsculus glabra* is usually made of the bark.

This remedy powerfully influences the circulatory and the nervous systems. In poisonous doses it produces dizziness, impaired vision, fixation of the eyes, wry neck, paralysis, and convulsions.

This remedy may be thought of when the uterus is enlarged and exhibits a tumid cervix, and there is too frequent menstrual recurrence. It is one of the remedies, given internally, which specifically influences piles. A sense of marked constriction indicates it. Some cases of rheumatism have been benefited by Buckeye.

Cough, with constriction at the suprasternal notch, is promptly relieved by *Æsculus*.

The dose of *Æsculus* should range from one to five drops of the specific medicine.

HIPPOCASTANUM.**Horse Chestnut.**

BOTANICAL ORIGIN.—The fruit and bark of *Æsculus Hippocastanum*, Linne; Nat. Ord., *Sapindaceæ*. A native of Tartary, but cultivated for ornament in this country.

SPECIFIC ÆSCULUS HIPPOCASTANUM.—This preparation is made of the natural fruit, and not of the bark. The fluid extract is usually made of the bark.

Hippocastanum, in overdoses, produces vertigo, diminished eyesight, paralysis, convulsions, stupor, and coma. Its

effects are very much like those of *Æsculus glabra*, but less pronounced. Its action upon the circulatory apparatus, particularly upon the venous structures of the rectum, is very decided. This action upon the rectal veins makes it a good agent in hemorrhoids, both internal and external. It is adapted to those cases in which there is aching and burning, with hard, purplish piles, and in cases in which there is a sense of fullness, with a desire to evacuate the bowels frequently, and attended with diarrhœa. As Horse Chestnut overcomes capillary stasis it is a good remedy in congestive disorders, particularly of the viscera. It gives good results in visceral neuralgia.

The bark of the tree has been used as an antiperiodic to prevent the recurrence of the chill after it has been broken with quinine. The dose of specific *Æsculus Hippocastanum* ranges from a fraction of a drop to five drops every three or four hours.

STICTA.**Lungwort.**

BOTANICAL ORIGIN.—The entire plant of *Sticta pulmonaria*, Linne; Nat. Ord., *Lichenes*. United States.

The best preparation of this drug is specific *Sticta*. This remedy acts upon the base of the brain, relieving irritation. The pneumogastric and the parts which it supplies are markedly affected by it. By its sedative action upon the vagus it lessens irritation, lowers temperature, and controls cough, when these disorders depend upon wrongs of that nerve. Its chief use is as a cough remedy, though it acts well in some cases of heart affections. It is indicated when there is pain in the occipital region and between the scapulæ, with cough, or with cough and pain in the respiratory muscles. The pulse is soft, but has a peculiar thrill. Use it in rheumatism with the pain located as above mentioned, and particularly if persistent.

CERII OXALAS.*Cerium Oxalate.*

DESCRIPTION.—A white, odorless and tasteless, permanent, granular powder. Soluble in diluted hydrochloric or sulphuric acid, but not in water, alcohol, ether, or solutions of the alkalies.

This agent is a gastric sedative and acts much like subnitrate of bismuth. Its chief use is to allay vomiting of pregnancy, which it sometimes does, though it as often fails. The irritable gastric state accompanying phthisis, dyspepsia, and other chronic wasting diseases, is sometimes allayed by its exhibition. The ordinary dose is one grain, in pill or in water, three times a day.

ARGENTI NITRAS.*Silver Nitrate.*

SYNONYM.—*Lunar Caustic.*

DESCRIPTION.—This drug may be had in stick or in crystals. The crystals are transparent and colorless, and when exposed to light (in the presence of organic matter) become gray or blackish. They have a strongly metallic, caustic, bitter taste. Soluble in water (0.6), boiling water (0.1), alcohol (26), and boiling alcohol (5).

ARGENTI NITRAS DILUTUS, *Diluted Nitrate of Silver* or *Mitigated Caustic* comes in sticks, and is one-third silver nitrate and two-thirds potassium nitrate.

ARGENTI NITRAS FUSUS, *Moulded Silver Nitrate* or *Lunar Caustic* is ninety-five per cent. silver nitrate and five per cent. silver chloride, the latter to give it toughness. This is the most economical form in which to use pencils of this body.

Silver Nitrate stains the tissues black and unites with the fibrin and albumen of the body to form definite compounds. It stains garments, and is used in the preparation of indelible inks.

Silver Nitrate in doses of one-fourth grain is tonic, anti-spasmodic, sedative, and astringent. Larger doses act as a caustic. In large doses it is a corrosive poison. Its antidote is common salt. If taken in small doses for a length of time it colors the skin.

This agent has been given with reputed success in such diseases of the abdominal viscera as gastralgia, gastrodynia, and dyspepsia. We believe, however, that we possess better remedies.

As a local application Silver Nitrate is often of great value. It may be employed in ulceration of the os or cervix uteri. Employ the speculum, cleanse and dry the parts, and then touch the sores with Lunar Caustic. One application will sometimes cure.

In chronic ulcers use this drug as a local stimulant. Make a solution of from ten to forty grains to the ounce of water and apply. In some cases the solid stick will be found preferable. For ulcers, with exuberant granulations, this agent used as a mild caustic will establish a healthy surface and promote cicatrization.

For gonorrhœal ophthalmia :

R. Silver Nitrate, grs. v. to x.
Aqua dist., fl ℥j. M.

Apply the same in ophthalmia neonatorum. Keep the eye free from matter, washing it often with warm water.

In inflammatory affections and ulcerations of the mucous membranes it is often very useful to brush the part with a solution of twenty grains of Silver Nitrate to one ounce of water. This application is also said to be useful in the early stage of diphtheria.

For leucorrhœa, dependent on local irritation, or sub-acute inflammation :

R. Silver Nitrate, grs. iij. or iv.
Aqua, fl ℥j. M.
Apply with a swab or syringe.

In gonorrhœa of the female a solution of from ten to twenty grains in an ounce of water sometimes cures in a very short time. In gonorrhœa of the male it is sometimes used as an abortive, employing a solution of ten or twelve grains to the ounce of water. It is not a good application for this purpose, for it often aggravates the disease. In the latter stage of gonorrhœa from one to two grains to one ounce of water may be injected into the urethra after the patient has first voided his urine.

This drug is used in erysipelas, but is not so good as tincture of chloride of iron. It has often aborted epididymitis by being painted on the scrotum. Felons are sometimes aborted by the same, though we have often seen it fail.

As a caustic Silver Nitrate should be employed in stick form. It is quite superficial in its action, and is not suitable where deep cautery is desired. The antidote to this agent is common salt. In using a solution of silver nitrate upon the conjunctiva always have a solution of common salt at hand for use also.

PHYSOSTIGMA.

Calabar Bean.

BOTANICAL ORIGIN.—The seed of *Physostigma venenosum*, Balfour; Nat. Ord., *Leguminosæ*. Tropical portions of West Africa.

CHIEF ACTIVE CONSTITUENT.—*Physostigmine* or *Eserine*, a tasteless, non-crystalline powder. Soluble in alcohol, chloroform, ether, and less so in water. It strongly contracts the pupil.

Physostigma, and more generally its alkaloid, Eserine, are employed in ophthalmic practice to produce contraction of the pupil after Atropine dilatation.

Physostigma produces giddiness and a sensation of torpor, followed by extreme weakness, faintness, pallid surface, and failure of or disinclination to voluntary muscular movements. Large doses produce death.

This drug has been extolled in tetanic and in other convulsive disorders, particularly puerperal eclampsia. Fairly good results have been obtained from its employment in the latter disorder. It will be indicated here by the tremulous, weak pulse, and the forcibly upturned eyes.

It is a remedy for certain brain and spinal cord affections. Use it when the pupils are contracted, the surface cool, the limbs cold, and the pulse weak and tremulous. Dullness of intellect, associated with contracted pupils and a small and feeble pulse, point to its use in cerebro-spinal meningitis.

Sometimes a dilated pupil calls for this agent. If associated with the tense, small, and rapid pulse it will work well. In diseases of the respiratory organs, difficult breathing with a sense of constriction, point to its selection. The dose for the foregoing uses should be small, say from a fraction of a drop to five drops of specific *Physostigma*.

AMYGDALUS.

Peach.

BOTANICAL ORIGIN.—The leaves and bark of the twigs of *Prunus Persica*, Linne (*Amygdalus Persica* or *Persica vulgaris*); Nat. Ord., *Rosaceæ*. Extensively cultivated for its fruit.

Amygdalus acts upon the parts supplied by the vagus, relieving irritation. It is directly sedative, lessening nervous irritability, and slowing the action of the heart. Large doses produce the toxic symptoms common to prussic acid, the leaves seeming to possess the greatest poisonous quality.

This drug is the remedy for irritation and congestion of the gastric surfaces. Made by cold infusion and given in doses of from one-half to one teaspoonful frequently repeated it is very valuable in gastritis, both checking the vomiting and allaying the extreme irritability of the stomach. In cholera infantum and cholera morbus it is signally useful.

Nervous vomiting is quickly relieved by it, and combined with infusion of *Cornus sericea* it sometimes relieves the vomiting of pregnancy. In diarrhœa and dysentery it lessens the discharges by controlling the irritability of the nervous system.

Amygdalus is a good remedy for cough depending upon irritation of the throat and bronchial mucous membranes.

Prepare an infusion by macerating a half ounce of the bark and leaves in a pint of cold water. Dose, from a teaspoonful to a wineglassful. A tincture may be prepared from the green bark of the shoots and the leaves ($\bar{3}$ viij.) and alcohol fifty per cent. (Oj.) Dose, from five to thirty drops. Specific Amygdalus is usually given as follows :

R. Specific Amygdalus gtt. xx.
Aqua, fl $\bar{3}$ iv. M.

Sig.—Teaspoonful every ten to thirty minutes to relieve irritation ; every three hours as a gastric tonic.

Do not employ hot water in making the infusion.

ALTERATIVES.

The term alterative is an elastic one. All agents act in such a manner as to alter some function or condition. Yet the term alterative as generally applied, refers to such agents, acting in a quiet and unexplainable manner, as modify disordered processes of nutrition. Most of them are eliminatives of morbid material. How they act is not always known, but their effects are apparent.

Administered in small and continuous doses they improve the blood in quality, the appetite is increased, digestion promoted, and the process of elimination accelerated. Alteratives improve the nutrition of the nerve centers, and give greater and healthier activity to the circulatory and breathing organs.

A special action of alteratives seems to be the breaking down and removal of certain noxious materials from the system; in other words, they overcome certain states constituting "blood poisons" or toxæmia, as is evident from their effects in scrofula, syphilis, and in tubercular, carcinomatous, and malarial manifestations. Altogether alteratives form a very valuable, but none too well-known, class of medicines.

SULPHUR.

Sulphur.

DESCRIPTION.—There are three official kinds of Sulphur, differing in the manner of preparation as follows :

(1.) SULPHUR LOTUM or *Washed Sulphur*, prepared by digesting sublimed Sulphur with a dilute solution of ammonia water and finally washing with pure water. This is a fine powder of a yellow color, without taste or odor.

(2.) SULPHUR PRÆCIPITATUM or *Precipitated Sulphur* (Lac Sulphur or Milk of Sulphur), prepared by boiling with slacked lime and afterwards precipitating the solution with hydrochloric acid and thoroughly washing the precipitate with pure water. It is an odorless and tasteless, *pale-yellow*, fine, non-crystalline powder.

(3.) SULPHUR SUBLIMATUM or *Sublimed Sulphur* (Flowers of Sulphur), prepared by subliming crude Sulphur. A fine powder, yellow in color, having a feebly acid taste, and a faint, characteristic, Sulphur odor.

All of the Sulphurs are insoluble in water and are slightly dissolved by alcohol. Turpentine, benzol, most oils, ether, chloroform, and boiling solutions of caustic alkalies more readily accomplish their solution. The first and third varieties are partially dissolved by carbon disulphide, while the second—precipitated Sulphur—is readily dissolved by it.

All of the Sulphurs, when burned in contact with the air, evolve fumes of Sulphur dioxide, a suffocating and irritant gas, much employed as a disinfectant and deodorizer.

The ordinary Sulphur of commerce is obtained by roasting native Sulphur. Sublimed and precipitated Sulphur are also in use. For medicinal purposes washed Sulphur (*Sulphur lotum*) only should be employed for internal use.

Sulphur is one of the best alteratives in use; it also influences the skin, and is diaphoretic. It is a stimulant in moderate doses, and in large doses is laxative and cathartic. We may use the sublimed article or employ it in triturations, the first decimal being the best, as above stated, though washed Sulphur is preferable for internal exhibition. The dose of Sulphur varies from the fraction of a grain to a

teaspoonful. If given in doses of five or six grains it produces no sensible phenomena; in doses of one drachm it causes some movements in the abdomen, and slight evacuations, which are soft and pasty but never watery. In doses of ten or fifteen grains every hour the temperature of the skin is increased, perspiration is induced, and the circulation is quickened. The odor of it is exhaled from the skin, and silver in contact with the exhalations becomes tarnished; it may also be found in the urine and milk.

Sulphur is contra-indicated in high grades of fever and inflammation on account of its stimulating influence. Sulphur is a specific remedy, and one of great value. Many chronic conditions may be benefited by small doses of Sulphur administered for its alterative effect. Give from five to ten grains of the first decimal trituration. It has a specific action on the skin, and is a very good stimulant to the sexual organs, in large doses producing in them great irritation. It is especially valuable as an alterative in scrofulous diseases, particularly those of the mucous surfaces of the vagina, urethra, conjunctiva, etc. It is specifically indicated by burning and itching of the membranes, and more strongly if there is a mucous discharge. Therefore, it is a good remedy in diarrhœa, when the discharge is largely mucus. Look to Sulphur in all scrofulous troubles. In many of these it may be sufficient alone, for it so alters the condition of the patient and the nature of the disease that a cure is generally effected. In chronic diseases, when the patient gets along badly, stop the use of the usual alteratives and give Sulphur for a week or a month, until good results come. It is valuable in scrofulous ulcerations and indolent ulcers, when given internally. It is a vital stimulant, and improves the condition of the part so as to promote the healing process. In such cases let the patient take as much as can be placed on a silver dime night and morning. In obstinate cases of skin disease, when the sur-

face is torpid and inactive, and internal remedies do not give good results, give the patient a Sulphur bath. Put him on a thick-bottomed chair, having a frame to support a covering for the body; place a hot iron or vessel under the chair and sprinkle it with Sulphur, allowing the fumes to envelop the body.

The application of Sulphur to the skin, as Sulphur one part, starch two or three parts, is very good treatment in chronic eczematous troubles. In all skin diseases, when the eruption resembles the itch, Sulphur is an absolute specific. In herpetic eruptions it is very efficient. Let the patient have ten grains of the 1x trituration two or three times a day for a week, or longer if the patient's case is obstinate. It is a very good remedy in scald head. This is very obstinate in some cases, but it should not be suppressed by the use of strong acids nor alkalies. Some application is necessary to allay itching and irritation. Give Sulphur internally and annoint the part with cod liver oil, keeping a silk cap on the head. In the dry form of the disease this treatment is most efficient. For psoriasis, where the epidermis scales off, and for liver spots, or morpoh, give five grain doses of the 1x trituration. It is very efficient in successive crops of boils, seeming to remove the cause which produces them.

Sulphur is an elegant remedy in chronic rheumatism with darting, tearing pain, especially in persons of a scrofulous diathesis. Sometimes a flannel bandage thickly dusted with Sulphur applied gives relief. Also administer the trituration in five grain doses. It is also useful in scrofulous diseases of the joints, such as hip disease. In scrofulous ophthalmia and in other forms of sore eyes in scrofulous children, with red, swollen lids, Sulphur is a good remedy. For irritation and soreness of the angles of the ears and mouth, use Sulphur internally and borax and salicylic acid locally.

Sulphur is very beneficial in dyspepsia, when the patient is scrofulous, and more especially when there is a sense of weight in the stomach after eating, bad taste in the mouth, heart-burn, diarrhœa, with tenesmus and offensive evacuations, or constipation. Here give five grains of the trituration four times a day.

For hemorrhoids Sulphur is one of the best remedies in use. When attended by a severe pain in the back and the evacuations are hard, more or less bloody, and attended with tenesmus, protrusion of the bowel and constipation, keep the bowels toned up, and give Sulphur in doses of half a teaspoonful in half a teacupful of milk if agreeable. Give this at night and after two or three days give as much more if necessary. In a few days the evacuations of the bowels become more natural, the pain lessens, and the tumors ultimately disappear. This treatment generally is efficient. In ulceration of the anus or rectum use a mild Sulphur ointment topically, with Sulphur internally.

Sulphur may be used for its influence on the urinary and reproductive organs. It is a good agent in incontinence of urine, associated with irritable bladder and hemorrhoids, in chronic catarrh of the bladder, and in sexual weakness. It is of great value in some female disorders, as amenorrhœa, when the patient is anæmic and instead of the natural flow there is a sort of profuse leucorrhœal discharge. Here the patient is generally scrofulous and Sulphur benefits her. Give from five to ten grains of the trituration three times a day in such cases. Females of a scrofulous diathesis are very apt to have sore nipples, and here always use Sulphur. It may be well to use it before confinement.

Sulphur is a good drug in troubles of the respiratory organs, as in consumption, with offensive expectoration. Use it also in bronchitis, asthma, chronic nasal catarrh, etc., with profuse and unpleasant discharges. As a rule give it

in small doses. In asthma, with profuse secretions, it lessens both cough and expectoration.

Sulphur is many times superior to Strychnine in paralysis. If the patient does not improve on Strychnine give him Sulphur. Give the drug either alone or with other remedies. Some recommend Sulphur as a prophylactic against cholera. As a local application it is very good in diphtheria. Blow or dust the powder on the diphtheritic membrane.

Sulphur is the great specific remedy for itch. This disorder results from a parasite which Sulphur destroys. A very good preparation for this purpose is the following :

R. Sulphur, $\bar{3}$ j.
Potassium Carbonate, $\bar{3}$ ij.
Lard, $\bar{3}$ iv. M.

Sig.—Anoint the parts from two to four times a day after having cleansed them thoroughly with soap and water.

After curing destroy or disinfect all clothing worn during the disease. The following preparation makes a good hair tonic: Triturate one drachm of milk of Sulphur with ten drops of oil of Bergamot. Again triturate this mixture with two drachms of glycerine and add twelve fluid ounces or rose water. Apply with a soft sponge once a day. This will produce a growth of hair if the follicles are not dead. If it is desired to darken the color of the hair add twenty grains of lead acetate.

Remember that Sulphur is contra-indicated when there is high inflammatory action. The ordinary dose ranges from one-half grain to one drachm. Prepare the 1x trituration by rubbing together Lac Sulphur one drachm, and milk sugar nine drachms. Dose, five grains.

POTASSII IODIDUM.**Potassium Iodide.**

SYNONYMS.—*Iodide of Potash, Kalium Iodatum.*

DESCRIPTION.—This salt is in the form of transparent or translucent, colorless, cubical crystals, or in a granular, white powder. It has a very feeble odor of iodine, and a sharp, saline, and disagreeably bitter, brackish taste. The opaque crystals are less pure than those above described, having been allowed to crystallize from an alkaline liquid. Potassium Iodide slightly deliquesces in a moist atmosphere. Soluble in cold water (0.75), boiling water (0.5), cold alcohol (18), boiling alcohol (6), and glycerin (2.5). Keep this salt in well-stoppered bottles.

Potassium Iodide is prepared from a solution of potash and iodine. From this salt we may get all the valuable therapeutic properties of iodine. It is very valuable for destroying morbid materials in the fluids of the body and with the other iodine salts acts as a catalytic; these iodides differ from restoratives in that they do not remain in the blood, but promote retrograde metamorphosis and are eliminated with the products thus formed. By their action the iodine present antidotes or counteracts the poisonous action of morbid matter, as when used in scrofula, syphilis, etc. Good or bad results may come from its use here according to the amount of judgment used in administering it. In proper doses, by its chemical action in the blood, it destroys morbid matter and promotes elimination of it. This material is first selected, but if given during health the sound tissues are attacked and the blood is robbed of its fibrin and albumen, and the muscular system preyed upon.

Under the influence of iodine and its salts enlargements often rapidly disappear and even normal structures may be reduced in size. Hence it is a good agent in dispersing tumors, etc. In some of these cases it is successful and in

others it fails. It removes those that depend upon some cachectic condition of the system, as scrofula. Bronchocele is one of the enlargements that is frequently cured by it. Any enlargement due to hyperæmia generally yields to it. When one depends upon a more solid organized growth, cachexia not being present, only surgical means will remove the abnormal growth.

This drug is valuable in many cases of syphilis, though in some it does no good, or it may do harm. It is not of much use in the primary stage of the disease, and, in fact, here it is seldom or never called for. No specific remedy prevents secondary symptoms when given in the primary stage, but the disease may be modified and the system so protected against its ravages that the final result may be favorable. In the early stage of the disease the best that can be done is to get the patient's system in good condition, keeping the digestive tract, skin, and kidneys doing their work well; in the second stage this remedy is not usually called for, though small doses of *Stillingia* may prove advantageous. In some cases small doses of Potassium Iodide, as from two to five grains three or four times a day, may be given in alternation with *Stillingia*. But in the third stage of syphilis this is the most valuable agent at our command. Destructive ulceration is speedily arrested by it. Syphilitic affections of the bones, as caries, necrosis, periostitis, etc., and of the brain, are removed by it. For affections of the skin of like origin it is also a good remedy. But those remedies usually so efficient will fail in some instances, so we must select our cases. This salt acts best when the tongue and mucous membranes are pallid; when the tongue is red and pointed the drug is contra-indicated. Take a case of syphilis with syphilitic ulcerations threatening to destroy the patient's nose. In some of these cases very large doses may be given. Begin with five grains five times a day and increase until

twenty or even over thirty grains may be given at a dose. Never give the drug in concentrated form, but always well diluted. Administer it in syphilitic disorders of the internal organs, as of the liver, kidneys, etc. Under its influence the ulceration stops, healthy granulations spring up, and the patient improves.

Potassium Iodide makes a profound impression on the nervous system, and many nervous troubles are benefited by its use, especially when recurring in syphilitic patients. The patient may come to you with some nervous trouble, having no signs of syphilis, but yet remedies do not relieve it; if you learn that the patient has ever had syphilis, give this remedy. Another patient may have a distressing neuralgia which does not improve under treatment; it is altogether probable that he has or has had syphilis, and, if so, give this drug. Some cases of epilepsy, associated with a syphilitic taint, are benefited by its use.

Some persons are very susceptible to the influence of this drug and can not take it in large doses, for it produces in them symptoms of acute catarrh, with a bad metallic taste, the condition altogether assuming the form of a bad cold. So begin its use with one grain doses and gradually increase it until twenty or thirty grains may be given at one dose. Remember that when giving large doses always give it well diluted, as it is irritating to the mucous membranes in a concentrated form.

Rheumatism and gout are frequently benefited by this remedy. The pain in chronic syphilis resembles that of chronic rheumatism.

Often when a patient complains of rheumatic pains he has syphilis, and such pains are generally most severe during the night, though they may come from either disease. Give the Iodide in doses of from two to five grains three times a day. In chronic rheumatism it may be given with Macrotys, and

especially should it be associated with the latter when syphilitic manifestations are also present. It is a good remedy in obstinate cases of sciatica and lumbago. In scrofula this proves serviceable ; it promotes waste by removing the worn-out material from the body. Give it in connection with some restorative, such as cod liver oil. Give from two to five grains three times a day ; if five grains prove too depressing reduce the amount. Generally the patient gains strength rapidly under this treatment. It is a good drug to dry the lacteal secretion ; give ten grains daily in broken doses, and use Belladonna locally.

Though not a hydragogue, Potassium Iodide is a good remedy in some cases of dropsy. It frequently relieves the dropsy of Bright's disease. It does not cure the disease and does not lessen the amount of sediment in the urine, but it promotes a copious flow of urine which carries away the effete matter. Though efficient as a diuretic in dropsy, on the healthy body it has but little effect in this way. This drug exerts a marked influence on all the mucous membranes. Following its use there is an increased secretion of the nose, bronchi, and larynx, and also looseness of the bowels if it be given in full doses. Owing to the fact that it increases secretion, it is a good remedy in some cases of cough arising from a dry condition of the air passages. It may be given in doses of two grains every four hours until secretion is established. Under these conditions its action must be closely watched, and as the secretion is restored diminish the dose. It is very useful in some cases of chronic and congestive bronchitis, changing the purulent character of the sputa. It must not be continued so long as to prove exhausting. It is valuable also in some cases of asthma ; some claim that it is beneficial because of its sedative action, thus relieving bronchial spasm. But it is more probable that its value depends on its power of relieving the dry condition of the

membranes, and only in this condition is it a good remedy. It is a good drug in diphtheria, the free secretion produced by it tending to retard the formation of the membrane. Again it is good only in the one class of cases, and those are cases with marked dryness of the membranes.

Use the remedy in chronic cases of poisoning with mercury or lead. In such cases it is brought in contact with the metal, rendering the metal soluble by combining chemically with it, and thus promotes its elimination. In severe cases of this nature this agent must be given with caution ; if large doses be given too much of the metal is rendered soluble and enters the circulation, and this only increases the bad effects. Do not give more than twenty grains during the day.

This salt is of signal value in some eye disorders, and these are generally those dependent either upon syphilis, scrofula, or rheumatism. Thus it may be employed in syphilitic and rheumatic iritis, scrofulous ophthalmia, and syphilitic or scrofulous opacity and ulceration of the cornea. Give for these cases five grains of Potassium Iodide three times a day in a half-tumblerful of water shortly after each meal.

STILLINGIA.

Queen's Root.

SYNONYMS.—*Queen's Delight, Silver Leaf.*

BOTANICAL ORIGIN.—The root of *Stillingia sylvatica*, Linne ; Nat. Ord., *Euphorbiaceæ*. Southern United States.

SPECIFIC STILLINGIA.—*Stillingia* belongs to the class of substances that yield the gelatinizing red tannates. Preparations of *Stillingia* when representative are liable to alterations that render them turbid, and even may result in perfect disintegration. Thus *Stillingia*, which is of a rich, red-wine color when recent, often decomposes into a colorless serum and a brown, jelly-like magma, the preparation becoming worthless. This change is to be expected.

This is a native plant of our Southern States. The root,

which is an inch in diameter, of a brown color and bitter taste, is the part used in medicine. Alcohol and water extract its virtues. In proper doses it is alterative and stimulant; in large doses it is emetic and cathartic. The specific medicine, a tincture, and a syrup are used. In its action on the system it increases waste, its principal force being exerted on the lymphatic system.

Stillingia exerts a specific influence on the mucous membranes of the throat, larynx, and bronchi, relieving chronic irritation. It is indicated by a tumid, red, glistening membrane, with scanty secretions; hence, as iodide of potassium can not be given under these conditions, this is a good remedy in syphilis. It especially influences excretion. To get its good effects we must employ a good article prepared from the recent root. A good tincture is made by macerating one part of the root with two parts of seventy per cent. alcohol. This may be given in doses of from five to ten drops for its alterative effect, and increased until thirty or forty drops can be taken. It is very valuable in the secondary and tertiary forms of syphilis, and has some good effects in the first stage. Administered with iodide of potassium it is a good alterative in syphilitic skin disease. The following is a very good combination:

R. Iodide of Potassium, \bar{z} ij.
 Syrup of Stillingia, fl \bar{z} iv. M.
 Sig.—Teaspoonful every four hours.

In cases of great debility use the following:

R. Potassium Iodide, \bar{z} ij.
 Comp. Tr. Cinchona, fl \bar{z} j.
 Syrup of Stillingia, fl \bar{z} iij. M.
 Sig.—Teaspoonful three times a day.

This may be given in chronic affections of the skin, in syphilis, scrofula, etc., and in all such cases it is a good alterative. It is also very valuable in diseases of the respiratory apparatus, such as chronic bronchitis, laryngitis, incip-

ient phthisis, and other affections of the air passages, with marked irritation. Use the tincture, syrup, or specific medicine.

Stillingia in proper doses does not produce constitutional disturbances, and may be taken for a great length of time.

AURI ET SODII CHLORIDUM.

Gold and Sodium Chloride.

SYNONYMS.—*Chloride of Gold and Sodium, Chloride of Gold and Soda.*

DESCRIPTION.—A mixture composed, by weight, of equal parts of dry Gold Chloride and Sodium Chloride. This salt occurs in commerce as an odorless, orange-yellow powder, having both a saline and metal-like taste. Owing to the fact that it slightly deliquesces in a moist atmosphere it must be kept in well-stoppered bottles. Water readily and completely dissolves it, and at least one-half of it should be dissolved by cold alcohol.

This is alterative and tonic. All the preparations of Gold are corrosive, acting powerfully on the mucous surfaces and on the nervous system. In mild doses Chloride of Gold and Sodium is a powerful stimulant to the nerves, stomach, liver, and reproductive organs. Hence it is good in dyspepsia, when there is atony and great torpor. If conditions resembling syphilis are present this is particularly a very good remedy. When the patient can not take food, has diarrhoea, and there is loss of strength and a syphilitic history, give from one-twentieth to one-thirtieth grain three times a day. It also gives relief from the melancholia which attends syphilitic stomach disease and renders it very obstinate. With a syphilitic history, this relieves palpitation of the heart, and when there is a tendency to miscarriage (from atony) in females who have had syphilis it is one of our very best remedies. Give as above directed. In irregular

action of the heart, due to loss of blood, or following miscarriage, give from one-fiftieth to one one-hundredth of a grain of this salt. Excellent results come from its employment in these cases.

In troubles of the urinary tract in syphilitic patients it gives good results; thus, in incontinence of urine give one-sixtieth grain four times a day, and use it in spermatorrhœa, nocturnal seminal losses, in atonic amenorrhœa, irregular menstruation, dysmenorrhœa, etc., all associated with a venereal history. Here give it with other remedies, as iron or vegetable tonics. As an alterative in the latter stage of syphilis it is highly valuable. In those cases in which the constitution has been greatly impaired by syphilis or mercury and there is a heart or lung trouble, give this agent as previously indicated. Use it in chronic forms of gastric inflammation or inflammation of other internal organs, when due to this disease. It is a good drug in syphilitic ulcerations of the throat, chancre, ulcers on the genitals, etc., promoting the healing process. In doses too large this drug is a powerful irritant to the stomach, producing sloughing if used too long, though no salivation is produced. In poisoning by it give albumen.

Chloride of Gold and Sodium may be given in solution or in pills. For the first dissolve two grains in one ounce of distilled water. Dose, from one to ten drops. For the second triturate two grains with one drachm of powdered starch and add enough gum acacia to form a pill mass with a little water. Make the the pills of the size desired. Or one part of this triturated with ninety-nine parts of sugar of milk may be used as needed for small doses.

PHYTOLACCA.**Poke Root.**

SYNONYMS.—*Scoke, Garget, Pigeon Berry.*

BOTANICAL ORIGIN.—The fresh or recent root and fruit of *Phytolacca decandra*, Linne; Nat. Ord., *Phytolacaceæ*. Europe and America.

SPECIFIC PHYTOLACCA has a light-reddish color and the flavor of the recent root. It is liable to alteration by age, casting down a light, nearly white precipitate. This does not interfere, however, with the medicinal value of the remedy.

This is a common native plant, flowering in July and ripening its berries in August. It has a greenish flower and a light-colored root, having a taste at first sweetish, but afterwards acrid. Alcohol and boiling water extract its virtues. Use the tincture, and, if convenient, prepare your own tincture from the fresh root. Fill any convenient sized vessel with the green root (preferably dug in September), cut fine and fill with alcohol. Let this stand until needed, when it may be filtered and is ready for use. A tincture of the berries is also useful in obstinate cases of chronic rheumatism. In dropsy it is one of our best alteratives.

In large doses *Phytolacca* is cathartic and emetic and in very large amounts a narcotic poison. In proper medicinal doses it influences the kidneys as a diuretic. It is not a desirable emetic, being very slow in its action, though when emesis results it persists a long time, producing great discomfort and also purgation. As an alterative it is very valuable to increase waste and improve nutrition. It acts specifically upon the glands and mucous membranes. It may be employed when there is a languid condition of the blood vessels and absorbents. The following is a good preparation for chronic rheumatism: Take of Poke berries two ounces and macerate them in one pint of Holland gin. Give of this

from a teaspoonful to a tablespoonful at a dose. *Phytolacca* is very valuable in the treatment of mammary inflammation with threatened abscess, or when the abscess has already formed. Give the remedy internally and apply it locally. In case of cold in the mammæ with threatened mammary abscess give it in alternation with *Aconite*. If the swelling be great the breasts may be supported by an adhesive strip. Administer a teaspoonful each of the following solutions alternately every hour :

R. Specific *Aconite*, gtt. x.
Aqua, fl $\bar{3}$ iv. M.

R. Specific *Phytolacca*, $\bar{5}$ j. or ij.
Aqua, fl $\bar{3}$ iv. M.

If abscess results and it has not opened of its own accord, lance it and then syringe the cavity with *Phytolacca* diluted and continue internally the prescriptions as above directed. Take of the tincture one-half ounce, and warm water nine ounces, and syringe the part ; this relieves the pain and promotes healing. If it is possible and desirable to check the formation of abscess apply the following :

R. Specific *Phytolacca*,
Glycerin, aa. M.

It is a valuable drug for females who have morbid sensitiveness and tenderness of the breast at the menstrual period. In cases like this give

R. Specific *Phytolacca*, gtt. x. to xxx.
Aqua, fl $\bar{3}$ iv. M.

Sig.—Dose, a teaspoonful every three hours.

It is also a good remedy for cracked nipples. Apply it locally and give it internally. It is a good agent in swelling of the breasts of new-born infants. Use a few drops of *Phytolacca* in four ounces of water and give a teaspoonful of the mixture several times a day.

In general, *Phytolacca* is a stimulant of the mucous surfaces and absorbents, acting much like iodide of potassium. Use it where the mucous membranes are blanched, pallid, or ulcerated. It is a very good drug in simple diphtheria when the disease is diffused. In the early stage Aconite and Belladonna are better, but if the disease is not arrested by these, then give *Phytolacca* in alternation with them. It is of much value in ulceration of the mucous surfaces, as of the tonsils, fauces, etc. Many times it reduces a chronically enlarged tonsil.

As a constitutional remedy it may be employed for ulceration of the os uteri, and also in leucorrhœa. Use it in all the manifestations of syphilis, generally with potassium iodide. Employ it in all ulcerations of the outlets of the body. In rheumatism, scrofulous affections, etc., it is a very excellent drug. Rheumatic iritis is greatly benefited by it. It has cured bronchocele when iodine has failed. Use the following in all of the preceding disorders :

R. Specific *Phytolacca*, fl ʒj.
Aqua, fl ʒ iv. M.

Sig.—Dose, a teaspoonful every one, two, three, or four hours, as required.

COLLINSONIA.

Stone Root.

SYNONYMS.—*Horse Balm*, *Horse Weed*, *Rich Weed*, *Knob Root*, etc.

BOTANICAL ORIGIN.—The rhizome of *Collinsonia canadensis*, Linne; Nat. Ord., *Labiata*. Woodlands of North America.

SPECIFIC COLLINSONIA.—This is one of the most difficult preparations to make. *Collinsonia* is hard as stone and tough as leather, being very difficult to powder or grind. Specific *Collinsonia* represents the finely ground recent root.

This is an indigenous plant found in rich woods from Can-

ada to the Carolinas, and is called Stone Root, from the hardness of its rhizome. It flowers from July to September. Its root is white and has a strong balsamic odor and pungent taste. Alcohol and water partially extract its virtues, and a tincture or infusion may be used. It is diuretic, diaphoretic, tonic, astringent (from the tannic acid it contains), stimulant, carminative, discutient, and alterative.

Collinsonia is a very good alterative in chronic diseases of the urinary organs, acting specifically in many instances, in dropsy, calculous affections, etc. It has a good influence on the digestive process and improves the appetite. It relieves irritation of the mucous surfaces, especially of the pelvic viscera. It is valuable in atonic dyspepsia, and is specific for hemorrhoids with a constant sensation of some foreign body in the lower bowels. In atonic dyspepsia with constipation good results may be expected from it. It is especially good if hemorrhoids are also present. It relieves hemorrhoids in the pregnant female. Use it in dysmenorrhœa, leucorrhœa, and prolapsus uteri, if there be hemorrhoids associated with these disorders. For these hemorrhoidal and other rectal disorders the small dose acts better than the large one. As a rule give the following :

R. Specific *Collinsonia*, gtt. x. to xv. or xxx.
 Aqua, fl $\frac{3}{4}$ iv. M.
 Sig.—Dose, a teaspoonful four times a day.

This agent has a specific influence on the tissues and valves of the heart, hence it becomes very valuable in some heart troubles. For rheumatic carditis it is a very reliable remedy. It is also valuable in chronic inflammation of the pericardium, giving rise to dropsical effusions. It is claimed to be an absolute specific for ministers' sore throat, and in chronic disease of the larynx, bronchi, etc., checking the cough and disease. For the throat trouble give it much stronger than recommended for hemorrhoids.

R. Specific Collinsonia, fl $\bar{5}$ ss.

Simple Syrup, fl $\bar{5}$ iss. M.

Sig.—Dose, from one-half to one teaspoonful every three hours.

Use the remedy in spermatorrhœa accompanied with hemorrhoids. Owing to the fact that it does not derange the stomach it is an excellent remedy.

OLEUM MORRHUÆ.

Cod Liver Oil.

SYNONYMS.—*Oleum Jecoris Aselli*, *Oleum Hepatis Morrhuæ*.

DESCRIPTION.—A fixed oil obtained from the fresh livers of cod—*Gadus Morrhua*, Linne, and of other species of *Gadus*; Class, *Pisces*; Order, *Teleostei*; Family, *Gadidæ*. This is a thin, pale-yellow, oily fluid, possessed of a peculiar, feebly fish-like, but not rancid odor, and a slightly fishy, bland taste. Alcohol scarcely dissolves it. Readily soluble in chloroform, ether, carbon disulphide, and in acetic ether (2.5). Density 0.920 to 0.925.

This oil is obtained in a variety of ways from the liver of the cod. The livers are put in tanks and the sun tries out the oil, or the livers are pressed and the oil thus obtained. It varies in color from that of straw to dark brown. There are three commercial grades: The white or pale; the brownish-yellow; and the deep brown. Only the pale oil (or that described above) should be used in medicine. It contains several acids, as acetic, oleic, butyric, and sulphuric, also salts of calcium and magnesium, and glycerin, with iodine, bromine, and phosphorus. So it is an alterative as well as a constructive remedy. Some think olive and other oils may be substituted for it, but they are of very different chemical compositions and do not meet the requirements. It has a fishy odor and taste, and in other respects tastes much like other oils. The pale oil is best, being most pleasant to take and producing the least derangement of the stomach. When

in the liver of the cod it is colorless, and impurities that are present give the dark color to the inferior grades.

When kindly received by the stomach Cod Liver Oil increases the quantity of red corpuscles, improves the appetite and general strength, and the pulse becomes full and strong, flesh increases, and nutrition is improved. If it disagrees with the stomach these results can not be obtained. In some cases it may produce slight nausea at first, but this may not contra-indicate its use. This may result from its bad taste and not from any evil effect on the stomach. In these cases it is best given as an emulsion. Its good effects are not at once perceptible, two or three weeks being required to realize much benefit. In some cases it proves a laxative and may even produce diarrhœa, but this does not generally result unless the bowels were previously in a bad condition. In other cases it produces a tendency to plethora disposing to hemorrhage. Besides being nutrient it is alterative, and exerts a beneficial influence on the diseased structures. It exerts a controlling influence over cachexia.

Dr. Wood says it is one of our best remedies in scrofulous affections of the bones and joints, as of the knee, and in bone diseases where there is no necrosis. It does not cure quickly and the patient may die from exhaustion, but it is the best remedy at our command. In tabes mesenterica it is useful when there is cough, emaciation, hardness of the abdomen, and offensive breath. Give with it raw beef or other nutritious foods. Though seldom thought of, yet it is a good remedy for epilepsy, especially when the patient is scrofulous and debilitated. It is very serviceable in some cases of chronic rheumatism, especially among those who are poorly fed, housed, and clothed, being most effective in scrofulous subjects.

Cod Liver Oil is often a remedy in diseases of the eyes and ears of scrofulous children. Use it in ophthalmia, neuralgia,

and asthma, when the patient is scrofulous and the disease protracted. In the treatment of rickets it is the very best remedy at our command. Its good effects are manifest in two or three weeks. To a three-year-old child give a teaspoonful three times a day ; also rub it on the spine. Fistula in ano, scrofulous ulcerations, glandular enlargements, etc., are greatly benefited by it. Use it here both internally and locally.

Cod Liver Oil is an excellent remedy in phthisis. If the tubercle is formed and the lung tissue disorganized it will do no good as a cure. To be efficient it must be given early in the disease, when it improves the system and counteracts the tendency to tuberculization, and if not curing it, it holds the disease in check. Such a patient may live many years when regularly given this oil. Even if the curative stage be past it is beneficial still. It serves to prolong life, relieve suffering, and makes the patient comfortable. It is a good remedy in the tertiary stage of syphilis with marked anæmia and oppression. Generally give a tablespoonful, and the best time to administer it is usually after eating. Some can take it at any time, and exceptional ones like it best just before eating. Scott's Emulsion is a good preparation. If the pure oil can be taken it acts best. Some prefer it in coffee, milk, or brandy. It may be given to consumptives in Bourbon. Where it seems objectionable it may sometimes be rendered palatable by adding a pinch of salt. Always begin with the small dose and increase it as demanded. Do not give it when the stomach persistently refuses to tolerate it.

IODUM.

Iodine.

DESCRIPTION.—This element is used in the sublimed form, occurring as dry, bluish-black, heavy scales, somewhat resembling those hammered from a piece of heated iron. They

are easily broken, have a metal-like lustre, a characteristic odor, and a sharp, acrid taste. Soluble, with a brown color, in water (5000), and in alcohol (10); freely, with brown color, in solution of potassium iodide, and in ether; and with a violet hue in chloroform and carbon disulphide. Vegetable colors are slowly destroyed by it, and it imparts a slowly evanescent, dark-brown stain to the human skin. At an ordinary temperature it slowly volatilizes, hence it must be kept in well-stoppered bottles. With solutions of starch it strikes a deep-blue color. Its solution in alcohol is the well-known *Tincture of Iodine*.

This is a non-metallic element obtained from the ashes of sea-weed, and from mineral iodides and iodates. It was discovered by a French soda manufacturer named Courtois, in 1812. It is alterative, tonic, antiseptic, and resolvent.

In proper doses Iodine increases the appetite, improves digestion, increases strength, stimulates secretion and excretion, and impresses the urinary (diuretic) and sexual apparatus. It is irritant to mucous surfaces, and iodide of potassium is generally preferred to it, though not in all cases. As the solution of that salt dissolves it renders it less irritating; Iodine may be given with it. Owing to the peculiarities of some persons it produces headache, vertigo, etc. If applied to the skin a burning sensation is produced, and the skin is colored yellow, and if the preparation be strong the epidermis may be destroyed.

Applied to ulcers Iodine stimulates them to heal, though at first it produces considerable pain, but as healing goes on the pain is less marked. It is a very good drug in the treatment of chronic scrofulous and glandular enlargements. Use it both locally and internally, or potassium iodide may be exhibited internally. Externally the tincture or an ointment (with lard or vaseline) may be applied, or an alcoholic solution may be used. In some cases a compress wet with it

may be best. Use one part of the tincture to three or four parts of water. Wet a pledget of lint and apply it. This solution is useful in carbuncle to relieve pain and promote healing. It arrests the destruction of the soft tissues and removes the unsound part. The strong tincture may be used if necessary, though the pain produced is somewhat severe.

Pain in the lungs or muscles of the chest is often relieved by painting Tincture of Iodine on the part. If the skin is very tender paint with Belladonna. Iodine is valuable in phthisis as a counter-irritant; also in bronchitis, etc. Painted on chilblains once a day, if the skin be sound, it relieves the pain and itching. It is excellent in most cases of bronchocele. It can not generally be applied to parts exposed to view on account of the discoloration it produces. Here take any amount of Iodine and add enough sulphite of sodium to form a compound soluble in water, and a straw-colored or colorless liquid results, which does not color the skin.

Iodine is useful in chronic cough, pleurisy, bronchitis, etc. Locally it gives fine results in the treatment of bubos. If applied early it will prevent their formation. Paint the part once or twice a day with a strong tincture (forty grains in one ounce of alcohol). The same is a good application for ringworm, corns, and felons. In a concentrated form it is caustic. The following is a mild caustic for lupus :

R. Iodine,
Potassium Iodide, *aa.* grs. v.
Glycerin, q. s. to make a paste.

Sig.—Apply locally and give potassium iodide internally in five grain doses three times a day.

Iodine is very valuable in troubles of the reproductive organs of the female, as chronic indurated thickening of the os uteri. Use a solution of Iodine (grains twenty) and potassium iodide (grains thirty) and water (ounce one). One grain of Iodine and two grains of potassium iodide to

four ounces of water makes a good injection for leucorrhœa. For purulent discharges from the mucous membranes, as of the nose, etc. :

R. Iodine, gr. j.
Glycerin, $\bar{5}$ j. M.

Sig.—Apply and give internally potassium iodide.

In hydrarthrosis and rheumatism apply Iodine in an ointment with friction. Dissolve twenty grains of Iodine in alcohol and mix it with a tablespoonful of lard. Rub the parts with this for twenty minutes each day if the skin will allow it. This is better than the tincture alone. It is very useful, when diluted, for syphilitic ulcerations of the tonsils and fauces; also in swelling of the gums and loosening of the teeth. Paint the gums with the solution (one grain to one ounce of water). In hydrocele, after tapping the scrotum, inject a solution of Iodine, one part to water two parts. Knead the parts with the hand. Inject it into fistulæ; it is of some use in fistula in ano, curing, as it does in hydrocele, by inflaming the parts and causing them to adhere. If Iodine be taken in overdoses the antidote is starch water. Albumen is somewhat effective also. The dose of Iodine ranges from one-eighth to one-half grain, and is best given in pills. A small amount of Hyoscyamus may be given with it. The COMPOUND TINCTURE OF IODINE is a useful preparation. Make it as follows :

R. Iodine, $\bar{3}$ iv.
Potassium Iodide, $\bar{3}$ viij.
Alcohol, O j. M.
Dose, from one to twenty drops.

AMMONII IODIDUM.***Ammonium Iodide.***

DESCRIPTION.—This salt occurs in minute, colorless, cube-like crystals, or as a granular, white powder, very hygroscopic, and quickly becoming yellow or brownish on exposure to light and air, ammonia being lost and free iodine liberated. It should never be used as a medicine in this condition. It has a pungent, saline taste. When colorless it has no odor, but when colored smells like iodine. Soluble in cold water (1), boiling water (0.5), cold alcohol (9), and boiling alcohol (3.7). It must be kept in securely-stoppered, small vials, and in a dark place.

This salt is obtained by the action of iodine in solution on the hydrosulphide of ammonium. It is best prepared from ammonia water and hydriodic acid (Lloyd). It is alterative and antisymphilitic, its action being like that of iodide of potassium, though this is not so depressing nor so irritant as that alterative. It is indicated in all cases where the features are pinched and contracted. Under these conditions it is of value in syphilis, lessening the night pains and reducing the enlarged glands. The following is an effective combination :

R. Specific Phytolacca, fl $\bar{5}$ ss.

Ammonium Iodide, $\bar{3}$ iv.

Specific Iris, fl $\bar{5}$ ss.

Simple Syrup, fl $\bar{5}$ v. M.

Sig.—Teaspoonful four times a day.

Ammonium Iodide is of some value in scrofulous eye diseases, in obstinate cases of chronic rheumatism, in chronic skin diseases, in chronic scrofula, syphilis, etc. For goitre give the above-named syrup and apply locally the following:

R. Ammonium Iodide, $\bar{5}$ j.

Glycerin, fl $\bar{5}$ j. M.

Use it in headache when there is dull pain, dizziness, feeble circulation, and poor nutrition. Dose, from two to five grains.

IRIS.**Blue Flag.**

SYNONYMS.—*Flag Lily, Fleur de Luce, Poison Flag.*

BOTANICAL ORIGIN.—The rhizome and rootlets of *Iris versicolor*, Linne; Nat. Ord., *Irideæ*. Indigenous to the United States, growing in meadows and in wet and swampy situations.

SPECIFIC IRIS VERSICOLOR.—All that has been said of *Stillingia* applies to this preparation. If preparations of *Iris* are in the least representative they are liable to decomposition and gelatinization. They change to a brown magma and then become worthless. Specific *Iris* is made of Ohio-grown *Iris*. The root as found in the South is of little value, the oleoresin being, as found by Prof. Lloyd, practically replaced with red tannates.

This drug is alterative, emetic, and cathartic; alterative in small doses, emetic and cathartic in large doses. It yields its virtues partly to water and wholly to alcohol. Prepare a tincture from the green or recent root.

Iris is very valuable in chronic diseases of the liver, with marked pain, sharp and cutting in character, and increased by motion. There is also present more or less constipation, and this drug overcomes this by acting as a biliary stimulant.

R. Specific *Iris*, fl ʒ ss.
Aqua, fl ʒ iv. M.

Sig.—Dose, a teaspoonful every three hours.

Large cathartic doses irritate the stomach and bowels, while minute doses allay gastric irritation.

For cholera morbus, cholera infantum, etc. :

R. Specific *Iris*, gtt. v.
Aqua, fl ʒ iv. M.

Sig.—Dose, a teaspoonful frequently.

For ordinary diarrhœa, and for dysentery, with copious, slimy stools use the following :

R. Specific Iris, gtt. x. to xv.
 Aqua, fl $\bar{3}$ iv. M.
 Sig.—Dose, a teaspoonful every hour.

Iris, by its action upon the glandular system, is a good alterative in rheumatism, scrofula, and syphilis; also in enlargement of the thyroid gland. Here use it locally:

R. Specific Iris, fl $\bar{3}$ j.
 Glycerin, fl $\bar{3}$ v. M.

Administer internally:

R. Specific Iris, gtt. xv. to xx.
 Simple Syrup, fl $\bar{3}$ iv. M.
 Dose, teaspoonful every two or three hours.

In diseases of scrofulous females Iris may be employed with great advantage. Leucorrhœa, dysmenorrhœa, hypersection of the mucous follicles of the vagina, ulceration of the os and cervix uteri, are all benefited by its internal use.

R. Specific Iris, gtt. x. to xx.
 Aqua, fl $\bar{3}$ iv. M.

Sig.—Dose, a teaspoonful every hour in acute troubles; four times a day in chronic cases.

Dropsy of scrofulous patients, sick headache and gastric irritation, nausea and vomiting, and aphthous conditions of the mouth, are relieved by Iris in small doses. In nasal catarrh give from one to ten drops of specific Iris.

SARSAPARILLA.

Sarsaparilla.

BOTANICAL ORIGIN.—“The root of *Smilax officinalis*, Kunth; *Smilax medica*, Chamisso et Schlechtendal; *Smilax papyracea*, Duhamel, and of other undetermined species of *Smilax*” (U. S. P.); Nat. Ord., *Liliaceæ*. Throughout the tropical sections of America from Mexico to Brazil. There are four chief varieties in market, viz: (1) *Mexican* (Vera Cruz or Tampico), (2) *Jamaica*, (3) *Honduras* (the best), and (4) *Rio Negro* (Para or Lisbon) *Sarsaparillas*.

Use the decoction of the dry root of Honduras Sarsaparilla. It is alterative, tonic, and diaphoretic. It must be given in large doses. Its active principle is a powerful heart sedative. The following is a good preparation :

R. Sarsaparilla Root, $\bar{3}$ ij.

Aqua, O iss.

Boil to one pint.

Sig.—Give a wineglassful three times a day.

This decoction acidulated with nitric acid is of value in syphilitic sore throats, and when acidulated with hydrochloric acid is useful in chronic affections of the liver, with torpor. Chronic rheumatism following syphilis is also benefited by it. It is of some service in chronic cough, with relaxation of the mucous membranes, especially in syphilitic individuals. Use the above preparation. In chronic skin diseases, as herpes, administer it with sulphite of sodium as follows :

R. Decoction of Sarsaparilla, fl $\bar{3}$ viij.

Sodium Sulphite, $\bar{3}$ i.

M.

Sig.—Dose, one or two ounces two or three times a day.

Administered with potassium iodide it sometimes benefits rheumatic patients.

GUAIACI LIGNUM.

Guaiacum Wood.

BOTANICAL ORIGIN.—The heart-wood of *Guaiacum officinale*, Linne, and of *Guaiacum sanctum*, Linne ; Nat. Ord., *Zygophylleæ*. West Indies.

GUAIACI RESINA.

Guaiac.

BOTANICAL ORIGIN.—The resin of the wood of *Guaiacum officinale*, Linne ; Nat. Ord., *Zygophylleæ*. West Indies.

These drugs are obtained from the Guaiac trees of the West Indies. Both the wood and the resin are used as medicines. The former comes in small shavings of two colors, the heart-wood being green and the sap-wood yellow. Only the heart-wood is official. It is inodorous except when

heated, when it is fragrant. Alcohol and water extract its virtues. The Spaniards introduced this drug into Europe from the West Indies, and it became very popular as an antisyphilitic. The resin is of a greenish-brown color, has an acrid taste, and is soluble in alcohol and slightly so in water. It is alterative, stimulant, diaphoretic, and tonic. It increases the function of the cutaneous capillaries. Being an active stimulant, it is contra-indicated in all active inflammatory and plethoric conditions, or when there is impaired digestion with a tendency to irritation; also in vascular excitement with a tendency to hemorrhage.

Guaiac may be employed in non-inflammatory dyspepsia as a stimulant. It is a very valuable alterative in syphilis. Use the following:

R. Sarsaparilla,
Guaiac Wood, *aa.* $\bar{3}$ ss.
Water, O iss.

Boil to a pint.

Dose, a wineglassful four times a day.

Sometimes the iodide of potassium or ammonium may be given with it. Given with these salts it is a good alterative in chronic skin diseases when the patient is scrofulous or syphilitic, and there is great torpor of the system.

Guaiac is a decided emmenagogue and powerful stimulant to the sexual organs. It is excellent for atonic amenorrhœa. The specific medicine may be given in half drachm doses every three or four hours. If there is vascular excitement or fever it is contra-indicated.

In chronic rheumatism, with feeble circulation and great depression of the functions of the body, when the feet and hands are cold, give from one-half to a teaspoonful of the tincture. Prepare the tincture by macerating eight ounces of Resin of Guaiac in one pint of alcohol. This preparation is a powerful stimulant and anti-rheumatic. It is useful in

asthenic gout. Give from ten to thirty grains of the powder in mucilage.

Use this agent as an alterative when there is great debility and a stimulant is desired. If given early in doses of from twenty-five to thirty drops of the tincture it will abort tonsillitis. The ammoniated tincture of Guaiac, a very decided stimulant, is also used for this purpose.

The dose of Guaiac in powder ranges from ten to thirty grains; of the tincture, from five to sixty drops; of the specific medicine, from one to thirty drops. The infusion must be given in large doses to obtain its alterative effects.

CORYDALIS.

Turkey Corn.

BOTANICAL ORIGIN.—The tubers of *Dicentra canadensis*, De Candolle (*Corydalis canadensis*, Goldie); Nat. Ord., *Papaveraceæ*. Common in Canada and the mountainous districts of the northern half of the United States.

This is a native plant having a tuberous root, about one-fourth inch in diameter, of a yellow or brown color, and an aromatic odor. The tuber is the part used and is a good remedy in scrofulous conditions, having a tonic influence over the eliminative organs and stimulating the skin, kidneys, and bowels. In cachexia following intermittent fever, with enlarged spleen or liver, it is a very useful drug. In the treatment of syphilis in broken-down constitutions, with ulcerations of the soft tissues, employ this drug both locally and internally, using a decoction. If the ulcers be in the throat use chlorate of potassium (dissolved in the decoction only) or sulphate of zinc with it as a gargle. In scrofulous conditions, with feeble digestion, iron may be given with it. Use it in amenorrhœa, dysmenorrhœa, and leucorrhœa, in atonic conditions, associated with a scrofulous or syphilitic diathesis.

Corydalis is a good remedy in some chronic bladder troubles. It is a good tonic to the digestive organs ; give it when there is an enlarged abdomen, the result of atony. It is excellent in diarrhœa and dysentery, when the tongue is coated, the breath fetid, and the digestion poor. Make the infusion (one ounce to water one pint). Dose, a tablespoonful several times a day. Use specific Corydalis as follows :

R. Specific Corydalis, fl ʒj.
 Aqua, fl ʒiv. M.
 Sig.—Dose, a teaspoonful every two hours.

IODIFORMUM.

Iodoform.

DESCRIPTION.—This compound is produced by acting upon a mixture of alcohol and carbonate of potassium solution with iodine. It must be kept in a dark, cool place, in well-stoppered vials. It occurs as small, lustrous, lemon-yellow crystals, possessing an extremely penetrating and persistent odor, recalling that of a combination of Saffron and iodine. It has a disagreeable, sub-sweetish, iodine-like taste. In ordinary temperatures it slightly volatilizes. Water takes up both its odor and taste, though it is but very slightly soluble in that fluid. Soluble in cold alcohol (52), boiling alcohol (12), and ether (5.2), and freely soluble in chloroform, fixed and essential oils, and benzin.

In doses of one grain this agent is a tonic, alterative, and stimulant. Applied topically it is a local anæsthetic. It is a better antiseptic than iodine. It destroys lower animals more readily than does iodine, and in large doses it is poisonous to all animals. It is not corrosive. Its vapor is anæsthetic, but not so good in this respect as chloroform. On account of its antiseptic properties it is a very valuable drug, and may be used on nearly all ulcerated, granulating, and abraded surfaces, few remedies being better to promote the

healing process. For this a glycerin solution is an excellent form for use.

R. Iodoform, $\bar{3}$ j.
 Glycerin, fl $\bar{3}$ iv. M.
 Sig.—Syringe or bathe the affected part.

This is an elegant preparation, lessening suppuration and arresting the destruction of tissue.

Iodoform is an excellent local application in the treatment of chancre and painful phagedenic ulcers. In such cases take Iodoform one hundred parts, sugar of milk two hundred parts, thymol one part. Triturate them together and dust on the ulcerated surface before dressing. It is a good remedy for granulated lids. Take five or ten parts of sugar of milk and triturate it with one part of Iodoform ; apply to the lids with a brush. For the treatment of cracked nipples:

R. Iodoform, $\bar{5}$ ss.
 Vaseline, $\bar{3}$ j.

After cleaning and drying the parts apply the ointment three or four times a day.

Iodoform is a splendid remedy in the treatment of cancer and other painful conditions of the rectum, bladder, etc. In many cases it is better than opium because it does not arrest the secretions.

R. Iodoform, grs. xxx.
 Coca Butter, $\bar{3}$ j. M.
 Make into suppositories No. 6

Bring this in contact with the cancerous mass if in the rectum, uterus, etc. Or in painful conditions of the prostate use a suppository of the same material.

As an alterative it is very valuable in syphilis. Use from one to three grains of Iodoform four times a day. It is useful in some cases of neuralgia, if the patient be syphilitic. It makes a good application to painful chronic ulcers. Though not strong enough in itself to destroy them, it makes a good

dressing after destroying them with nitric acid. Use it in obstinate skin diseases, especially if of syphilitic origin. This is one of our most efficient agents in such cases.

R. Iodoform, grs. x.
Vaseline, $\frac{5}{8}$ j. M.

Make an ointment.

Sig.—Apply two or three times a day.

The unpleasant feature of Iodoform is its disagreeable, "give-away" odor. Such aromatic oils as peppermint, etc., are said to mask this odor. To remove the odor from vessels and from the hands wash thoroughly with soap and water, after having first applied a few drops of turpentine. In poisoning by the absorption of large quantities of this drug stop its use and wash the parts with a solution of sodium bicarbonate, and administer internally lemonade, sodium or potassium acetate, and other solutions of like substances.

TRIFOLIUM.

Red Clover.

BOTANICAL ORIGIN.—The heads of *Trifolium pratense*, Linne; Nat. Ord., *Leguminosæ*. Indigenous in fields and meadows.

This remedy possesses marked alterative properties, and is thought by some to have a pronounced action in retarding the growth of cancerous affections. It also enters into the formation of many alterative compounds.

Trifolium markedly influences whooping cough, and it is for this purpose that it is chiefly employed. There are no special indications for its use, but when the proper case is found its effects are said to be prompt and permanent. Other spasmodic coughs, as those of bronchitis, laryngitis, and consumption, may be treated with it. The dose of specific Trifolium ranges from one to ten drops every two or three hours.

POLYMNIA.***Uvedalia.***SYNONYM.—*Bear's Foot.*

BOTANICAL ORIGIN.—The root of *Polymnia uvedalia*, Linne; Nat. Ord., *Compositæ*. Highland woods from New York to Illinois and southward.

SPECIFIC POLYMNIA.—This preparation is representative of the drug containing its oleoresin in full amount. When dropped into water a milky mixture results and in time a sediment follows.

This remedy powerfully affects those parts supplied with blood by the branches of the cœliac axis. It is the remedy for congestion of these parts. Given internally in small doses, and applied warm locally and well rubbed in it forms the most certain remedy for all splenic enlargements, and especially for "ague cake." It is a remedy for other glandular enlargements, and has favorably influenced the hypertrophied uterus. Dyspepsia, due to engorged vessels, and associated with a feeling of heaviness, sinking, burning, and fullness of the epigastric region, is benefited by it. It will remove low inflammatory deposits, chronic metritis, uterine hypertrophy, and sub-involution. Hepatic and pulmonary engorgement are conditions in which it should not be forgotten. Full, sodden, and inelastic tissues always indicate this remedy. According to Prof. J. M. Scudder the following is one of the most certain of hair tonics:

R. Specific Uvedalia, \bar{z} iv.
Bay Rum, fl \bar{z} xij. M.

Rub thoroughly into the scalp once or twice a day.

The dose of Uvedalia ranges from two to twenty drops.

LAPPA.***Burdock.***

BOTANICAL ORIGIN.—The root and seed of *Arctium Lappa*, Linne (*Lappa officinalis*); Nat. Ord., *Compositæ*. Europe

and North Asia; naturalized in waste places in North America.

This agent is a much neglected alterative. It directly influences the renal apparatus, relieving irritation, increasing the flow of urine, and assisting in eliminating morbid material. It may be employed for the removal of worn-out tissues when the saline renal depurants would do harm.

A tincture of the seeds, long administered, is said to be one of the best of the few remedies for psoriasis. It certainly exerts a favorable influence upon dyspepsia, with a cachectic state of the blood. Both cough and bronchial pulmonary irritation are relieved by it when an alterative is demanded. Give specific Lappa in doses of from one to ten drops three times a day for a continued period.

JEFFERSONIA.

Twinleaf.

BOTANICAL ORIGIN.—The root of *Jeffersonia diphylla*, Barton; Nat. Ord., *Berberidaceæ*. From New York west and south.

Prepare a tincture of this root with eight ounces of the drug and one pint of sixty per cent. alcohol. Dose, from five to thirty drops. Make an infusion of one ounce of the root to one pint of boiling water.

This agent is both stimulant and alterative and is a remedy for rheumatism. It is stimulant to mucous surfaces and relieves irritation of the cerebral and spinal nerves. It improves the blood and tissues and favors secretion. Use it in chronic diseases where a stimulating alterative is required. Employ it in bronchitis and constitutional chronic catarrh, especially in the aged. It is an eliminative for syphilis and scrofula. Use it in rheumatism when the pain is chiefly located in the muscles of the back. Ulcerations of the throat and fauces may be topically treated with an infusion of Twinleaf root, which may also be used locally on chronic ulcers.

MITCHELLA.**Squaw Vine.**

SYNONYMS.—*Partridgeberry Vine, Oneberry Vine.*

BOTANICAL ORIGIN.—The whole plant of *Mitchella repens*, Linne; Nat. Ord., *Rubiaceæ*. Dry woods of North America west to the Mississippi River.

This plant yields its virtues to water and alcohol. It is indicated only in atonic conditions. It is an excellent uterine tonic. Amenorrhœa, dysmenorrhœa, and false labor pains are all relieved by it. It may be given with benefit for a month or two before parturition to facilitate labor. The dose of specific *Mitchella* is from one to ten drops. The infusion and the MOTHER'S CORDIAL (Compound Syrup of Partridgeberry), which contains it, may also be used for the above-mentioned troubles.

CALX SULPHURATA.**Sulphurated Lime.**

SYNONYMS.—*Calcium Sulphide, Sulphuret of Lime.*

DESCRIPTION.—There are several methods of producing this compound, which is generally known as sulphide of calcium. One method is to mix finely powdered oyster shells and flowers of sulphur, equal parts, and heat the mixture to a white heat in a crucible hermetically sealed. Keep the salt in a closely stoppered vial.

This compound is a pale gray powder, emitting a faint odor of sulphide of hydrogen, and possessing a taste which is alkaline and nauseous. On exposure to air the salt slowly decomposes. Cold water sparingly dissolves it, hot water more readily but with partial decomposition. Alcohol refuses to dissolve it. This substance is the medicine erroneously called by the Homœopaths "hepar sulphuris."

We generally employ this agent in the 3x trituration. It partakes of the properties of each of its constituents.

Calx Sulphurata influences the glandular system, the blood, and the skin. It has a use in syphilitic skin disorders,

and in suppurative bubo and soft chancres. Old ulcerations and scaly eruptions of the integument are benefited by it.

Scrofula, scrofulous ulcerations, scrofulous ophthalmia, and other manifestations of this disease are often cases for this drug. Many diseases of the joints are well influenced by it, especially if associated with blood dyscrasia.

Use this drug for boils and for the cough of phthisis following syphilis. The ordinary dose is from two to five grains of the 3x trituration, or one-tenth grain of the full strength drug may be given three or four times a day.

CHIONANTHUS.

Fringe Tree.

SYNONYM.—*Old Man's Beard.*

BOTANICAL ORIGIN.—The bark of the root of *Chionanthus virginica*, Linne; Nat. Ord., *Oleacea*. Southern and Middle States.

SPECIFIC CHIONANTHUS.—This preparation has the rank odor of the drug and a dark amber color. By age it casts a gelatinous precipitate that does not interfere with the value of the remedy. All attempts to avoid this phenomenon have resulted in injury to the preparation.

The special action of this drug is expended upon the liver and to some extent on all the organs concerned in blood-making. It is tonic to the stomach and bowels, and influences the whole glandular apparatus. It is one of our best cholagogues, and we have employed it with good results in jaundice and congestion of the liver. Yellowness of the conjunctiva and skin, uneasy sensations in the right hypogastrium, and extensive abdominal pain, somewhat resembling colic, are the specific indications for its use. It may, therefore, be employed in cases of gall-stones, both during their formation and passage, hepatic inflammation (acute and chronic), bilious colic, and for the irritable condition of the liver common in the inebriate.

The specific *Chionanthus* is the best form and should be given in from one to twenty drop doses three times a day.

ALNUS.
Tag Alder.

SYNONYMS.—*Swamp Alder, Red Alder, Smooth Alder.*

BOTANICAL ORIGIN.—The recent bark of *Alnus serrulata*, Aiton ; Nat. Ord., *Betulaceæ*.

This remedy is an astringent and an admirable alterative. Its specific use is to increase waste and improve nutrition. It is one of the best of the vegetable catalytics, powerfully increasing retrograde metamorphosis. Upon the mucous surfaces it acts as a direct stimulant and tonic. Upon the stomach it exerts a kindly influence, stimulating the flow of gastric juice and aiding digestion and assimilation. It also acts as an antiputrefactive agent.

Alnus is a good drug in passive hemorrhage, particularly hæmaturia. It serves a good purpose in marasmus of children. Locally and internally administered, combined with *Rumex crispus*, it cures nursing sore mouth. It is a remedy for indigestion and dyspepsia when the flow of gastric juice is deficient and the muscular coats of the stomach are debilitated. Locally applied it is said to serve well in hay fever and relieve gonorrhœa. Perhaps it is one of the best of local agents for the relief of *Rhus* poisoning.

The chief field for this drug is in skin disorders, assuming an eczematous or pustular form. It is best adapted to superficial affections of both the skin and mucous surfaces. In tetter of the scalp of scurfy character it renders good service. It is a remedy for scrofulous affections, especially when marked by glandular enlargement and pustulation. It is a good remedy in successive crops of boils. The infusion stains the skin. The dose of the infusion (one ounce of the drug to one pint of water) is a wineglassful ; of specific *Alnus* from one to twenty drops.

ACIDUM ARSENOSUM.***Arsenous Acid.***

SYNONYMS.—*Arsenic Trioxide, White Arsenic, Arsenious Acid, Arsenicum Album.*

DESCRIPTION.—This is not a true acid, but an anhydride obtained by first roasting arsenical ores, and subsequently purifying the product by sublimation. This drug occurs in both opaque and glass-like crystals, but usually as a fine white powder. When pure it should be odorless and tasteless, but it usually has a sweetish taste. When heated the odor of garlic is evolved. Soluble in cold water (vitreous 30, opaque 80), boiling water (15), glycerin (5), and sparingly soluble in alcohol.

Arsenic, chiefly in the form of FOWLER'S SOLUTION (*Solution of Arsenite of Potassium*), has been employed to a considerable extent in our school. Arsenic is one of the most fearful of poisons, producing at first nausea and faintness, followed by burning gastric pain and obstinate vomiting, especially easily excited by the ingestion of fluids. A sense of heat, dryness, and tightness of the throat follows, diarrhœa, with great tenesmus sets in, and the abdomen becomes tense and painful. The pulse becomes small, weak, and quick, the surface cold and clammy, the urinary apparatus partakes of the burning pain, the urine being suppressed, and finally delirium and convulsions ensue, and death closes the scene. The antidote is ferric hydroxide freely administered. Also use the stomach pump.

This agent besides being alterative is a powerful vital stimulant and tonic, but only in the very small dose does it act in this manner. In low conditions of the blood, with impaired nutrition, a tendency to the deposition of cacoplastic material being prominent, such as low albuminoid deposits, tuberculous and caseous formations, and tissue degeneration, this agent will be found of value as a blood maker if properly

used. The skin has a muddy or dirty appearance and when a fold of it is taken up between the fingers it retains the pinched up form, failing to show that normal elasticity of the skin which causes it naturally to spring back into place.

Pulmonary consumption, malarial manifestations, and certain intractable skin disorders are benefited by it. It is undoubtedly valuable in incipient phthisis, the usual indications for it being present. Fowler's Solution may be given here as follows :

R. Fowler's Solution, fl ʒ ss.

Syr. Lactophosphate of Calcium, fl ʒ vj.

Sig.—Teaspoonful three times a day every other day.

In malarial disorders it is best adapted to cases showing irregular periodicity, and when there seems to be a want of nervous force, especially exhibiting sympathetic impairment. It should never in any instance be given when there is irritability of the sympathetic and nerve centers.

In skin affections the general indications should be followed. It will be found best adapted to chronic forms of squamous, vesicular, pustular, and tubercular cutaneous disorders.

The usual dose will be from a fraction to one drop of Fowler's Solution three times a day ; or a 3x trituration of Arsenicum may be employed in one or two grain doses three times a day.

ASTRINGENTS.

Remedies which, when brought into contact with tissues in any part of the body, cause a condensation of the same, are denominated *astringents*. This class furnishes an example of one whose individual remedies act in an inexplicable manner. That they do act is known by their effects, but just how they act is at present unknown. Their action has, however, been divided into *chemical* and *dynamical*. Of the latter we know nothing; of the former it is known that albumen is coagulated by the chemical action of the astringents, both mineral and vegetable. But this chemical effect can not explain the whole action of astringents, for should they act wholly in that way the processes of life would be cut short through their destructive effects. As it is we must simply accept that they act locally and internally through the blood, producing their characteristic condensation of tissue. The vegetable astringents probably depend most largely upon *tannin* for their effects.

ALUMEN.

Alum.

SYNONYMS.—*Potassium Alum, Potash Alum, Aluminum and Potassium Sulphate, Aluminii et Potassii Sulphas.*

DESCRIPTION.—Alum is a double salt of aluminum and potassium, having an acid reaction, and occurring in large, colorless crystals, sometimes imperfect cubes or crystalline fragments, devoid of odor, but possessing a sweetish, pecu-

liar, and powerfully astringent taste. The crystals absorb ammonia if exposed to the air, becoming whitish externally, therefore, the salt should be kept in well-closed containers. Soluble in cold water (9), boiling water (0.3), freely soluble in warm glycerin, and insoluble in alcohol. When heated, not to exceed 400°F., it loses from forty-five to forty-six per cent. of its weight, consequent upon the evaporation of its water of crystallization. In this form it is known as

ALUMEN EXSICCATUM or *Dried Alum* (*Burnt Alum*, *Alumen Ustum*).—This is an odorless, granular, white powder, having the characteristic Alum taste and soluble slowly but perfectly in cold water (20), and quickly in boiling water (0.7). Before being powdered it is a white, light, porous, and opaque mass. Dried Alum readily absorbs moisture from the atmosphere, and must, therefore, be kept in well-stoppered bottles.

AMMONIA ALUM (*Aluminii et Ammonii Sulphas*) or *Sulphate of Aluminum and Ammonium* corresponds in physical and therapeutical properties with *Potash Alum*. Only the latter is official in the United States Pharmacopœia, but both are recognized by the British Pharmacopœia.

Alum is astringent, antispasmodic, and emetic. It coagulates albumen and is a very good agent when diluted to check hemorrhage. In hemorrhage from the lungs (hæmoptysis) use the saturated solution, inhaled from the spray atomizer. In bleeding from the nose the same may be sprayed or injected into the nasal fossæ. A small amount of finely powdered Alum may be insufflated or blown into the nostrils, or a pledget of cotton saturated with the solution may be introduced. For uterine hemorrhage an injection of the strength of a teaspoonful to a pint of water is very serviceable. In bleeding after the extraction of teeth a piece of cotton may be saturated with a strong solution of Alum and put in the cavity, or finely powdered Alum may be used.

In troubles of the eye no other remedy is so efficient and safe as Alum when properly applied, hence it may be used in all eye troubles in which an astringent is necessary. In purulent ophthalmia of small children, which, if neglected, may terminate in blindness, this is an excellent remedy. But in this disease the most benefit results from cleanliness. Cleanse the eye perfectly and use a solution of four grains of Alum to one ounce of water. Always use the C. P. (chemically pure) article. This may be injected between the eyelids with a syringe or applied with a camel hair pencil every hour or two. It is of some value in gonorrhœal ophthalmia, but for this trouble is inferior to nitrate of silver.

Use five or six grains of Alum to one ounce of water four or five times a day.

One and one-half drachms of Alum mixed with the white of one egg, constitutes *Alum curd*, and makes a good application in echymosis, conjunctivitis, and for Rhus poisoning when near the eyes. Where there is unhealthy secretion or ulceration of the mucous surfaces Alum is a good topical remedy. In vulvitis of small girls it is especially valuable. Keep the parts clean with soap and water and bathe two or three times a day with a solution made of a teaspoonful of Alum and one pint of water. It is useful in ulcerative stomatitis. In these cases touch the ulcers with burnt Alum and also use it as a gargle. As a gargle it is of service in chronic inflammation of the throat to contract the tissues and restore the blood vessels to their normal size. It is one of the chief remedies for lead colic; being antispasmodic it checks spasms and pain, and thus assists to evacuate the bowels. Ten grains of Alum may be given every four hours.

In obstinate cases of constipation Alum many times relieves the trouble.

R. Alum, grs. ij. or iij.
 Aqua, fl ℥ iv. M.

Sig.—Teaspoonful doses every two hours.

It may be used locally in leucorrhœa, and here few remedies are better. Use a solution of borax—a teaspoonful of the latter to one pint of water as an injection in the morning, and one of Alum, the same strength, at night, after having well cleansed the parts. It makes a good injection for gleet.

Alum is not a bad emetic in croup. No emetic should be given here, however, until the secretions are free and loose. Give from thirty to forty grains of Alum in a teaspoonful of molasses. This promotes speedy emesis. It is also a good remedy in some cases of cough. It answers very well in the latter stage of whooping cough. Here give from one to five grains in honey or molasses every three hours.

ACIDUM TANNICUM.

Tannic Acid.

SYNONYMS.—*Gallotannic Acid, Digallic Acid, Tannin.*

DESCRIPTION.—This organic acid is derived from nut-gall. It is a faintly odorous, light-yellowish, non-crystalline powder, generally cohering as glistening scales, or sponge-like masses, and having a very astringent taste. Exposed to light and air it generally assumes a deeper color. It has an acid reaction. Soluble in cold water (1), cold alcohol (0.6), very freely in boiling alcohol and boiling water; in glycerin when gently heated together (1); nearly insoluble in absolute alcohol, but freely in dilute alcohol. Chloroform, absolute ether, and benzin scarcely dissolve it.

This acid is obtained principally from galls, though it is found in the roots and barks of several plants. That obtained from one source may differ somewhat from that derived from another. But they all agree in producing a dark

precipitate with iron compounds and an insoluble precipitate with albumen.

Nearly all vegetable astringents contain this acid as their active constringing principle. This is our best vegetable astringent for local use, but gallic acid is better for internal use to produce remote effects. Gallic acid is of but little value as a local drug, though, on the other hand, Tannic Acid may be substituted for gallic acid as an internal agent.

Being in the form of a powder Tannic Acid may be given in doses of five grains every half hour. This acid is safe and not unpleasant in its effects. It causes contraction of the muscular fiber and arrests hemorrhage. It also arrests excessive secretions, and is especially valuable to check inordinate secretions from the glandular organs. It may be used in any condition where no inflammation exists. Thus it is of much value in passive hemorrhage from the lungs, stomach, uterus, kidneys, etc. Give two or three grains every three hours. In connection with Dover's Powder it is serviceable in the treatment of menorrhagia. Use it in hemorrhage from abortion or any hemorrhage from the uterus, with nervous disturbance and pain. Take Tannic Acid and Dover's Powder one-half drachm each. Divide into five or ten powders and let one be taken every hour or two until the bleeding is arrested. This will check the flow, provided there is no organic lesion. The same treatment arrests diarrhœa. Here it relieves irritation and checks the discharges.

This acid is very useful as an application to syphilitic ulcerations. After destroying the ulcers with nitric acid bathe them with a solution of Tannic Acid of the strength of from thirty to forty grains to one pint of water. It may be employed with advantage in such troubles of the respiratory organs as chronic bronchitis, bronchial catarrh, etc. It lessens the secretion, checks the irritation, and saves the patient's strength. In relaxed conditions of the throat following some

active inflammation, such as scarlet fever, the use of a strong Glycerite of Tannin is of very great utility. Employ the same in cracked nipples, fissured anus, etc. Prepare the glycerite by dissolving one drachm. of Tannic Acid in one ounce of glycerin. Apply it to the parts with a brush. Tannic Acid may be given in doses of from one to ten grains. It is best used in medium doses, as five grains or less frequently repeated.

Tannin may be used to sprinkle on ulcers to lessen discharges, or on a nasal polypus to reduce the growth. It does not injure the sound tissue. A solution of two grains in one ounce of water is of some value in diphtheria when used by atomization. As an astringent for chronic conjunctivitis and purulent ophthalmia in infants use the following :

R. Tannic Acid, grs. vj.
Aqua, fl ℥j. M.

Sig.—Apply locally as often as needed.

ACIDUM GALLICUM.

Gallic Acid.

SYNONYMS.—*Trioxybenzoic Acid, Dioxysalicylic Acid.*

DESCRIPTION.—This organic acid is usually prepared from tannic acid, though sometimes directly from nut-gall. It occurs in the form of delicate needles of a silky lustre, colorless when pure, but as usually met with in commerce of a brownish or fawn color. It has an acid reaction, no odor, and an astringent and sourish taste. Soluble in cold water (100), boiling water (3), cold alcohol (5), boiling alcohol (1), glycerin (12), and ether (40). It is somewhat soluble in chloroform, benzin, and benzol.

This acid is made from a solution of finely powdered galls and water, or more generally tannic acid is employed. After a month's exposure to the air it is filtered, Gallic Acid precipitates, and is purified by means of animal charcoal. It is in crystalline form and is a good astringent.

Internally administered Gallic Acid is valuable to control excessive secretions and hemorrhage. It oftentimes cures chronic passive menorrhagia. Give five grains three or four times a day during the inter-menstrual period as well as during flooding. In hæmoptysis it is also very effective, and if the case be very severe Dover's Powder may be given with it. Use three grains of each every two hours and give Ergot by the mouth or hypodermatically. Hemorrhage from the nose and bowels occurring during a spell of typhoid fever is controlled by from two to five grains of tannic acid every three hours. It is a good drug in puerperal hemorrhage. Use it from day to day in from two to five grain doses to restrain the colliquative sweating of phthisis. In very severe cases of hemorrhage give it in alternation with Ergot. The dose of Gallic Acid ranges from five to ten grains. Excellent results are obtainable from Gallic Acid in the various forms of albuminuria. It benefits by lessening the amount of albumen and rendering the urine normal. In so-called Bright's disease it not only lessens the amount of albumen in the system but saves the patient's strength. Give five grains every three hours; continue its use from day to day.

RHUS GLABRA.**Sumach.**

SYNONYMS.—*Smooth Sumach, Upland Sumach, Pennsylvania Sumach.*

BOTANICAL ORIGIN.—The bark and berries of *Rhus glabra*, Linne; Nat. Ord., *Anacardiææ*. Indigenous to the United States.

This is an indigenous plant bearing red berries of an acid taste, and its leaves turn red in autumn. The berries contain tannic acid, malic acid, and calcium salts. The bark of the shrub and its roots are medicinal, as are also the leaves and berries. Alcohol and water extract its virtues. A good tincture may be made with the bark or berries, using eight

ounces of the material to one pint of fifty per cent. alcohol. Give this in doses of from ten to thirty drops.

Smooth Sumach is astringent, antiseptic, antiscorbutic, and alterative. A decoction of the berries is useful in scrofulous affections, aphthous ulceration of the mouth, throat, and gums, etc. In these affections use one ounce of the berries to one pint of water; simmer in an earthen vessel, with occasional stirring, until reduced to three-fourths of a pint, then dissolve in it one-half drachm of potassium chlorate. Use this as a wash. It is very useful in the treatment of indolent ulcers. The bark is a good alterative in syphilis. Use it by making a decoction of the root bark. Its principal use is in ulceration of the mouth.

BISMUTHI SUBNITRAS.***Bismuth Subnitrate.***

SYNONYMS.—*Subnitrate of Bismuth, White Bismuth.*

DESCRIPTION.—An odorless and heavy, permanent, white powder, varying somewhat in its chemical make-up. Though usually described as nearly tasteless, it has, nevertheless, a peculiar, disagreeable, but feeble, characteristic taste, which remains for a considerable length of time in the mouth. Alcohol refuses to dissolve it, and it is nearly insoluble in water. Both hydrochloric and nitric acids readily dissolve it.

Bismuth Subnitrate is astringent, sedative, and alterative. It is a highly valuable remedy in disease of the stomach attended with morbid sensibility. It allays flatulence, and relieves nausea and pain. It is applicable in mild forms of gastritis, and very useful in mild forms of gastro-intestinal catarrh in small children. To a child of two or three years give from one to three grains every four hours. Other remedies, as Aconite and Ipecac, may be alternated with it. Certain obstinate conditions of the stomach, as gastric ulcer, are more readily controlled by this salt than any other agent. In these cases it arrests the vomiting, relieves pain, checks

diarrhœa, and enables the patient to take food. It is an elegant remedy for cancer of the stomach, not to cure, but to give relief. Use the following :

R. Bismuth Subnitrate, grs. v. to x.

Morphine Sulphate, gr. $\frac{1}{10}$.

Make one powder.

Sig.—Give such a powder every six hours.

Bismuth Subnitrate proves very efficient in obstinate diarrhœa, and also in the diarrhœa of phthisis. In the latter disorder it often cures when everything else fails. Give five grains every three hours, or use the following :

R. Bismuth Subnitrate, $\bar{3}$ j.

Cinnamon Water, $\bar{3}$ ij. M.

Sig.—Give one or two teaspoonfuls every three hours.

In the chronic diarrhœa among soldiers following exposure during the late war, this was one of the best remedies for its control. The patient was put on a milk diet and given five or six grains every three hours. It is useful in cholera infantum, though it should not be entirely depended upon. Here give two or three grains of it with other indicated remedies.

This salt is very valuable as a local application. In excoriations of the skin, as of the neck, arms, etc., when the parts become red and painful, wash them with a weak solution of alum or borax, dry well, and dust with Bismuth Subnitrate. This protects the surface, relieves pain, and promotes healing. It is an excellent application to bed sores and also to superficial burns. In cases of ulceration it should not be forgotten, especially when the part is irritable. Fissure in ano, chapped hands, cracked nipples, etc., are conditions in which it is likely to be of great service. It is especially soothing in fissured anus and uterine ulceration, when there are acrid and offensive discharges. For ulcerations of the septum nasi the parts may first have to be touched

with a mild caustic. For all these conditions employ the following:

R. Bismuth Subnitrate, ʒ ij.
Glycerin, fl ʒ j. M.
Sig.—Apply to the affected part.

This salt is a valuable cosmetic :

R. Bismuth Subnitrate, ʒ ij.
Glycerin, fl ʒ j.
Rose Water, fl ʒ iij. M.

Sig.—Apply to the face with a sponge after having washed with Asepsin Soap.

It is excellent for ladies with rough skin and pimples. Bismuth Subnitrate, in connection with simple ointment, is soothing in many skin diseases, as herpes, etc.

ERIGERON.

Canada Fleabane.

SYNONYMS.—*Canada Erigeron*, *Horsetail*, *Cowtail*, etc.

BOTANICAL ORIGIN.—The herb and oil of *Erigeron canadensis*, Linne; Nat. Ord., *Compositæ*. North America, growing extensively in waste places and fields.

OLEUM ERIGERONTIS or *Oil of Erigeron* is a neutral, pale-yellow oil. It has a peculiar, characteristic taste, and an aromatic odor. It deepens in color and increases in consistency with age and exposure. An equal bulk of alcohol should dissolve it.

Erigeron is astringent, tonic, diaphoretic, and diuretic. It has been successfully used in diabetes, cystitis, nephritis, and in vesical irritation from the presence of calculi. Use it in the form of a syrup for bronchial troubles with bloody expectoration. It also lessens the expectoration and cough in phthisis. Use the powdered plant as a snuff for nose-bleed. The decoction is of service in diarrhœa, and locally valuable for leucorrhœa.

Oil of Erigeron is a powerful hæmostatic. In hemorrhage from the uterus it may be used where a stimulant will not harm. It should be used only in passive hemorrhages. It has given fair results in palpitation of the heart when due to uterine troubles, such as dysmenorrhœa. Diluted it may be applied to the tonsils in tonsillitis. Locally it gives relief in some forms of rheumatism. Dose of the oil, five drops.

CINNAMOMUM.

Cinnamon.

SYNONYMS.—(1) *Cassia Cinnamon*, *Chinese Cinnamon*, (2) *Saigon Cinnamon*, (3) *Ceylon Cinnamon*.

The U. S. P. designates three official Cinnamoms, viz :

(1) CINNAMOMUM CASSIA derived from the shoots of one or more undetermined species growing in China.

(2) CINNAMOMUM SAIGONICUM also the bark of an undetermined species of Cinnamon. This is also from China.

(3) CINNAMOMUM ZEYLANICUM, the inner bark of *Cinnamomum zeylanicum*, Breyne ; Nat. Ord., *Laurineæ*, from Ceylon.

Ceylon Cinnamon is the best grade of this drug and also the scarcest, but little of it entering commerce.

Cinnamon is astringent and stimulant. Its chief constituent is its essential oil. A medicated water, *aqua cinnamomi*, is prepared as follows : Rub oil of Cinnamon one-half drachm with a little precipitated phosphate of calcium ; gradually add one pint of distilled water and filter. This makes an elegant vehicle for medicines.

Cinnamon is contra-indicated in all inflammatory states of the gastro-intestinal tract. Though used as an aromatic its chief use is to control uterine hemorrhage. It acts promptly by contracting the bleeding vessels. Cinnamon is of considerable value in some forms of diarrhœa ; or chalk and Cinnamon water may be administered.

The dose of powdered Cinnamon is from ten to thirty grains ; of the tincture one or two drachms ; of Cinnamon water from one to four drachms ; of the oil, five drops.

HAMAMELIS.**Witch Hazel.**

BOTANICAL ORIGIN.—The leaves and twigs of *Hamamelis virginica*, Linne ; Nat. Ord., *Hamamelaceæ*. Indigenous and should be gathered in autumn.

SPECIFIC HAMAMELIS belongs to the class of tannates that occasionally disintegrate. When this happens the preparation should be discarded.

A tincture and distillate of this drug are in use beside the specific Hamamelis. To prepare a tincture use the leaves and bark of the twigs and fifty per cent. alcohol to obtain a saturated product. For external use the specific and distillate are preferred.

This agent has a specific influence over the venous system. Use it both locally and internally for hemorrhoids. For external use in piles

R. Distillate of Hamamelis, fl $\frac{3}{4}$ ss.
Aqua, Oj. M.

A teaspoonful of the solution may also be taken every hour. For the relief of varicose veins apply water and Hamamelis externally and take from five to ten drops of specific Hamamelis three or four times a day. It has been successfully used as an injection for hydrocele. Vicarious menstruation, epistaxis, and hæmoptysis are relieved by its internal use.

Witch Hazel is a remedy for enfeebled mucous membranes, being especially useful in diseases of the appendages of the eyes, and in laryngitis and catarrh. It is both tonic and stimulant, as well as a constringing drug. Employ it for

flabby ulcerations, sore throat, etc. For sore mouth use a decoction.

Hamamelis relieves the pain in prolapsus uteri and ani and tones the parts. Apply the distillate to burns and scalds, for which it is excellent.

R. Distillate of Hamamelis, $\bar{3}j$.
Asepsin, grs. v. M.

Apply this combination, or the plain distillate is a fine agent to remove the soreness from fresh wounds, burns, and contusions. Pond's Extract is a distillate of Hamamelis.

URTICA.

Stinging Nettle.

BOTANICAL ORIGIN.—The *Urtica dioica*, Linne; Nat. Ord., *Urticaceæ*. A common weed in waste places.

SPECIFIC URTICA often gelatinizes and becomes valueless. No remedy has been discovered for the disturbance. In such cases throw the preparation away.

This remedy is astringent, diuretic, styptic, and tonic. All parts of the plant have been used medicinally, though the root and seeds have been most popular. Dysentery, diarrhœa, and the summer bowel disorders of infants have been successfully treated with it when of that character needing astringents. Preparations of the root are of much value as hæmostatics and to check excessive mucous discharges.

Nettle specifically influences the skin, and is of considerable value in eczema. The usual prescription for this drug is

R. Specific Urtica, $\bar{5}$ ss. to $\bar{5}j$.
Aqua, fl $\bar{3}$ iv. M.

Sig.—A teaspoonful every one or two hours.

PINUS CANADENSIS.

Canada Pine.

BOTANICAL ORIGIN.—The inner bark and pitch of *Tsuga canadensis*, Carriere; (*Pinus canadensis*, Linne; *Abies cana-*

densis, Michaux); Nat. Ord., *Coniferæ*. North America.

SPECIFIC PINUS CANADENSIS is liable to precipitation, but it does not disintegrate as do others of this class. It should be shaken before being used. Dose, two to ten drops.

This drug furnishes the stimulant and irritant oleoresin known as *Canada Pitch* (*Pix Canadensis*) extensively used in plasters.

This is a valuable astringent, and may be applied as such in relaxed conditions. Given internally in chronic bowel disorders it frequently corrects the disordered action. When the pulmo-bronchial tract too freely secretes mucus, or when muco-pus collects in this tract, this drug is valuable as an astringent. It also checks passive hemorrhages from these and other parts.

Gangrenous and flabby ulcers, leucorrhœa, etc., are greatly benefited by the local use of a decoction of this bark. The oil may be employed as a stimulant, diaphoretic, and diuretic. It enters into the composition of many liniments.

EPILOBIUM.

Willow Herb.

SYNONYMS.—*Wickup*, *Rose Bay*.

BOTANICAL ORIGIN.—The leaves and tops of *Epilobium angustifolium*, Linne; Nat. Ord., *Onograceæ*. Common in open woods, new grounds, and low places in the Northern Hemisphere.

This drug is both astringent and demulcent. *Epilobium*, in infusion, is one of the very best of vegetable drugs for diarrhœa and dysentery, and especially for cholera infantum and the diarrhœa of typhoid fever. To make the infusion add one pint of boiling water to one ounce of the drug. Take freely.

The indications for this drug are diarrhœa with colic-like pain; tenesmic, feculent discharges; contracted abdomen, with diarrhœa; and chronic diarrhœa, with a dirty, harsh,

and contracted skin. The infusion may be given, or specific *Epilobium* may be administered in from ten to twenty drop doses.

HÆMATOXYLON.

Logwood.

BOTANICAL ORIGIN.—The heart-wood of *Hæmatoxylon Campeachianum*, Linne; Nat. Ord., *Leguminosæ*. A native of Campeachy, and found elsewhere in tropical America.

This remedy is astringent, and if not carefully used may stain the clothing. It is not offensive to the stomach. A decoction is prepared from one ounce of the wood to one pint of boiling water. An extract is also used in doses of from one to twenty grains. This drug is employed in chronic forms of diarrhœa, dysentery, and cholera infantum, and is of much service in the hemorrhage from the bowels sometimes occurring in typhoid fever. Locally good results are obtained from its application in leucorrhœa, and to flabby ulcerations, etc.

GERANIUM.

Cranesbill.

BOTANICAL ORIGIN.—The rhizome of *Geranium maculatum*, Linne; Nat. Ord., *Geraniaceæ*. Common in hedges, moist woodlands, etc., especially in low grounds throughout the United States.

SPECIFIC GERANIUM often disintegrates, forming a brown magma and a nearly colorless, serum-like liquid. No explanation has been discovered for the change, and no remedy to prevent it. When such alteration occurs throw the preparation away.

This agent is one of the best borne and most effective of the vegetable astringents. It contains both tannic and gallic acids.

It is employed chiefly in chronic and subacute bowel disorders—diarrhœa, dysentery, and cholera infantum, when the discharges are profuse and debilitating. In dysentery a laxative should be first employed and followed by infusion of Geranium, which is made by infusing one ounce of the crushed root in one pint of boiling water. Administer freely, or it may be given in milk. Specific Geranium may be given in from five to twenty drop doses.

PARTURIENTS.

Such agents as increase the contractile power of the uterus, arousing it during labor, when torpid, to renewed propulsive action, are denominated *parturients*. Probably most agents called parturients act by the general arterial excitement they produce. Others, however, and particularly Ergot, produce their effects through their special affinity for the uterine muscular fibres, inducing contraction.

Closely related to the parturients, so far, at least, as their effects are exerted upon the female reproductive organs, are remedies classed as *emmenagogues*. These agents have, with an exception or two, been noted throughout this work. Emmenagogues are agents which act either directly or indirectly upon the reproductive organs of the female, promoting the menstrual flow. That such a class exists is doubted by some, but certainly there is evidence enough that certain agents do produce this effect. Such agents act in one of the four following ways: (1) By their sedative action, lessening determination of blood to the uterus, thus preventing vascular irritation; (2) by producing determination of blood to the pelvic viscera, producing congestion, favorable to menstruation; (3) by improving the quality and quantity of the blood-supply, as when amenorrhœa is due to anæmia; (4) and by direct nervous action upon the uterus, stimulating it to increased power. As menstrual disorders are so widely at variance and depend upon so many different and

ofttimes opposite conditions, the foregoing will be sufficiently explanatory of the action of emmenagogues.

ERGOTA.**Ergot.**

SYNONYMS.—*Secale Cornutum*, *Secale Clavatum*, *Clavus Secalinus*, *Mater Secalis*, *Spurred Rye*, *Ergot of Rye*.

BOTANICAL ORIGIN.—“The schlerotium of *Claviceps purpurea* (Fries) Tulasne; Class, *Fungi*; replacing the grain of rye; (*Secale cereale*, Linne; Nat. Ord., *Gramineæ*),” U. S. P.

CHIEF ACTIVE CONSTITUENTS.—*Ergotine*, *Ecboline*, *Schlerotic Acid*, *Schleromucin*, and other bodies.

SPECIFIC ERGOT is an exceptionally fine Ergot preparation. It has a dark-red color and the odor of the drug.

This is a fungous growth found on both wheat and rye when grown in wet places. Ergot, to be good, should be only moderately dried. If it be hard and brittle when taken between the teeth, if it breaks abruptly with a snap, or if devoid, or nearly so, of a pinkish hue, it should be rejected as of little value, especially so if it has but little taste or odor. If kept for more than a year it is not fit for medicinal use. It should be kept in closed vessels, and occasionally moistened with a few drops of chloroform to prevent insects from developing in the drug. Ergot should not be long boiled. Its odor is unpleasant and its taste nauseous. Water, alcohol, and diluted acetic acid extract its properties. We may employ the specific medicine, a tincture, the infusion, or the powder.

Ergot is a stimulant to the muscular and nervous structures of the uterus, no other remedy possessing this power in so marked a degree. It is the most important remedy for uterine hemorrhage because it contracts the mouths of the bleeding vessels. It slows the action of the heart, and by its action on the vaso-motor system increases the blood pressure.

Ergot causes contraction of unstriped muscular tissue, and the uterus, being of that variety, is subject to this action so that hemorrhage from it is arrested. Ergot administered in doses of twenty or thirty grains to a healthy male adult, causes slight dryness of the fauces and throat, and some pain in the abdomen, but in large doses and long continued it has a bad effect. Two forms of disease result from it. One is gangrenous ergotism, marked by loss of nervous and muscular power, with gangrene and sloughing of the tissues. The second is convulsive ergotism, its effect being chiefly upon the nerve centers. This form is marked by impaired vision, vertigo, great pain in the muscles, delirium and convulsions. Ergotism has occurred in individuals who have subsisted on bread made from rye, a portion of which was contaminated with "spurred rye". But in proper doses Ergot is a good and safe remedy.

As an expulsive in labor Ergot has no equal, its effect being perceived in fifteen minutes. If given in doses too large it may impair the future contractile power of the uterus. Use Ergot as a parturient in cases when the pains are feeble, with no special cause for such debility, and where the os is soft and dilatable, the presentation correct, and there is no obstruction to speedy delivery. Do not use it when the os is hard and rigid, when there is a mal-presentation, when there is an obstruction of the soft parts, or when there are severe head symptoms or excessive debility. If given under improper conditions it may cause rupture of the uterus. It often excites a tonic spasm that continues until the child is born or the woman exhausted.

In controlling hemorrhage Ergot is our best remedy. If there is a constitutional tendency to hemorrhage always give it. If the female has given birth to children before, find out the nature of her previous labors, and if there is a tendency to hemorrhage, give Ergot as soon as the child is born.

Ergot is a good anti-abortive in small doses.

R. Specific Ergot, fl ʒj.
Aqua, fl ʒj. M.

Sig.—Dose, a teaspoonful every hour.

It is a good remedy in menorrhagia, especially in women of a scrofulous diathesis, who frequently become pregnant. Give from five to ten drops every hour or two. It is of value in leucorrhœa, when there is a relaxed condition of the vagina and uterus. Give from five to twenty drops every three hours. Use it in cases of amenorrhœa, with atonic and relaxed condition of the uterine fibers. If constipation exists give two or three grains of Aloes at bedtime and ten drops of Ergot every three hours during the day.

There are few better remedies to control hemorrhage from the lungs than Ergot. Let the patient take the following at a dose :

R. Specific Ergot, gtt. x.
Ipecac, gr. ss.
Gallic Acid, grs. ij. M.

Sig.—Repeat every half hour.

Use the same in post-partum hemorrhage and in hemorrhage from the bowels in typhoid fever.

Ergot gives good results in the treatment of varicose veins, varicocele, etc. Rub up one grain of Ergotine with ten drops each of water and glycerin and inject near the enlarged veins. Also give small doses of Ergot internally for some length of time, carefully watching its effects.

Ergot is indicated in some cases of spermatorrhœa and in atonic conditions of the reproductive and urinary organs. Many chronic troubles of these organs are relieved by it, and in these cases use it as often as is necessary, giving of the specific medicine from ten to thirty drops in water. For incontinence of urine and other chronic bladder trouble, with atony of the cystic muscular fibres :

- R. Specific Ergot, fl $\bar{5}$ ss.
 Specific Buchu, fl $\bar{5}$ j.
 Simple Syrup, fl $\bar{3}$ iiss.

Sig.—Dose, a teaspoonful three or four times a day.

Ergot is of some value in cancer when there is bleeding from the growth. Cover the surface once a day with the drug in fine powder and cover it with a cloth wrung out of a weak solution of carbolic acid.

In large doses Ergot may produce nausea, but if the stomach does not retain it, then give it hypodermatically. An excellent non-irritating preparation for hypodermatic use is Lloyd's Ergot. As a parturient Ergot may be given in doses of from one-half to one drachm. Repeat if necessary.

CIMICIFUGA.

Macrotys.

SYNONYMS.—*Black Snakeroot, Black Cohosh, Rattle Weed, Rattlesnake Weed, Squaw Weed, etc.*

BOTANICAL ORIGIN.—The rhizome and rootlets of *Cimicifuga racemosa*, (Linne) Nuttall; Nat. Ord., *Ranunculaceæ*. Common in shady and rocky woodlands from Canada to Florida.

SPECIFIC MACROTYS is of an amber color and a sweetish taste, leaving an unpleasant acidity in the throat. When dropped into water it produces a milkiness, and if in sufficient amount a precipitate results.

This is a perennial indigenous plant, with a simple stem four to six feet high, bearing a spike of white flowers. The rhizome is from one to three inches long, one-third to one inch in diameter, of a dark-brown or black color externally, a dirty white internally, and bitter and unpleasant to the taste. Water partly and alcohol fully extract its virtues. Its resin, *Macrotin*, is a most important element in it.

This remedy is indicated by muscular pain, uterine pain with tenderness, and false labor pains. It is valuable in

many cases of rheumatism. There are few better remedies for rheumatism of the uterus or any other part of the reproductive organs of the female. Acute rheumatism of the male is often cured with it. It does best in those cases where the pulse is open, pain constant and drawing, not paroxysmal, and the skin is hot, dry, and constricted. Its physiological effects are as follows: Large doses produce nausea with marked increase of the bronchial secretion, expectoration becomes free, cutaneous secretion is increased until the patient sweats freely, vertigo and dimness of vision take place, the heart's action is reduced, and the circulation depressed. It is sedative in large doses. It relaxes the muscles and overcomes muscular pain.

In proper doses *Macrotys* is a valuable parturient and emmenagogue, strengthening uterine contraction. It is not like *Ergot*, which produces tonic spasms, but, on the contrary, the contractions induced are intermittent in character like those of natural labor. It strengthens normal contractions. In atony of the uterus it is better than *Ergot*.

The effect of *Macrotys* on the stomach is good, improving both digestion and the appetite. It is valuable in rheumatic headache when indicated as previously named. In such cases give the specific medicine or a weaker one. The following is a good tincture: Take eight ounces of the root and macerate it for two weeks in one pint of sixty or seventy per cent. alcohol. Filter and add enough more alcohol to give sixteen ounces when the process is finished. Of this use the following for most disorders:

R. Tr. *Macrotys*, gtt. x. to xxx.
Aqua, fl. ℥ iv. M.

Sig.—Dose, a teaspoonful every one, two, three, or four hours.

The same plan of treatment is good in myalgia, or give five drops of the above tincture every three hours.

Black Cohosh is a good remedy in nervous troubles. Few agents are better in hysteria, and nervous hysterical females are often radically cured by it. It is slow in its action, but permanent in its effects. With Valerian it is very useful in the treatment of St. Vitus' Dance. It may be necessary in some cases to continue the treatment for some time, but it usually does very nicely. Macerate two ounces each of Valerian and Macrotys in one pint of diluted alcohol and give a teaspoonful of such a tincture to a child three times a day.

In bronchial and pulmonary diseases Macrotys may be given to lessen cough, relieve irritation, and improve the appetite and strength. In asthma and whooping cough it is very powerful in controlling the spasmodic manifestations of the disease.

For its influence on the reproductive organs Macrotys is an excellent drug in leucorrhœa, amenorrhœa, dysmenorrhœa, and in all uterine complaints, and when there is atony; in anæmic females give it with some form of iron.

Owing to its influence on secretion it is a good alterative in scrofula. It is the remedy for the pains in the back in small-pox. Use the following :

R. Specific Macrotys, gtt. x. to xx.
 Aqua, fl $\bar{5}$ iv. M.
 Sig.—Dose, a teaspoonful.

The specific medicine is an elegant and powerful preparation of this drug.

CAULOPHYLLUM.

Blue Cohosh.

SYNONYMS.—*Papoose Root, Blueberry Root, Squaw Root.*

BOTANICAL ORIGIN.—The rhizome and rootlets of *Caulophyllum thalictroides* (Linne), Michaux; Nat. Ord., *Berberidaceæ*. Common in the rich woodland soils of North America southward to Tennessee.

CHIEF ACTIVE CONSTITUENT.—*Leontin*.

This is an indigenous plant with a straight, smooth stem, two feet high, branched at the top, and bearing three large and three small leaves. It bears a dark-blue berry having an aromatic taste. Alcohol and water extract its virtues.

This drug is used as a parturient and emmenagogue, and also as an antispasmodic, antirheumatic, and diuretic. Its action is exerted upon the hypogastric plexus, and it influences all the processes controlled by the sympathetic system of nerves.

Caulophyllum is a good parturient, increasing the strength of uterine action. As an antispasmodic in atonic and irritable conditions of the nervous system it acts very nicely. It is not so rapid in its action as some other agents, but it gives good results which are usually permanent. In cramps of the uterus, spasms at the menstrual period, leucorrhœa, and amenorrhœa, it proves an excellent medicine. It is of some value in hysteria and epilepsy, when associated with irritation of the generative organs.

Blue Cohosh influences the urinary tract and is good in chronic nephritis, chronic urethritis, albuminuria, and chronic inflammation of the bladder. It acts by relieving irritation of the diseased parts.

This drug is a good anti-abortion. It prevents premature labor by giving strength and tone to the uterus. After abortion it relieves the general irritability of the system and prevents hemorrhage. It is useful in insomnia, but not being narcotic it produces sleep by sedation of the nervous system. It has a good influence on the digestive organs and is of considerable value in nervous dyspepsia of nervous females. It allays nausea and vomiting. It relieves after-pains in hysterical women, and for this purpose give five drops in hot water every half hour. Employ it also in rheumatic conditions of the uterus, when the patient is nervously excited.

GOSSYPIUM.**Cotton Root.**

BOTANICAL ORIGIN.—The bark of the root of *Gossypium herbaceum*, Linne, and other species of *Gossypium*; Nat. Ord., *Malvaceæ*. Cultivated.

SPECIFIC GOSSYPIUM has a beautiful red color and a sweetish, astringent taste. It is subject to gelatinization and occasionally changes then to a brown magma. When this alteration occurs the preparation should be thrown away. No remedy has been found for this disturbance.

This is a perennial plant, a native of Asia, but now largely grown in the United States. Its leaves are mucilaginous and demulcent. Its seeds are rich in oil, and large amounts of it are sold as sweet oil. Cotton wool is the wool of the seed, and with linseed oil makes a good application for burns. The medicinal part is the inner bark of the root, and it is used as a parturient and emmenagogue. It was first used among the slave women of the South to produce abortion. A strong infusion was employed. All preparations of *Gossypium* must be made from the bark of the recent root; others are of no value. As an emmenagogue use a decoction of the bark made of the strength of four ounces of the drug to two pints of boiling water, boiled down to one pint and give of this one or two fluid ounces every half hour.

USTILAGO.**Corn Smut.**

BOTANICAL ORIGIN.—A fungus, *Ustilago maidis*, Leveille; Nat. Ord., *Fungi*, growing upon all portions of *Zea mays*, Linne, or common corn.

This drug resembles Ergot to a great extent, and loses its properties if kept for more than a year. It probably contains *schlerotic acid*.

Ustilago is emmenagogue and parturient. Like Ergot it is employed to stimulate uterine contractions in labor, and to prevent hemorrhage by a like stimulation after labor. About from fifteen to thirty grains is the proper dose. Like other agents of this class it should be used only when there is no obstruction to safe delivery and the parts are in a proper condition to allow the passage of the child's head.

ANTHELMINTICS.

Agents which destroy worms or expel them from the alimentary tract are known as *anthelmintics*. Most of them, and we will not include cathartics, which either debilitate the parasite or destroy its nidus, and tonics, which tend to forestall their formation—most of them, we repeat, act by poisoning the worm so that it is either killed or rendered so weakened that it can not longer retain its station in the intestinal tract. Such anthelmintics might with much propriety be called *specific anthelmintics*. It is this latter class that we will consider in this connection. Cathartics are usually given after the administration of the “worm medicine” to remove the parasite.

SANTONINUM.

Santonin.

BOTANICAL ORIGIN.—A neutral principle obtained from *Santonica*—the unexpanded flower heads of *Artemisia pauciflora*, Weber; Nat. Ord., *Compositæ*. Native of Turkestan.

DESCRIPTION.—This principle occurs in odorless and colorless, shining, flattened crystals, nearly tasteless at first, but soon developing a bitterness. Light turns it yellow, while air does not affect it. It should, therefore, be kept in amber-colored vials in a dark place. Cold water scarcely dissolves it. Soluble in hot water (250), cold alcohol (40), boiling alcohol (3), chloroform (4), and ether (140). It is also soluble in oils.

This is the best remedy of the class of anthelmintics, being used to remove any kind of worm but the tapeworm. In overdoses it is an acro-narcotic poison, causing pain in the abdomen, vomiting, purging, cold sweat, and great prostration. In a child of three years three grains produce unpleasant and sometimes alarming symptoms. In large doses it first clouds the vision, then objects appear yellow, and finally red. It is not only valued as an anthelmintic, but it is also useful in many nervous troubles, the symptoms of which are like those produced by the presence of worms; as starting in sleep, irritation of the intestinal tract, picking of the nose, etc. In such cases give half-grain doses three times a day. It is a stimulant to the nervous system. Santonin has also a specific action on the urethra and bladder, allaying irritation. In retention of urine, especially in children, give one-fourth grain every two hours until the trouble is removed.

The following is a very good vermifuge :

R. Santonin, grs. v.
 Podophyllin, gr. j.
 Sugar of Milk, ʒ j. M.
 Triturate twenty minutes.

Make into ten powders and give one three times a day. This is quite pleasant and a very efficient medicine.

SPIGELIA.

Pink Root.

SYNONYMS.—*Carolina Pink, Indian Pink, Worm Grass.*

BOTANICAL ORIGIN.—The rhizome and rootlets of *Spigelia marilandica*, Linne; Nat. Ord., *Loganiaceæ*. Southern and Southwestern United States.

This plant is indigenous to our Southern States. The bark of the root yields its properties to boiling water. It is anthelmintic, cathartic, and narcotic. In large doses it causes an unpleasant determination of blood to the brain, the patient

becoming intoxicated, with ringing in the ears, and sometimes spasms.

In proper doses it is a valuable remedy. The following is a very good form of administration :

R. Spigelia, Senna, Manna, aa. $\bar{3}$ ss.

Boiling Water, O j.

Macerate one hour.

Sig.—Give in doses of a wineglassful as an anthelmintic.

GRANATUM.

Pomegranate.

BOTANICAL ORIGIN.—The bark of the root and stem of *Punica Granatum*, Linne ; Nat. Ord., *Lythraceæ*. Indigenous to India and the southwestern portion of Asia, and both naturalized and cultivated in sub-tropical regions.

CHIEF ACTIVE CONSTITUENT.—*Pelletierine*. This is a colorless liquid alkaloid, readily soluble in water, ether, chloroform, and alcohol. It is a very active tænicide. Several salts of this alkaloid are in use, but the tannate seems to have a preference over the others. It is a yellowish powder, devoid of odor, but having a sharp, astringent taste. It is hygroscopic. Water (700) and alcohol (80) dissolve it.

This shrub is a native of Europe, Persia, and Japan. It is sometimes grown in this country. The bark of the root is largely used to expel tapeworm. It is twenty feet high, the leaves are pointed, light-green, and three inches long by half an inch broad. Its flowers are red and odorless. Its fruit is the size of an orange, of a reddish-brown color, and the pulp is pleasantly acid and contains many seeds. Chemical analysis of the bark does not give much information as to its constituents, but it contains besides its active principle tannin and fatty materials. As found in market the bark is in quills or fragments of a grayish-yellow color, and very bitter and astringent. When chewed it colors the saliva yellow. Maceration in water extracts its virtues. It produces

nausea and vomiting, and affects the nervous system. But all remedies for tapeworm do this more or less, making the patient dizzy and intoxicated.

This is our best remedy for the expulsion of the tapeworm; all writers recommend it. It is generally used in doses too small. In preparing this remedy take of the bark (not powdered) one-half pound, press it into a vessel and cover with two pints of boiling water. Boil this down to one pint, filter, and give it in doses of four fluid ounces. For the purpose of causing it to go speedily into the intestines give the patient some cathartic with it, and thus prevent its absorption as much as possible. With each dose give one drachm of the fluid extract of Jalap. One drop of some aromatic oil, as Anise, or Cinnamon may be combined with it. After two or three hours give another dose. It is necessary to prepare the patient before giving it; let him take an active cathartic, as anti-bilious physic at night, eat a very light breakfast in the morning, and at ten o'clock take the medicine. When its action begins give an enema to hasten its operation. The great trouble with this agent is that it is so apt to produce nausea and vomiting. When this can be prevented it seldom or never fails to bring the whole worm. The nausea may sometimes be overcome by giving a little lemon-juice and keeping the patient quiet.

Pelletierine tannate is a very active tænicide. Give, at one dose preferably, from twenty to twenty-five grains in an ounce of water, and follow it with a brisk cathartic.

CUSSO.

Koussou.

SYNONYMS.—*Brayera*, *Kusso*.

BOTANICAL ORIGIN.—The female inflorescence of *Hagenia abyssinica*, (Bruce) Gmelin, Nat. Ord., *Rosaceæ*. Abyssinia.

This is not as good a tænicide as the pomegranate. It is prepared from the dried flowers of an Abyssinian tree. As found in the market the flowers are greenish yellow, and have a fragrant, balsamic odor, and bitter taste.

Koussou sometimes causes nausea and vomiting, and acts on the bowels. Use, as a preceding dose, an infusion made of one ounce of the flowers and a teacup of boiling water. If this does not purge, follow with a cathartic.

ASPIDIUM.

Male Fern.

SYNONYMS.—*Filix Mas*, *Male Shield Fern*.

BOTANICAL ORIGIN.—The rhizomes of (1) *Dryopteris Filix mas*, Schott, and of (2) *Dryopteris marginalis*, Asa Gray; Nat. Ord., *Filices*. (1) North America, in the northern United States, west of the Rockies, and in Europe and northern Asia. (2) North America to the South Carolina mountains.

The root of this plant, which is bitter, nauseous, and astringent, is the part used for the expulsion of tapeworm. The dose of the powder ranges from one to three drachms. A better preparation is the extract, of which give twenty five drops at a dose. Administer this at bedtime in an emulsion, and repeat the dose in the morning. Also give a half ounce of castor oil.

ABSINTHIUM.

Wormwood.

BOTANICAL ORIGIN.—The flowering tops and leaves of *Artemisia Absinthium*, Linne; Nat. Ord., *Compositæ*. Indigenous to Europe. Grown in gardens; also naturalized in the New England States.

CHIEF ACTIVE CONSTITUENT.—*Absinthin*.

This drug is anthelmintic, tonic, and antiseptic. Its virtues depend largely upon its volatile oil and absinthin.

Make an infusion of one ounce of the drug to one pint of water. The dose of the oil is five drops.

This agent is effective in removing worms. It is of value in atonic dyspepsia, and sometimes useful in flatulent colic. Intermittent fever has been cured with it or with absinthin.

Apply the infusion locally as a hot fomentation for swellings and as a wash for indolent ulcers.

CHENOPODIUM.**American Wormseed.**

SYNONYMS.—*Wormseed*, *Jerusalem Oak*.

BOTANICAL ORIGIN.—The fruit of *Chenopodium ambrosioides*, Linne; and its variety, *anthelminticum*, Gray; Nat. Ord., *Chenopodiaceæ*. Common in the United States.

This plant grows abundantly in waste places. It has a strong odor due to a volatile oil it possesses. Its taste is aromatic, nauseous, and bitter.

The seed, which is the size of a pin-head and of a green color, is the medicinal part. The oil is obtained from the seed and is the best preparation to use. To a child of three years give five drops of it in an emulsion as an anthelmintic to remove the round worm. On the second day give a dose of castor oil.

This agent is an anti-spasmodic and is also useful in some cases of hysteria and other nervous troubles, and of value in intermittent fevers.

ANTISEPTICS.

Those agents which destroy or counteract sepsis, or putrescency, are termed *Antiseptics*. This action is probably mainly chemical, being exerted upon vitiated secretions or structures. They act topically, either by destroying the noxious material, or septic germs, or they so strengthen the tissues that the latter are enabled to resist the toxic influence.

Closely related to the antiseptics are the *antizymotics*, agents which, when internally given, counteract the putrefactive process known as zymosis. A typhoid condition is one of a zymotic character, as are those of the eruptive and other contagious disorders. The term antiseptic is not unfrequently used synonymously with antizymotic.

Disinfectants are agents of the same kind which destroy atmospheric germs, or overcome septic material in the air about us, in clothing, houses, drains, etc. They are largely employed to destroy infectious and zymotic material, and thereby prevent propagation of diseases of that character.

POTASSII CHLORAS.

Potassium Chlorate.

SYNONYMS.—*Chlorate of Potassium, Chlorate of Potash.*

DESCRIPTION.—This salt occurs in colorless, prismatic, or plate-like crystals, having a decided luster, no odor, and a typical cooling and saline taste. It is also in market in the form of a white powder. It remains unaltered in the air. Soluble in cold water (16.7), and boiling water (1.7); not

soluble in pure alcohol, but slightly so in mixtures of water and alcohol.

CAUTION.—This salt should never be *heated* nor *trituated* with any *organic substance* (any substance that will burn, as sugar, tannin, cork, etc.) nor with *sulphur*, *phosphorus*, *antimony sulphide*, or other *easily oxidizable bodies*. Under such circumstances it is a *dangerous explosive*, even in small amounts.

This salt is made by passing chlorine gas through a concentrated solution of potash. It is antiseptic, refrigerant and diuretic. Always give this drug in solution; never give it dry. There are several cases of poisoning with this drug on record, as it is widely employed domestically.

A saturated solution may be made as follows: Take of the Chlorate one ounce and add to a quart of water; give from a teaspoonful to a tablespoonful at a dose well diluted with more water. It gives an arterial tinge to venous blood, and in proper doses it increases the appetite and the secretion from the kidneys. It influences the entire body. In five minutes after taking it may be detected in the saliva and in ten minutes longer in the urine, milk, tears, and perspiration. Some have supposed it might safely be given in any amount, but in doses too large it produces pain in the bowels, vomiting, disorganization of the walls of the stomach, and death. It has been given in doses of a half ounce three times a day without any bad results. The more dilute it is the less dangerous. An amount sufficient to produce death if given dry may be given, doing little harm, if well diluted.

This agent is a good one to employ in ulcerative stomatitis, the ulcers reaching the lips, tongue and gums. Give it internally and wash the mouth with its solution a dozen times a day. Often there is not only a sore mouth with pseudo-membranous deposits, but the gums are spongy and bleed easily, and the breath fetid; there is very little spontaneous

tendency to get well. Here this is a very good remedy.

R. Sat. Sol. Pot. Chlor., 1 part.
Aqua, 3 parts. M.

Sig.—Use locally and at the same time administer internally a teaspoonful every hour or two.

It is also a good drug in true croup, as it stops the formation of the false membrane and favors its detachment.

Potassium Chlorate is useful in diphtheria, but it must not be relied on unless given internally and associated with other appropriate remedies; it eliminates diseased matter, but has little effect on the membrane. Let the mouth be washed with it every hour. It may be used as a prophylactic against this disease. For this purpose add one-half ounce of the saturated solution to one-half glass of water and give teaspoonful doses a few times a day.

Chlorate of Potassium, in some cases of syphilis, is a good alterative. Use it when the mouth is ulcerated, as follows:

R. Sat. Sol. Pot. Chlor., fl $\bar{3}$ viij.
Fld. Ext. Stillingia, fl $\bar{3}$ j. M.

Sig.—Give from one to three teaspoonfuls three times a day and wash the mouth with it frequently. It is a good agent in bronchial troubles with purulent expectoration. Use three fluid ounces each, of the saturated solution of Chlorate of Potassium and Syrup of Wild Cherry. Dose a teaspoonful to a tablespoonful every two or three hours.

This is a good remedy in the early stage of Phthisis. Use it when there is an aphthous condition of the mouth, great destruction of tissue, and the patient is unable to take food. The following is very good in such cases:

R. Sat. Sol. Pot. Chlor., $\bar{3}$ iv.
Colorless Hydrastis,
Glycerin,
Syrup of Morphine,
Simple Syrup, aa. $\bar{3}$ j.

Give a teaspoonful every three hours

The following is a very good combination in some cases of scrofula : Take of the saturated solution of the Chlorate and simple syrup three ounces and tinc. chloride of iron one ounce. Give one or two teaspoonfuls every three hours. The Chlorate is useful in urinary troubles, as chronic cystitis, with putrid-smelling urine. Give a teaspoonful of the solution in a wineglassful of the infusion of Buchu three or four times a day.

Potassium Chlorate is the best known remedy for offensive lochia. It is one of our best remedies in salivation. Use as a wash and give it internally. In leucorrhœa and ulceration of the os uteri it is very serviceable. Use two ounces of the saturated solution in one pint of water as an injection. It is a good remedy for erysipelas bordering on gangrene. The dose of the Chlorate is from one to thirty grains.

BAPTISIA.

Wild Indigo.

BOTANICAL ORIGIN.—The root of *Baptisia tinctoria*, Robert Brown ; Nat. Ord., *Leguminosæ*. North America.

This is a native plant found generally throughout the United States. It flowers in July and August and later bears a small pod. The bark of the root is the part used, and may be prepared with alcohol or water. It is antiseptic, stimulant, and astringent. In large doses it is emetic and cathartic. It possesses some alterative properties. Baptisia is valuable as an antiseptic wash. In ulceration of the mucous surfaces, with a tendency to putrescence, use the infusion locally several times a day.

It is a good remedy in malignant scarlet fever for its influence on the throat and also on the general system. Add from ten to twenty drops to four ounces of water ; give teaspoonful doses. It is a good remedy in typhoid fever, having a great controlling influence over the poison of the dis-

ease. Use it when there is a tendency to putrescence, offensive breath, and fetid evacuations. Often failures result from the administration of this drug, and such failures are generally due to the fact that the remedy is not properly administered. If any benefit is to be expected from *Baptisia* it must be given very early.

Use *Baptisia* in dysentery with dark, prune-juice discharges. In diphtheria it is a good drug when there is swelling of the mucous membrane and tendency to sloughing. Use it both locally and internally. It makes a good wash in ulcerative stomatitis or aphthous sore mouth. In ulceration of the cervix or os uteri, attended with a leucorrhœal discharge, its influence is good. Use it in all cases where there is enfeebled capillary circulation, the tissues showing a tendency to slough. No remedy acts more specifically on Peyer's glands. Of the specific use from ten drops to one drachm to four ounces of water; teaspoonful doses. Of the infusion, made of the strength of one ounce to one pint of boiling water, any convenient amount, as a wineglassful, may be given.

SODII BORAS.**Sodium Borate.**

SYNONYMS.—*Borax*, *Biborate of Soda*.

DESCRIPTION.—Transparent, colorless crystals, or an odorless, white powder, having an alkaline and sweetish taste. In dry, warm air the crystals slightly effloresce. Soluble in water (16), boiling water (0.5), and hot glycerin (1). Alcohol does not dissolve it.

This salt is found native and is also prepared artificially. Its properties are antiseptic, refrigerant, and diuretic. No remedy is better in aphthous sore mouth of infants. Use equal parts of Borax and loaf sugar triturated together to sprinkle on the sores several times a day. For older children and adults:

R. Borax, \bar{z} iij.
 Honey, \bar{z} ss.
 Infusion of Sage, q. s. O j. M.

In this form it is an elegant remedy in aphthous ulceration of phthisis. Use a solution of Borax as a wash for conjunctivitis and inflammation of the vaginal mucous membrane. Employ for the latter purpose a teaspoonful of Borax in one pint of water and use it as an injection. Use it in leucorrhœa with profuse, glairy, and colored discharges. Here dissolve one ounce of Borax in one pint of water and inject. Borax solution makes a good application in the treatment of bubo when formed. Use one drachm of Borax in one-half pint of water. Saturate a compress and keep it applied to the part. It forms a good dressing for chancre when dusted on the sore. If desired it may be mixed with salicylic acid (equal parts) and used as a wash. In gonorrhœa as an injection it serves a very good purpose. Use two grains of Borax to one ounce of water. This is a very good antiseptic in the latter stage of the disease. A saturated solution is very valuable in diphtheria as a local agent. A teaspoonful of Borax to one pint of water is a very good remedy in nasal catarrh. Use it with a douche. A saturated solution may be employed as a dressing for bites of animals. Applied to ill conditioned ulcers it cleanses and stimulates them and promotes the healing process.

ASEPSIN.

Asepsin.

SYNONYM.—*Nascent Wintergreen.*

DESCRIPTION.—Asepsin is a white, crystalline powder, of a sweet, wintergreen-like odor, and a sharp, sweet taste. It is pleasant in the usual dose and adds its intrinsic properties to water. In ordinary amounts it is non-poisonous. Five grains dissolved in an ounce of water prevents the alteration of diluted medicines, and in the summer season it is a useful

addition. Asepsin is employed as an antiseptic, antiferment, and antiputrefactive agent, and is, perhaps, the most valuable of Eclectic remedies used for this purpose.

This agent is both antiseptic and deodorant. It arrests fermentation and putrefaction, and is *not* poisonous in proper doses. It has a pleasant odor and is a good antiseptic for use in the mouth, nose, etc. It is of value in some cases of diarrhœa with fetid evacuations.

R. Asepsin, grs. j. to iv.
 Aqua, fl $\frac{3}{4}$ j. M.
 Sig.—Dose, a teaspoonful.

In dysentery in bad cases it answers the same purpose. It is a very good agent in hay fever when used as an ointment.

R. Asepsin, grs. xij.
 Cocaine Hydrochlorate, grs. ij.
 Vaseline, $\frac{3}{4}$ ij. M.

Rub this on the mucous membrane of the nose to lessen irritation and sneezing.

In eczematous troubles, in chronic form, it is a very good drug. Use five grains to one ounce of vaseline as a local application. It is valuable in chronic ulcers with offensive discharge. Use from ten to fifteen grains in one pint of water as a wash or dressing. A solution of the same strength is also a good surgical dressing, and may also be used as an injection in bad-smelling leucorrhœa.

Use it in obstetrical practice as a cleansing agent and deodorant. Asepsin in small doses, say one or two grains, is of much value in fermentative gastric disorders. Two or three grain doses exert considerable force in restraining passive hemorrhages. A solution of the drug is of value in ozœna.

R. Asepsin, gr. j.
 Aqua, O ss. M.
 Use as a douche.

Asepsin is of value to flavor, as well as to preserve, medi-

cines in aqueous solution. It serves nicely when added to aqueous solutions of drugs containing resinous principles, such as Macrotys, insuring a better-looking and pleasanter mixture. A few grains of Asepsin dissolved in distillate of Hamamelis is one of the best of applications to heal the sores produced from severe burns and scalds. Incorporated with borax in a pure animal-fat soap, under the name ASEPSIN SOAP, it forms one of the best toilet, medicinal, and obstetric soaps with which we are acquainted. It is exceedingly valuable as a non-irritant soap for the tender skin of infants. It is of much value in scald-head and in Rhus poisoning, a lather of the soap being prepared and brushed thick upon the part and allowed to remain. The scaly eruptions of skin diseases and other forms of cutaneous disorders requiring strict cleanliness, should be treated with this soap. It is also not an unpleasant dentrifice.

THYMOL.**Thymol.**

BOTANICAL ORIGIN. —This body is a phenol derived from the essential oils of *Thymus vulgaris*, Linne, *Monarda punctata*, Linne; both of the Nat. Ord. *Labiatae*; and from *Carum ajowan* (Roxburgh) Bentham and Hooker; Nat. Ord., *Umbelliferae*.

DESCRIPTION. —Large, translucent, colorless crystals; possessing the aromatic odor of Thyme, and a sharp, aromatic taste, leaving upon the lips a slight caustic effect. It is heavier than water when solid, and lighter than water when liquefied. If triturated with like amounts of camphor, chloral, or menthol it liquefies. Soluble in less than its weight of alcohol, chloroform, or ether; readily in oils, fixed and essential, in carbon disulphide and glacial acetic acid; also slightly soluble in cold water (1200).

This is obtained from the oil of Thyme and other like products. When pure it is in large transparent crystals not

very soluble in water. It is best dissolved in alcohol, and water or glycerin may then be added.

Thymol is a very good disinfectant, antiseptic, and deodorant, but when concentrated it is caustic. A solution of one-half per cent. strength is valuable to apply to gangrenous and bad-smelling sores ; use a saturated compress. This drug is a good deodorant to bad-smelling wounds and is a fine drug with which to prepare surgical dressings. In malignant diphtheria use it as a wash. Chronic nasal catarrh is benefited by it, and it may be used as a disinfectant for the sick room. For the last named purpose dissolve twenty grains in one pint of water. Wet cloths with this and keep them hung up in the room.

SODII SULPHIS.

Sodium Sulphite.

DESCRIPTION.—This salt occurs as transparent, odorless, and colorless crystals, or as a white powder, having a saline and cooling sulphurous taste. The crystals effloresce in the air. Sulphite of Sodium, if exposed, absorbs oxygen from the atmosphere and slowly changes to sodium sulphate, hence it should be kept in a cool situation in well-stoppered vials. Soluble in cold water (4), boiling water (0.9), and but sparingly soluble in alcohol. The powdered salt is the best preparation.

This is prepared by passing sulphurous acid into a solution of sodium carbonate and evaporating the product. It is preferred in the form of a white powder. This drug is antiseptic and deodorant. Sulphites, if pure, control fermentation. If a solution of this salt be applied to a suppurating surface with foul-smelling discharge the latter is freed from odor. It is a valuable agent in zymotic disease, acting best when there are pale mucous membranes and a dirty, white coat on the tongue.

Sodium Sulphite is of considerable value in chronic skin affections. It is one of our best remedies in tetter (herpes).

R. Sodium Sulphite, ʒ j.

Aqua, fl ʒ iv. M.

Sig.—Dose, a teaspoonful three times a day.

It is efficient in small-pox, rendering the disease milder, and in erysipelas, when the condition indicates it, it will be found an excellent remedy.

Typhoid and other fevers, as well as fermentative forms of dyspepsia, often call for this salt. Remember that in all cases whatsoever, the pallid mucous tissues and dirty, pasty, white coated tongue will guide to its correct use. It is one of the most direct of our specific resources.

RESORCINUM.

Resorcin.

SYNONYMS.—*Resorcinol*, *Metadioxybenzene*.

DESCRIPTION.—This agent is a phenol. It occurs as colorless or faintly reddish, needle or plate-like crystals, possessing a feeble but peculiar odor, and an unpleasant, sweetish taste, succeeded by pungency. It should be kept in dark bottles, for light and air cause it to turn reddish or brownish. Soluble in water (0.6), alcohol (0.5), very soluble in both alcohol and water when boiling hot, and in ether and glycerin. Chloroform scarcely dissolves it.

The physiological effects of this agent resemble very much those produced by carbolic acid. Lower forms of life are destroyed by it. When applied to a mucous membrane or raw surface in a weak solution it acts as a stimulant and antiseptic. In a strong solution it acts as a caustic.

Resorcin in a three per cent. ointment gives fair results in non-ulcerative ciliary blepharitis. A weaker solution may be applied in conjunctivitis and to corneal wounds. In ear practice it is employed to destroy unhealthy tissues and to induce a regeneration of normal tissue. Suppurative inflammation of the middle ear is successfully met with it.

Externally we may employ it in the same surgical conditions as carbolic acid. In chronic diseases of the skin a five or ten per cent. solution is often effective. In tuberculosis and ulcerative forms of laryngitis spray the part with a ten per cent. solution. Use the same in hay fever. A two or five per cent. solution is a good wash in leucorrhœa. In diphtheria a ten per cent. solution in glycerin may be painted or sprayed upon the parts involved.

Internally in small doses Resorcin acts as an antiferment. Large doses disturb the nervous system, first acting as a stimulant, then as a depressant. If the dose be very large it may cause cardiac paralysis. In febrile states it depresses the temperature, but is not a good antipyretic. For irritation of the gastric mucous membrane resulting from fermentative changes give Resorcin, one or two grains, every six hours; in gastric ulcer, two grains; in cholera infantum, one-half grain. The ordinary dose of Resorcin is from one to three grains *well diluted*.

The following is a good ointment for eczema and psoriasis:

R. Resorcin, grs. xxv.
 Vaseline, $\frac{3}{4}$ j. M.
 Sig.—Use night and morning.

EUCALYPTOL.

Eucalyptol.

BOTANICAL ORIGIN.—A neutral body obtained from the oil of *Eucalyptus globulus*, Labillardiere, and other *Eucalypti*; Nat. Ord., *Myrtaceæ*.

DESCRIPTION.—A colorless fluid, possessing a distinctive aromatic, camphor-like odor, and a sharp, spice-like, and cooling taste. When cooled somewhat below 32°F. it congeals in the form of needle crystals. Soluble in alcohol, glacial acetic acid, and carbon disulphide in all proportions. It should be kept in a dark situation, and in well-stoppered vials.

Eucalyptol is antiseptic and a stimulating expectorant. It may be employed externally to foul ulcerations, and as a topical stimulant in rheumatic and neuralgic complaints.

Administered both internally and by inhalation it is applicable in cases in which Eucalyptus itself is of advantage, namely, in foul and purulent broncho-pulmonary diseases, such as fetid bronchorrhœa, pulmonary gangrene, chronic bronchitis, tubercular affections, etc.

Being eliminated largely by the kidneys Eucalyptol may be used where a stimulating diuretic is desired. It has given fair results as an antimalarial remedy, and is said to be of use in influenza to control the profuse broncho-pulmonary discharges.

The drug is best given in emulsion or in capsules, the ordinary dose being from five to ten minims four or five times a day.

AQUA HYDROGENII DIOXIDI.

Solution of Hydrogen Dioxide.

SYNONYM.—*Solution of Hydrogen Peroxide.*

DESCRIPTION.—An odorless, colorless liquid, having a feebly acid taste and producing frothiness and a peculiar sensation when taken into the mouth. Age, exposure to heat, and prolonged agitation cause it to deteriorate in value.

Solution of Peroxide of Hydrogen is a powerful oxidizer. When thrown into pus cavities the pus cells are destroyed, being completely disorganized. Its effects in this direction, however, are transient. In contact with organic matter the solution becomes decomposed with the evolution of oxygen gas. As a deodorant and disinfectant for immediate use it possesses great advantages, for it is prompt in action and does not stain the tissues nor clothing. It coagulates albumen. Its chief use, then, is in medical and surgical cases

requiring immediate cleansing. It is of much service used locally in sore throat, diphtheria, membranous croup, and in the sore throat of scarlatina. Use it in all cases where pus is abundant, and use it frequently and freely.

We have used it with excellent results in puerperal septicæmia, with great stench, using it in water by means of a fountain syringe, as a vaginal douche and administering internally potassium chlorate, a teaspoonful of the saturated solution, every hour in plenty of cold water.

Care should be had in using Hydrogen Peroxide in small cavities, such as the ear for otorrhœa, and in the urethra for gonorrhœa, for the rapid liberation of gas causes such great distention as to give much pain and possibly to injure the structures.

ACIDUM CARBOLICUM.

Carbolic Acid.

SYNONYMS.—*Phenol, Phenic Acid.*

DESCRIPTION.—Carbolic Acid is derived from coal-tar and should be kept in well-closed, amber-colored bottles. It crystallizes in long needles or small plates, has an odor not unlike that of creosote, and an acrid, sweetish, burning taste. The crystals are apt to become of a reddish color. A few drops of water added to Carbolic Acid renders it permanently liquid. Carbolic acid does not mix well with small amounts of water (15), but is soluble in all proportions of glycerin, and the glycerin solution in any amount mixes clear with water. It is very soluble in alcohol, chloroform, ether, and oils.

Carbolic Acid is antiseptic, stimulant, anæsthetic, and escharotic. It is only superficial in its action as a caustic, not affecting the tissues deeply. It is largely employed as an antiseptic dressing in surgery. Take of the acid one part and water twenty parts. Apply and cover with oiled silk.

This acid may endanger life by absorption. For extensive burns and scalds :

R. Acid Carbolic, $\bar{3}$ j.
 Linseed Oil, $\bar{3}$ xvj. M.
 Saturate lint and apply.

This application has been much neglected for this purpose. The following makes an excellent stimulant and deodorizing ointment : R. Acid Carbolic, $\bar{3}$ j.

Basilicon Ointment, $\bar{3}$ xvj. M.

Carbolic Acid is used as a prophylactic against small-pox. In small-pox apply a weak solution to the face to allay the distressing itching.

R. Acid Carbolic, $\bar{3}$ j.
 Linseed Oil, O j. M.
 Apply with a pencil.

Apply Carbolic Acid to the cavity of an aching tooth. For phagedenic chancres and ulcers apply the acid full strength. As an injection after abortion use a weak solution. Apply it to carbuncles.

R. Acid Carbolic, $\bar{3}$ j.
 Olive Oil, $\bar{3}$ xvj. M.

The full strength acid may be applied to poisoned wounds. For bubo : R. Acid Carbolic, one part.
 Glycerin, three parts.

For cancer apply equal parts of glycerin and Carbolic Acid. As a local application for chapped hands :

R. Acid Carbolic Sol., gtt. v.
 Glycerin,
 Rosewater, *aa.* $\bar{3}$ ss.

Cleanse the hands at night and apply the solution.

Small doses of Carbolic Acid sometimes relieve obstinate vomiting. In poisoning by this acid administer sweet oil until the patient vomits.

POTASSII PERMANGANAS. Potassium Permanganate.

SYNONYM.—*Permanganate of Potash.*

DESCRIPTION.—This salt occurs as slender, deep-purple crystals, odorless, with a taste at first sweetish and afterwards unpleasantly astringent. Soluble in water (16) and boiling water (3), its aqueous solutions being of a deep violet-red hue if concentrated, and of a pinkish or rose tint if very dilute. Alcohol decomposes this agent. This salt should be kept in well-stoppered vials and should not be exposed to light. The remarks concerning chlorate of potassium and oxidizable bodies apply with the same force to this compound, for it is a powerful oxidizer. Distilled water should be used if possible in making a solution of it.

This salt is antiseptic, escharotic, and deodorant. It may be used as a mild caustic. Use a weak solution of it on fetid surfaces, with granulations half rotten and half alive. For ulcerated fauces, with flabby ulcers, catarrhal hypersecretion, diphtheroid and malignant sore throat, and diphtheria when the odor is almost unbearable.

R. Potassium Permanganate, gr. iv.
Aqua, O j. M.

Sig.—Use as a gargle frequently and give teaspoonful doses internally every three hours.

For wounds the drug should be first applied in strong solution: R. Potassium Permanganate, grs. xv.
Aqua, fl $\bar{3}$ j. M.

This acts as a mild caustic. Afterwards to promote the growth of granulations add two grains of the salt to one ounce of water and apply two or three times a day.

For nasal catarrh:

R. Potassium Permanganate, grs. ij.
Aqua Dist., fl $\bar{3}$ j. M.

Use as a douche.

For ulceration of the os uteri and leucorrhœa, with offensive discharge, use an injection of ten grains to the pint of water night and morning. As an application to cancer add five grains to one ounce of water, saturate cotton with the solution and apply to the offensive part, changing the application every hour. For ulcerations of the mouth and gums a saturated solution should be first used and afterwards a solution of the strength of one or two grains to the ounce of water should be applied.

This agent overcomes the unpleasant odor from carious teeth and other local causes. For felons and carbuncles a solution of twenty grains of the salt to the pint of water should be employed.

Remove the stains of Potassium Permanganate with a weak solution of sulphuric acid.

IODOL.

Iodol.

SYNONYMS.—*Tetraiodopyrrol*, *Pyrrrol Tetriodide*.

DESCRIPTION.—A shining, yellow-brown powder, without odor or taste. Soluble in absolute ether (3), alcohol, chloroform, and oils (fatty), and sparingly soluble in water (5000). It contains nearly ninety per cent. of iodine.

This remedy is antiseptic and is used as a substitute for iodoform. Constitutional effects, such as vertigo, increased temperature, weak, irregular pulse, albuminuria, etc., have been observed from its external use. Applied directly to the laryngeal membranes by insufflation it has given good results in laryngeal tuberculosis. It may be used topically for catarrhal discharges from the vagina, and in wounds and chancre. Internally, in doses of two or three grains (several daily), it has been employed as an alterative in scrofula, syphilis, and as a remedy against diabetes mellitus. Care must be had in its use.

ACIDUM SALICYLICUM.**Salicylic Acid.**

DESCRIPTION.—This acid is found in combination in many plants, but is most largely produced, according to the U. S. P., “synthetically from coal-tar.” Only that produced from oil of wintergreen should be employed in medicine.

Wintergreen Salicylic Acid, when made by the process of J. U. Lloyd (see *Am. Jour. Phar.*), by means of excess of wintergreen oil, has an agreeable wintergreen odor. It is in the form of small, microscopical crystals, and usually is more or less colored, and often is slightly oily. When made with excess of caustic potash it is milk-white and odorless, and when dissolved in boiling water and slowly cooled separates in large, hard crystals. We use and favor only the small, quinine-like acid of wintergreen odor.

Salicylic acid is antiseptic and deodorant. It is unirritating except in large quantities, and it is not poisonous. It is an excellent drug in many bad conditions of the mouth and fauces. For bad breath due to carious teeth add ten grains of it to one pint of hot water and use as a mouth wash. Apply it in fetid nasal catarrh by means of atomization, or by mixing it with some unirritating substance and using it as a snuff.

This acid may be used as an antifermentative in dyspepsia, when the food produces gaseous accumulation. It may be given in acute rheumatism. Associate it with acetate of potassium as follows :

R. Acid Salicylic, ʒ ij. or iij.
Potassium Acetate, ʒ vj.
Aqua, fl ʒ iv. M.

Sig.—Teaspoonful every one or two hours.

It is contra-indicated when the tongue is red and pointed.

Topically applied Salicylic Acid is useful after abortion. Wash the parts ; also in leucorrhœa. It makes a fine appli-

cation to cancer and syphilitic ulcers, and is largely employed as a surgical dressing.

ACIDUM BORICUM.

Boric Acid.

SYNONYMS.—*Boracic Acid, Acidum Boracicum.*

DESCRIPTION.—This acid occurs in the form of pearly-lustrous, colorless, transparent scales. If perfectly crystallized it forms six-sided plates. To the touch it is slightly unctuous. It has no odor and a feebly bitter taste. It retains its integrity in the atmosphere. Soluble in water (25.6), and more soluble in this fluid when the latter is acidulated with hydrochloric acid; also soluble in alcohol (15) and glycerin (10).

Boracic (or Boric) Acid is antiseptic. For diphtheria, with a badly ulcerated condition :

R. Boracic Acid, 1 part.
Glycerin, 30 parts.
Apply locally.

For suppurative conjunctivitis :

R. Boracic Acid, grs. x.
Aqua, fl $\bar{3}$ j. M.
Sig. —Apply a few drops to the conjunctiva.

This acid makes a good local application in nasal catarrh. It is to be applied to dog-bites, keeping the parts constantly wet with a saturated solution.

For the purulent discharge of otorrhœa, first cleanse the ear thoroughly with warm water, dry the parts with cotton, and pack the ear full of powdered Boracic Acid. If the discharges wash it out repeat the operation.

This acid makes a good application to ordinary wounds. It is not poisonous.

ACIDUM SULPHUROSUM.**Sulphurous Acid.**

DESCRIPTION.—A colorless, sour acid, of a pronounced sulphurous odor and taste. It should be protected from the air in a tightly stoppered vial lest it absorb sufficient oxygen to become changed into sulphuric acid.

Only chemically pure (C. P.) sulphurous acid should be employed in medicine. It is antiseptic and disinfectant, and is of very great value in zymotic diseases. It is often of value in typhoid fever, used as follows :

R. Acid Sulphurous, fl $\bar{3}$ ss,
Syr. Orange Peel, fl $\bar{3}$ iv.
Aqua, fl $\bar{3}$ iij. M.

Sig.—Take a teaspoonful every three hours.

In diphtheria with full and relaxed, dark-red tissues :

R. Acid Sulphurous, 1 part.
Glycerin, 3 parts. Use locally.

It is a very good local agent in chilblains, cracked nipples, etc. In small-pox and erysipelas use it both internally and locally. For the topical use combine it with glycerin.

The indications for the internal use of this agent are, the slick, raw-beef tongue, with a mawkish odor of the breath. For this use :

R. Acid Sulphurous, fl $\bar{5}$ j.
Aqua, fl $\bar{3}$ iv. M.

Sig.—Dose, a teaspoonful every one to three hours.

ARISTOL.**Aristol.**

SYNONYM.—*Dithymol-diiodide*.

DESCRIPTION.—A crystalline, reddish-brown powder, having a not unpleasant aromatic odor. It contains over 45 per cent. of iodine. It is insoluble in water or glycerin, sparingly soluble in chloroform, but is easily dissolved by ether or collodion.

This is a valuable topical agent, possessing anodyne, antiseptic, and cicatrizing properties. Aristol is a topical remedy for atonic conditions. It may be employed in chronic ulcerations. It is a fine remedy for atonic piles. Use an ointment as follows :

R. Aristol, ʒ j. or ij.
Vaseline, $\frac{3}{4}$ j. M.

Apply locally after cleansing the part.

A similar ointment forms an excellent dressing for non-healing barbers' cuts.

GUAIACOL.

Guaiacol.

DESCRIPTION.—A liquid obtained by distilling beechwood creosote, and said to contain from sixty to ninety per cent. of creosote. It is a colorless liquid, having a more pleasant taste and odor than creosote, and soluble sparingly in water (85) and freely in alcohol, ether, and the fatty oils.

This agent is better borne than creosote, and is said to increase the appetite and promote digestion. It relieves flatulence. The lungs eliminate it, and upon those organs it seems to have a special action.

This remedy is employed in tuberculosis, being adapted to the early stage of the disease. From five to six drops may be given in a tablespoonful of cod liver oil, or five drops may be given in a capsule after each meal. It is likewise employed in bad cases of bronchitis.

ECHINACEA.

Black Sampson.

BOTANICAL ORIGIN.—The root of *Echinacea angustifolia*, DeCandolle; Nat. Ord., *Compositæ*. Western States and other parts of the Union.

SPECIFIC ECHINACEA is made of the root gathered in the far West. This differs materially in properties from that

grown farther East. It has but little taste, but leaves in the throat and on the tongue a tingling sensation.

This is a perennial herb with a thick, black root, the latter having a very pungent taste. The plant grows to the height of two or three feet, being found in rocky and sandy soils.

This remedy is one of the most important of our recent accessions. It is both alterative and antiseptic. It is used in many disorders of the blood, as syphilis, scrofula, and chronic ulcerations. It is one of the reliable remedies for "blood-poisoning."

Echinacea causes an excessive flow of saliva and perspiration. The fresh root scraped and given freely is the treatment used by the Sioux Indians for snake-bite. It is a remedy of some value in typhoid fever, and is well spoken of in diphtheria, spinal meningitis, and in unhealthy conditions of the mouth and fauces. It may be employed in cases in which Baptisia is useful.

The dose of this remedy ranges from two to ten drops of the specific preparation.

ACIDS.

Some of the acids have been considered elsewhere, but following this will be found a few which have special qualifications entitling them to form a distinct group. Among these are the "mineral acids" so-called, which often act as restoratives. These acids probably act in a chemical way. To an extent they are antiseptics. This is especially true of hydrochloric acid in typhoid states. Citric acid is likewise an antiseptic, and recent experiments have demonstrated it to be antagonistic to the cholera poison. As a rule, pronounced redness of the tissues calls for acid medication.

ACIDUM NITRICUM.**Nitric Acid.**

SYNONYMS.—*Aqua Fortis, Spirit of Nitre.*

DESCRIPTION.—This fluid contains sixty-eight per cent. of absolute Nitric Acid, the remainder being water. It is transparent and colorless, extremely corrosive, and very sour to the taste. In contact with air it emits white fumes, which are decomposed by light, causing them to appear yellowish or reddish, and having a very unpleasant, suffocating odor. As found in the market this acid generally has a yellowish or pale-straw color. It destroys vegetable colors and fibers, and produces an indelible orange-yellow stain upon the skin, nails, and most animal tissues. It mixes freely with water.

ACIDUM NITRICUM DILUTUM. *Diluted Nitric Acid.*

DESCRIPTION.—This acid is an aqueous dilution of the preceding, and corresponds with it except in strength. It contains ten per cent. of absolute Nitric Acid.

Nitric acid is made by distilling nitrate of potassium with sulphuric acid. When first made it is colorless, but it becomes yellow after a time. It oxidizes all metals except gold, and in full strength it is a powerful corrosive and escharotic. Its properties are alterative, refrigerant, and tonic. It impairs the teeth and should be taken through a glass tube and the mouth afterwards thoroughly cleansed with an alkaline solution. If long used it sometimes produces salivation, though it is a valuable remedy in mercurial salivation. It is a good remedy in syphilitic ulcerations of the mouth and throat; give it in an infusion of sarsaparilla. In syphilis (constitutional) where there is great debility and mercury has been used, give doses of five drops of Nitric Acid every four hours. It is valuable in chronic rheumatism and it sometimes cures ague when all other remedies fail. Give five drops every six hours. It is a very good agent in malignant or typhus fever, though not so good as hydrochloric acid. In liver troubles, as chronic liver complaint, it is serviceable. Give five drops every three hours.

In diarrhoea, dysentery, etc., Nitric Acid is a very good remedy. Use it in obstinate cases of whooping cough. Take equal parts of table syrup and water, add enough acid to make it pleasantly sour and give a teaspoonful every three hours. This is also a good preparation for chronic bronchitis. Use it when expectoration is profuse.

This acid is a very powerful caustic, and is employed to remove growths. Use it to destroy chancres, etc. It is a good topical agent in ulcerations of the os uteri. Take a pine stick and apply it to the ulcers. It may be used in the same manner in sore mouth. Use it to remove warts.

In case of poisoning with Nitric Acid antidote it with alkalis not in themselves poisonous, as soap-suds, baking soda; also give milk, etc. The dose of the strong acid is from five to ten drops; of the dilute from twenty to forty drops.

ACIDUM HYDROCHLORICUM. *Hydrochloric Acid.*

SYNONYMS.—*Muriatic Acid, Marine Acid, Chlorhydric Acid, Spirit of Sea Salt.*

DESCRIPTION.—An acid containing, by weight, 31.9 per cent. of absolute Hydrochloric Acid, the remainder being water. It is a colorless, transparent liquid, having a corrosive taste and irrespirable odor. When the stopper is removed from the bottle containing it, white fumes are emitted. This is due to the union of the escaping gas with the moisture of the air. Specific gravity 1.163 (U. S. P.) Like sulphuric acid, if concentrated, it blackens organic bodies. It is freely miscible with water.

ACIDUM HYDROCHLORICUM DILUTUM.

Diluted Hydrochloric Acid.

SYNONYM.—*Diluted Muriatic Acid.*

DESCRIPTION.—A diluted form of the above acid containing ten per cent. of absolute Hydrochloric Acid. It is odorless and does not fume in the air. This is the form of Hydrochloric Acid generally administered.

This acid is made by the reaction of sulphuric acid on chloride of sodium. When pure it is colorless, but as found in commerce it is usually yellowish or brown. It is a powerful caustic, and for internal use must be diluted with water. Do not let it touch the teeth, and after taking wash the mouth with an alkaline solution. Use it as a tonic, stimulant, and laxative. It is indicated by a dark-red tongue and mucous membranes, sordes on the teeth, with evidence

of an impaired condition of the blood. In typhus and typhoid fevers it is a very good agent. In malignant scarlet fever it is very useful both locally and as a refrigerant. It is also valuable in ulcerative stomatitis.

The dose of the diluted acid is from ten to forty drops in water.

ACIDUM SULPHURICUM.***Sulphuric Acid.***

SYNONYM.—*Oil of Vitriol.*

DESCRIPTION.—This is a colorless, dense, transparent, oily-appearing liquid, the specific gravity of which is 1.143 and it freezes at 14°F. It has no odor but an intensely sour taste. It absorbs water from the air and abstracts the same from organic matter, leaving a charred mass behind.

Acidum Sulphuricum Dilutum. Diluted Sulphuric Acid.

DESCRIPTION.—This preparation contains ten per cent. of absolute Sulphuric Acid (hydrogen sulphate), the remainder being distilled water. This and the next preparation are those usually employed for internal use. Dose, from five to twenty drops in water or sweetened water.

Acidum Sulphuricum Aromaticum.***Aromatic Sulphuric Acid.***

DESCRIPTION.—Aromatic Sulphuric Acid or Elixir of Vitriol is composed of Sulphuric Acid (100), tincture of ginger (50), oil of cinnamon (1), and alcohol (849). It contains of the official Sulphuric Acid about twenty per cent. Dose, from five to twenty drops largely diluted with water.

In full strength Sulphuric Acid is a powerful caustic, destroying flesh rapidly. For internal use dilute it with eight parts of water. Use the aromatic acid as a local remedy. When properly diluted this acid is refrigerant, astringent,

and tonic, and is useful in fevers, hemorrhages, etc. It restrains mucous discharges and improves digestion. It is a good agent in calculous troubles when the urine is alkaline. It may be employed in hemorrhage from the lungs or the stomach, being used in alternation with gallic acid. The aromatic acid is very efficient in lessening secretion from the skin, as in the colliquative sweating of phthisis, for which give ten drops in water. Sulphuric Acid is a good caustic in bites and stings. Dose of the dilute acid from five to twenty drops.

ACIDUM TARTARICUM.***Tartaric Acid.***

DESCRIPTION.—This acid is in the form of large, transparent, six-sided crystals, or in crystalline crusts of a sharp taste. In the market it is generally in the form of a powder. It has a sour taste but no odor. It is a permanent body. Soluble in water (0.8), boiling water (0.5), alcohol (2.5), boiling alcohol (0.2), ether (250); almost insoluble in chloroform.

This acid is obtained from grape juice. When this juice undergoes fermentation, this acid, being insoluble in alcohol, is deposited. It is very soluble in water. It is refrigerant, antiseptic, and sedative. In large doses it is an irritant poison, producing burning in the stomach, vomiting, and inflammation of the stomach and bowels. It is used frequently instead of lemon juice. Two fatal cases are on record from its use. Its antidotes are magnesia and carbonate or bicarbonate of sodium.

ACIDUM CITRICUM.***Citric Acid.***

DESCRIPTION.—This acid is obtained from the lemon, and is very much like tartaric acid, appearing in colorless crystals. It has no odor. In moist air it deliquesces; in dry air it

effloresces. Soluble in water (40.63), boiling water (0.4), alcohol (1.61), boiling alcohol (1.43), ether (18). Chloroform scarcely dissolves it.

Citric Acid is refrigerant, sedative, and antiscorbutic. It is a very good agent in scrofula, and as a prophylactic against it. Here, however, it is not so good as lemon juice. Some cases of rheumatism are greatly benefited by it. It makes a good drink for fever patients, being like lemonade for this purpose. Use the following: Citric Acid, three drachms; sugar, one ounce; to this add three drops of oil of lemon. Use one or two teaspoonfuls in a tumblerful of water. Another good drink is made by taking seven and one-half drachms of Citric Acid in one quart of water and two ounces of magnesia. Dose, six ounces.

ANTACIDS.

Agents which act in a chemical manner within the body, so as to correct excessive acidity of any fluid or part, whether it be in the stomach and intestines, the urine, or even the blood itself, are denominated *antacids*.

While the chief action of antacids is to overcome acidity, they often cure remote troubles, evidently depending upon states which they correct. Thus a severe sick headache may vanish when a "sour stomach" has been set right; and rheumatic conditions are often benefited by some action of the antacid, just what we are unable to say, but probably a chemical change. (See also magnesia.)

POTASSII BICARBONAS.**Potassium Bicarbonate.**

SYNONYMS.—*Bicarbonate of Potash, Acid Carbonate of Potassium, Hydrogen Potassium Carbonate.*

DESCRIPTION.—Transparent, colorless, prismatic crystals, devoid of odor, and possessing a feebly alkaline, saline taste. Nearly insoluble in alcohol; soluble in cold water (3.2) and in warm water (1.9). A temperature higher than 122°F. decomposes it, with the liberation of carbon dioxide, leaving potassium carbonate. Therefore, it should not be boiled nor added to boiling liquids.

This salt is made by saturating a solution of carbonate of potassium with carbonic acid gas and evaporating the solution to crystallization. It is antilithic and antacid. As an

antacid it is not unpleasant to the taste and is unirritating. The following is a good combination in atonic dyspepsia :

R. Potassium Bicarbonate, $\bar{3}$ ij.
Peppermint Water, fl $\bar{3}$ ij.
Tr. Rhubarb,
Tr. Gentian, *aa.* fl $\bar{3}$ j.

Sig. —Dose, from a teaspoonful to a dessertspoonful.

Potassium Bicarbonate is a good drug in gout and rheumatism, with lithic acid in the urine. Give twenty grains every three or four hours. This aids the sedatives in lowering temperature. In syphilis and scrofula very good results are obtained from it. Always give it when the tongue and mucous membranes indicate an alkali.

R. Potassium Bicarbonate, $\bar{5}$ iij.
Peppermint Water, fl $\bar{5}$ j.
Syrup of Stillingia, fl $\bar{5}$ iij. M.

Sig.—Dose, a teaspoonful every three hours.

This salt is a very good antacid in infantile diarrhœa, with green, foul-smelling discharges. Give it with Rhubarb and Peppermint herb. It enters into the formation of our well-known neutralizing cordial (see Rhubarb). In gonorrhœa, to relieve irritation produced by the passage of acid urine or other acid discharges, it is a valuable agent. It is likewise useful in many chronic cutaneous diseases and in dropsy. Dose, from one to thirty grains in water

SODII BICARBONAS.

Sodium Bicarbonate.

SYNONYMS.—*Acid Sodium Carbonate, Bicarbonate of Soda, Baking Soda.*

DESCRIPTION.—An odorless and opaque white powder, possessing a cooling and a mildly alkaline taste. It remains intact in a dry atmosphere, but in the presence of moisture gradually decomposes. Soluble at 59°F. in water (11.3). Above that point it loses carbon dioxide, and at 212°F. only

carbonate of sodium remains. Therefore, it should be dissolved only in cold water. Ether and alcohol refuse to dissolve it. Keep the salt in well-closed bottles.

This is a mild, unirritating antacid. In fevers it is one of the best agents of this class in use. It does great good in some cases of sick headache with sour stomach. Give a teaspoonful in a tumblerful of warm water. This counteracts acidity and cleanses the stomach. It is a good remedy in diarrhœa with green, sour discharges. Flatulent colic is generally quickly relieved by it. The dose of this salt ranges from two grains to one drachm.

By its continuous use, as persisted in by some dyspeptics, pernicious effects result, terminating in an incurable form of dyspepsia. But when indicated by sour stomach, with pallid membranes, and given in occasional doses, it is a very effective drug.

LIQUOR CALCIS.

Solution of Lime.

SYNONYMS.—*Lime Water, Aqua Calcis, Solution of Calcium Hydrate.*

DESCRIPTION.—A saturated, aqueous solution of calcium hydroxide. An odorless, colorless, clear fluid, having a saline and faintly caustic taste. When exposed to the air it absorbs carbonic acid gas, and the change is shown by the formation upon the surface of the liquid of a pellicle of calcium carbonate. It contains less than one per cent. (0.17) of lime at ordinary temperatures.

To prepare this solution slake Lime in water until the latter is saturated. Let it stand until clear. Decant the clear liquid and throw it away. Put more water upon the remaining Lime, allow it to again become clear, when the overlying fluid will be ready for use. By this double procedure the impurities are eliminated.

Lime Water is antacid and astringent. In dyspepsia, with acidity of the stomach and bowels attended with diarrhoea, when food can not be taken, Lime Water with milk is a good diet. To a pint of milk add one ounce of Lime Water. One-fourth of this can be taken at a dose. This is also very useful in obstinate cases of vomiting. Use Lime Water, one part, to milk, two parts, and give in teaspoonful doses. Lime Water is a good remedy in croup and diphtheria. Use one part to fifteen or twenty of water as a spray. With an equal bulk of linseed oil it forms the well-known *Carron Oil*, probably the best immediate application for burns. Lime Water is one of the reliable remedies for subcutaneous disorders resulting in successive crops of boils. When an astringent and antacid is needed Lime Water is a very efficient medicine.

DILUENTS.

Under this head we shall include three agents, it not being our purpose to go into a description of many of the agents which might come under this class. These agents are *protectives* and *emollients* also. We include them under the term *diluents* because they are most generally used as ointment or similar bases for the dilution of medicaments to be externally applied. When glycerin alone is employed the product is called a *glycerite* or *glycerole*.

GLYCERINUM.

Glycerin.

DESCRIPTION.—The sweet principle—a liquid—obtained by decomposing fats and fixed oils. The U. S. P. requires it to contain ninety-five per cent. or more of absolute Glycerin. It contains a little water.

Scheele, who discovered this important body in 1789, called it the “sweet principle of oils.” It is a thick, syrup-like liquid, perfectly clear and colorless, having an oily feel, without odor, and possessing a feebly warm and very sweet taste. Water and alcohol dissolve it in all amounts. Oils, ether, chloroform, benzol, benzin, and carbon disulphide refuse to dissolve it. A mixture of alcohol (3) and ether (1) affects its solution.

This agent is laxative and antifermentative when internally administered. It is of value in some forms of fermentative

dyspepsia. As an enema it is one of the best agents we are acquainted with to produce evacuation of the rectum in infants who go two or three days without an alvine passage. Persisted in from time to time it breaks up the constipated habit. Use for an infant of three or four months a half-teaspoonful of warmed pure Glycerin, using a small glass syringe to inject it. As a rule the discharge immediately follows.

Locally Glycerin is of much value in certain skin affections. It should, however, be largely diluted with water before applying. Glycerin has a great affinity for water, and if that fluid be not supplied, it will abstract water from the tissues, leaving them dry and irritable. It is an excellent agent for chapped hands. Combine it with rose water, or

R. Acid Carbolic Sol., gtt. v.
 Tinct. Arnica,
 Glycerin, *aa.* $\bar{\bar{3}}$ ss.
 Rose Water, q. s. $\bar{\bar{5}}$ iv. M.

Sig.—Apply to the hands after thorough washing.

Glycerin is largely used as a vehicle. It is the solvent employed in making the glycerites. Introduced into certain pills it prevents their hardening; added in small amounts to poultices it preserves their softness; added to collodion it renders it more pliable. Added to aqueous solutions of medicines, when not incompatible, it prevents decomposition and consequent souring. A little Glycerin upon cotton introduced into the external auditory meatus prevents the inspissation of cerumen when due to dryness of the canal.

For both external and internal use care should be taken that a perfectly pure Glycerin be used, else irritation of the parts will result.

ADEPS LANÆ HYDROSUS.***Hydrous Wool-Fat.***

SYNONYM.—*Lanoline.*

DESCRIPTION.—A yellowish-white or almost white, tenacious, unctuous substance, of an ointment-like consistence, and possessing a characteristic but faint odor. While it is not soluble in water it mixes with twice its weight of that fluid without losing its ointment-like character. It melts at near 40°C. (104°F.)

This fat is employed almost wholly as an ointment base, and is particularly adapted to ointments in which water or watery solutions of drugs are to be incorporated. Its action on the skin is soothing, and it is especially useful as the base of unguents which are to be applied to the cutaneous surface.

PETROLATUM.***Vaseline.***

SYNONYM.—*Petroleum Ointment.*

DESCRIPTION.—This is the substance popularly known as *Vaseline*, *Densoline*, etc. It is a mixture of hydrocarbons obtained as a residue when the lighter and more volatile portions of Petroleum are distilled from that body. There are three forms: PETROLATUM MOLLE (*Soft Petroleum Ointment*), PETROLATUM SPISSUM (*Hard Petroleum Ointment*), and PETROLATUM LIQUIDUM (*Liquid Petroleum*), all differing in consistence.

(1) *Soft Petrolatum* is a soft, fat-like mass, about the consistence of ointment, ranging from white to yellow in color, when yellow fluorescent, and being devoid of odor and taste. When heated a faint Petroleum odor is perceptible.

(2) *Hard Petrolatum* differs only in being of the consistence of cerate.

(3) *Liquid Petrolatum* is a transparent fluid, colorless or yellowish, oily, odorless, and tasteless. A faint Petroleum odor is developed on heating it.

Petrolatum does not dissolve in water, and scarcely in alcohol, cold or hot, but boiling absolute alcohol effects its solution. Ether, chloroform, oil of turpentine, carbon disulphide, benzin, benzene, and essential and fixed oils readily dissolve it.

This agent is used almost solely as a neutral and bland protective agent for dressings, etc., and as a base for various ointments.

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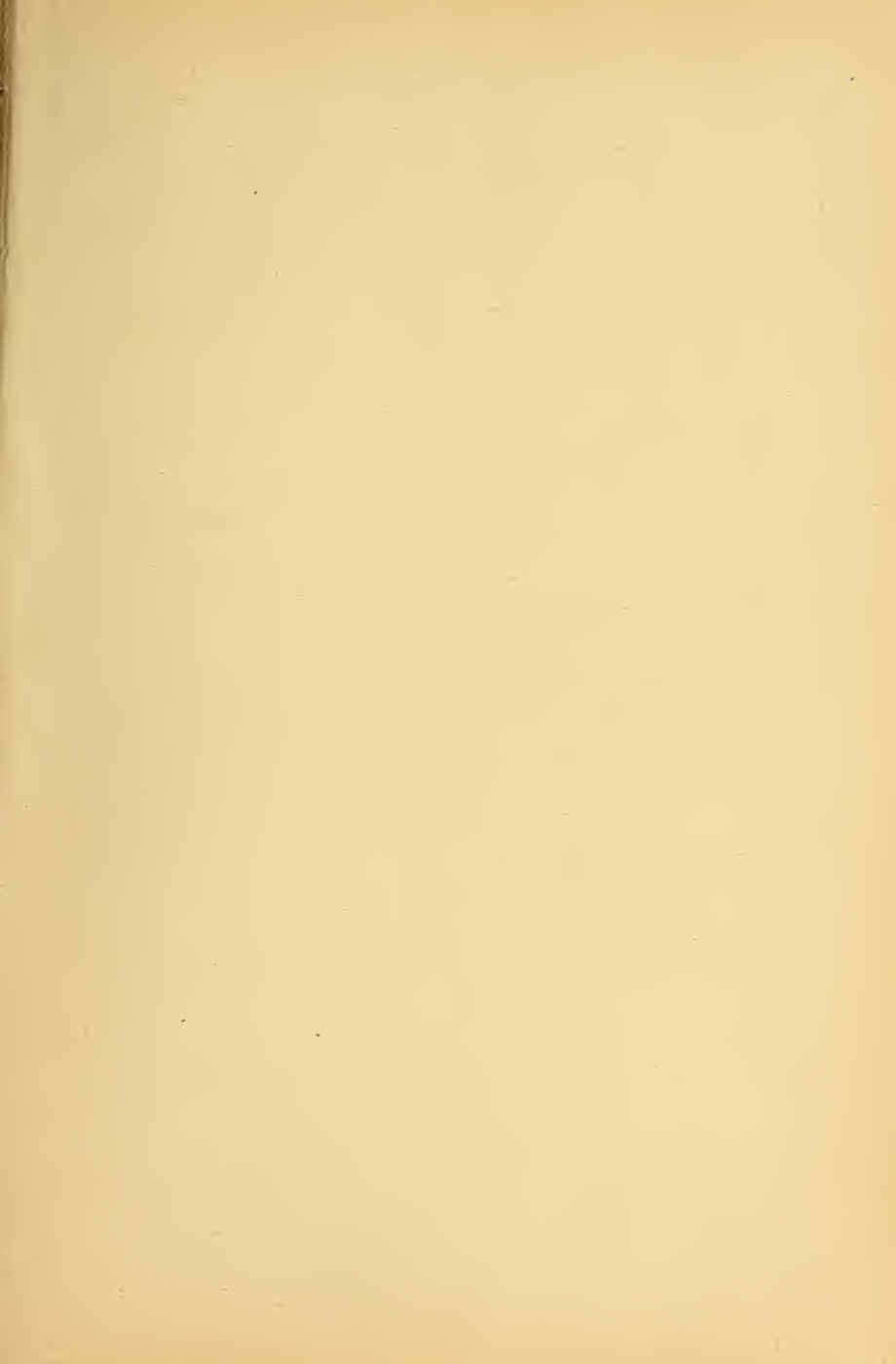
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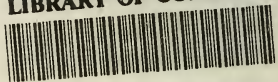
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