

Pathogenetic
Materia Medica

by

Elizabeth E. Enz, M. D.

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PATHOGENETIC MATERIA MEDICA

BY

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"A Homeopathic physician is one who adds to his knowledge of medicine a special knowledge of homeopathic therapeutics and observes the law of similia. All that pertains to the great field of medical learning is his, by tradition, by inheritance, by right."

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DEDICATED
TO
MY STUDENTS,
PAST, PRESENT AND FUTURE



PREFACE TO THE FIRST EDITION

Many objections are raised to the use of compends in the study of medicine; yet it is a well known fact that students or practitioners have not the time to peruse voluminous text books with a view of keeping pace with the advancement of today.

My own views, conclusive after many years of teaching, are that the lectures should present all that is valuable, both in a theoretical and practical way, and that the student be provided with a guide by which he can master in the least possible time the salient points provided in the text.

In endeavoring to provide such a guide with an entire sacrifice of any attempt at literary elegance, but a presentation of facts in a form easily understood, and, if need be, memorized, this work is presented.

No claim is made to originality, except in compilation of facts from all authors; and to them I now, without distinction, present my acknowledgments. In bringing out the points of the botanical history, pharmacy, toxic and pathogenetic effects of the various remedies, a rigid observation of the original text has been firmly adhered to, together with a chapter on the generalities of homeopathy and homeopathic pharmacy, that the student may at once become familiar with the principles of "similia," and not at the outset become lost in the seemingly undefined.

"I have only made a nosegay of culled flowers, and have brought nothing of my own but the thread that ties them together."—Montaigne.

I therefore recommend this work to the just and friendly criticism of the profession, trusting that its contents may prove acceptable and helpful to the student and a useful addition to the library of the busy practitioner.

ELIZABETH E. ENZ, M. D.

August 15th, 1911. Kansas City, Missouri.

FUNDAMENTAL PRINCIPLES OF HOMEOPATHY

The physician's *highest and only calling* is to restore health to the sick, which is called healing.

The *highest aim* of healing is the speedy, gentle and permanent restitution of health, or alleviation and obliteration of disease in its entire extent in the shortest, most reliable and safest manner according to clearly intelligible reasons. (Hahnemann.)

Homeopathy may be defined as the science of therapeutics, based upon Nature's law of cure, "*Similia similibus curantur.*" By this we mean that in order to cure gently, quickly, unfailingly and permanently, select for every case of disease a medicine capable of calling forth, by itself, an affection "similar" to that which it is intended to cure. (Organon, p. 43.)

Vital force is the immaterial, spiritual dynamis which gives life, and is the natural resistance against the invasion of disease. A dynamic disturbance of this force prepares the cell structure to receive outside influences which result in disease; again, the vital force may be shocked, depressed and disturbed, such action resulting in symptoms.

Disease is the *natural result* of the exhaustion of healthy impulse and cell structure, and manifests this change by symptoms.

Symptoms may be classed as objective and subjective:

Objective (to throw against) refers to the symptoms observed by the physician.

Subjective are those belonging to one's personal self, and can only be expressed by the patient.

Drugs may be defined as substances which alter or destroy the function and tissues of a part or parts of the body when *given in health*, thus by experimentation establishing their uses as *remedial agents for the sick*.

Knowledge of drug action must be obtained by experimentation on the healthy human body: by giving to a healthy individual a medicine in varying doses and strength to produce symptoms and tissue change, such change being effected by either adding or taking from the vital force, disturbing the cells, thus favoring tissues, and is called a proving.

The **object of proving**, then, is to discover the mode in which a drug affects living tissues, with a view of ascertaining its therapeutic uses.

A proving *affects the organism in two opposite ways*, which hold toward each other a relation of antagonism. This two-fold action may be defined as *primary* and *secondary*, and refer to conditions arising early and late in the proving.

Primary, or the invasion, represents the first action of the drug—as the chill of *aconite*.

Secondary, or organic reaction of the organism against the invasion of excess of drug or disease, the temperature rise following the chill of *aconite*.

Drug action is obtained by reason of its indwelling dynamic force, termed drug power.

Drug power may be defined in a number of ways, each furnishing food for thought and scientific research:

a. The morbid influence or essence of the plant, chemical or animal product, which develops lesions in the organism and unites with the product of deranged vital power.

b. The materialization of curative virtue which is capable of developing and curing pathological lesions in the organism.

c. It is the active principle which pervades the molecular atoms of the medicinal substance.

d. The essential principle which constitutes the active force, and which individualizes it from any other: the *fear of aconite* and the *anguish of arsenicum*.

Drug power is obtained by potentiation, which is the development of the hidden dormant power by a process of trituration and succusion as follows: Complete separation of drug power from the mass of substance is obtained by mixing with either alcohol, milk, sugar or *aqua distillata* in definite proportions; setting away in a dark, quiet place for a given time, is then decanted, and we have the tincture. The work of *potentiation* or subdivision now begins, and is effected by mixing a given quantity of the tincture with a number of times its weight of vehicle, either succusing or triturating, as the case may be. This subdivision is for the purpose of *preventing a reunion* of the atoms, which would render it inert.

This process of subdivision may *be repeated* until a complete separation of all molecular atoms is obtained, and may be reached in any potency from the 6x to the highest one made.

Potency does not have reference to quantity or number, but rather to extension of surface, each potentiation marking the further separation of its atoms.

The law of potentation on disease is, that by sending these molecular atoms through the organism, by reason of the capillaries, we bring the *attractive force* of each atom to bear upon the dynamic disease which pervades the tissues: a return to health is effected by the remedy uniting with the morbid

force, thus releasing the organism, by reason of its inferiority to the vital force.

Drug pathology is the science which treats of the alteration and destruction of physiological functions and organic tissues in the healthy, forming a picture of drug pathogenesis, which must correspond to disease, its deductions to form the characteristics of the remedy.

To obtain this result it is necessary to study or analyze the drug in its toxic and pathogenetic relations in the following divisions: Nervous system, blood, sero-fibrous tissue, lymphatics, muscular fibre, mucous and serous tissues, skin, bones and viscera.

Tissue change is brought about by administering the drug in the following forms and doses:

Toxic or lethal, that of acute poisonings; this form develops the coarsest action of the drug, in doses large enough to either cause immediate death of serious structural lesions. The fatality of the dose depending upon the solubility of the poison, the fraction of a grain of *hydrocyanic acid* causing death as rapidly as a dram of the tincture of *aconite* or *belladonna*.

Pathogenetic, the form employed in the provings, for the gradual and orderly production of tissue change and symptoms, and may be studied in range of three degrees of power:

1. The dose to produce pathological lesions; one to ten minims—a quantity within the limit of the toxic, yet large enough to cause serious effect: as convulsions, syncope, cold sweats, etc.

2. Dose much smaller than the first: 1/16 to 1/8 of a minim; causes severe functional derangements and slight tissue changes, as dizziness, tremor, cardiac depression, etc.

3. Is chosen from the potencies, in dose ranging from four minims upward; effects depending

upon the solubility of the drug, the time of repetition and the susceptibility of the individual.

Drug action may be classified according to action and tissues affected:

Action.—Neurotics, Corrosives, Simple and Specific irritants.

Neurotics.—May select any or all of the nervous centers and nerves, and may again be studied as

Delirians, agents which act on the brain, disorganizing the mental faculties, confusing will power; characterized by hallucinations, incoherence of speech, etc., as the rage or exalted delirium of *belladonna*, the quarrelsome *hyoscyamous*.

Narcotics produce stupor and numbness, as under *opium*, *gelsemium*, etc.

Convulsants.—Action centers in the motor tract, affecting the centers, ganglions and nerves, causing convulsions. Ex.—*Strychnia*, *veratrum viride*, etc.

Paralyzants cause complete loss or diminution of the power of motion. Ex.—*Curare*, *secondary action of strychnia*, etc.

Syncopants.—An agent which causes fainting, by *stimulating* the cardio-inhibitory center in the medulla reflexly through the abdominal sympathetic, by way of the vagus, and by *depressing* the vaso-inhibitory center, thereby lowering blood pressure as the *result of their failure to act in unison*, the result being inhibition or syncope. Ex.—*Aconite*, *arnica*, etc.

Anaesthetics.—Agents which lower sensibility, as *ether*, *chloroform*, *gelsemium*, etc.

Corrosives are characterized by destruction of tissue, stain and shock, selecting *primarily* the mucous tissues; refers to such substances as the *acids*, *ammonia*, *caustic alkalies*, etc.

Irritants, simple, give rise to colic and purging, as *bryonia*, *colocynth*, etc.

Specific, in addition to the colic and purging,

have destruction of tissue, as *arsenicum* and *phosphorus*.

Choleric Form.—Agents which cause excessive drain of the vital fluids, especially affecting the villi of the intestines, causing them to lose their epithelium, inducing constant flow from their points, with less of power to *absorb liquids*: this deprives the blood and other vital fluids of their proper amount of moisture, even to pathological exudates which may exist at that time. A choleric remedy in dynamic form will correct this lesion as a result of foreign stimulus—cholera or typhoid; remedies typical of this action are *veratrum album*, *colchicum*, *arsenicum*, etc.

Toxaemic.—Agents which *primarily* poison the blood, in inducing a sepsis identical with that of diphtheria and other toxins; typical of this action is *baptisia* and *echinacea*.

An **antidote** is an agent which counteracts or destroys the virulence of a poison, which may destroy tissue or cause death. When used to antidote a potency it absorbs the excess which cannot enter the cell, and which, if permitted to remain, would injure the organism, as well as aggravate the existing malady.

Antidotes are of three forms—chemical, physiological and medicinal:

Chemical.—Combines with the poison present, forming a third body, rendering the poison insoluble and unabsorbable. It does this in a number of ways. Introduced immediately after administration of the poison in the same locality, it meets the first, combines with it and renders it inert.

Injected into the circulation from a point remote from the seat of poisoning, it meets the first in the circulatory fluid before it has time to travel to the center. **Ex.**—*Permanganate of potassium* to *lachesis*.

Physiological.—One which has an affinity for the

same structures as the poison, acting either directly on the structure or indirectly through the antagonizing nerve supply. Ex.—*Belladonna* to *opium*, *strychnia* to *morphia*.

Medicinal or Dynamic. — Restores the altered protoplasm to a normal standard. Ex.—*Hepar sulph.* to *mercury*.

Therapeutics is the application of the curative adaptation of drugs to disease.

A **therapeutic dose** is one which can enter the cells of the body, absorb unto itself the product of disease, and will at no time aggravate the existing malady or injure healthy parts; this result can only be reached by the *infinitely small*. The selected potency should be equal to the natural disease in strength, and the susceptibility of the patient.

Materia Medica is the study of drugs and remedial agents for the cure of the sick.

THE ELEMENTS OF PHARMACY

Drugs are derived from the three kingdoms of nature, animal, vegetable and mineral, and are collected from all parts of the world.

The first principle involved in the preparation and preservation of homeopathic medicines is cleanliness; care must be taken to avoid everything that will affect their purity. There must be neither odor nor dust. All utensils must be cleaned and sterilized immediately before and after use.

Vehicles are neutral substances used in the preparation of medicines, to preserve their stability and develop drug power. Those most commonly used are *aqua distillata*, *alcohol*, *saccharum lactis* and *glycerine*.

Distilled water should be indifferent to litmus, and not exhibit residue on adding either *barium chloride*, *silver nitrate* or *ammonium chloride*.

Alcohol should be free from fusel oil, which can be detected by adding an equal part of sulphuric acid. Reduce the 95% to 87% by adding one part of distilled water to seven of alcohol.

Dilute Alcohol.—Add to seven parts of alcohol three parts of distilled water.

Saccharum lactis, or **sugar of milk**, is obtained by a process of evaporation and crystallization from milk whey. Tests: Should be indifferent to litmus; on testing with *potassium hydrate* and *chloride of sodium* should be free from alum and fats.

A **trituration** is the process of reducing a solid substance to a powder.

An **alkaloid** is the active principle of the drug, and is obtained by a process of evaporation and crystallization.

The **average length of time** for substance and vehicle to set aside is eight days; where the rule varies, it will be taken up with the drug it refers to.

Mortars should be of porcelain, wedgewood, agate or glass.

Two scales are employed in potentiation: the centesimal of *Hahnemann*, and the decimal of *Hering*.

The **centesimal** was based on the principle that the first potency must contain $1/100$ drug power, and each following potency the $1/100$ th part of the one preceding it.

The **decimal** that the first potency should contain $1/10$ drug power, while each succeeding potency be prepared with one minim of the preceding. Both are in use, and for convenient reference, as well as accuracy, are arranged in nine classes, each remedy being prepared according to the rule in its particular class.

Nomenclature.

∅—is used to denote mother tinctures.

Dil.—denotes liquid potencies.

Trit.—denotes triturations.

The simple numeral 1-2-3 added to the name of a remedy signifies that the centesimal scale is used.

The Latin numeral ten (x) added to the simple numeral, 1x, 2x, 3x, signifies that it is prepared on the decimal scale.

Apothecaries' Weight.

20 grains	equal	1 scruple.
3 scruples	“	1 dram.

8 drams	"	1 ounce.
12 ounces	"	1 pound.
60 minims	"	1 fluid drachm.
8 fluidrachms	"	1 fluid ounce.
16 fluidounces	"	1 pint.

Abbreviations, Signs and Phrases Used in Writing Prescriptions.

gr.	=	grain.
min.	=	minim.
gtt.	=	drop.
℥	=	scruple (20 grs.).
ʒ	=	drachm (60 grs.).
fl. ʒ	=	fluidrachm (60 min.).
℥	=	ounce (480 grs.).
fl ℥	=	fluidounce (480 min.).
℥	=	pint.
cong.	=	gallon.
gm.	=	gram.
cgm.	=	centigram.
c. c	=	cubic centimeter.

CLASS I.

Equal parts by weight of alcohol and substance; chop, pound, express juice, mingle with the alcohol, set aside eight days, filter. Drug power of $\emptyset \frac{1}{2}$.

Potentiation.

a—Centesimal scale.

2 minims of \emptyset plus 98 dilute alcohol equals the 1. c.; each succeeding potency is in proportion of one minim plus 99 of alcohol.

b—Decimal scale.

2 minims \emptyset	plus	8 dilute alcohol	equals	the	1x.
1 "	1x	"	9	"	"
1 "	2x	"	9	"	"
1 "	3x	"	9 alcohol	"	"
					2x.
					3x.
					4x.

CLASS II.

Two parts by weight of alcohol plus three of plant; prepare as class I. Drug power of $\emptyset \frac{1}{2}$. Differs from class I in that it refers to the solubility of the drug, and the loss by evaporation.

Potentiation.

Same as class I.

CLASS III.

Two parts by weight of alcohol plus one of substance. Drug power $1/6$.

Potentiation.

a—Centesimal scale.

6 minims \emptyset plus 94 dilute alcohol equals the 1c.

All potencies are prepared with one minim of preceding potency plus 99 of alcohol.

b—Decimal scale.

6 minims \emptyset plus 4 dilute alcohol equals the 1x.

1 " 1x " 9 " " " " 2x.

1 " 2x " 9 alcohol " " 3x.

CLASS IV.

Five parts by weight of alcohol plus one part of dried animal or vegetable substance. Cover the finely pulverized or chopped substance with the alcohol, set away eight days, shake twice a day, decant and filter. Drug power of $\emptyset 1/10$.

Potentiation.

a—Centesimal scale.

10 minims \emptyset plus 90 of alcohol equals 1c. All other potencies are prepared with one minim of the preceding potency to 99 of alcohol.

b—Decimal scale.

As the \emptyset contains $1/10$ drug power, it corresponds to the 1x; all other potencies are prepared with one minim of the preceding potency to 9 of alcohol.

CLASS V—a.

Aqueous Solutions.

One part by weight of substance dissolved in nine parts by weight of distilled water. Drug power of \emptyset 1/10.

Potentiation.

a—Centesimal scale.

10 minims of \emptyset plus 90 distilled water equals the 1c. All other potencies are prepared with one minim of the preceding potency to 99 of alcohol.

b—Decimal scale.

As the solution contains 1/10 drug power, it corresponds to the 1x.

1 minim of the \emptyset or 1x plus 9 distilled water equals the 2x.

1 minim of the 2x plus 9 dilute alcohol equals the 3x.

1 minim of the 3x plus 9 alcohol equals the 4x.

CLASS V—b.

One part by weight dissolved in 99 parts of distilled water. Drug power of \emptyset 1/100.

Potentiation.

a—Centesimal scale.

One minim plus 99 dilute alcohol equals the 1c. All other potencies prepared with one minim of the preceding potency to 99 minims of alcohol.

b—Decimal scale.

As the solution contains 1/100 drug power, it corresponds to the 2x.

One minim of the \emptyset or 2x plus 9 minims dilute alcohol equals the 3x.

One minim of the 3x plus 9 minims alcohol equals the 4x.

CLASS VI—a and b.

Alcoholic Solutions.

This class is prepared exactly as that of class V, a and b, substituting alcohol for distilled water.

CLASS VII.

Trituration of dry medicinal substances, in proportion of
Centesimal scale.

One part by weight to 99 of sugar of milk.

Decimal scale.

One part by weight to 9 of sugar of milk. Drug power 1/100.

CLASS VIII.

Trituration of liquid substances, prepared as class VII, substituting minims for trituration.

CLASS IX.

Trituration of fresh animal and vegetable substances; pound, grate to a fine pulp, and prepare in proportion of
a—Centesimal scale.

Two parts by weight of substance plus 99 of sugar of milk (two parts are taken because of loss by evaporation) equals 2c. All other potencies prepared one to 99 of sugar of milk.

b—Decimal scale.

Two parts by weight of substance plus nine of sugar of milk. All other potencies prepared one to nine sugar of milk. Drug power varies according to the substance used.

Conversion of Triturations Into Liquid Potencies.

a—Centesimal.

Dissolve one grain of the 3d trituration in fifty minims distilled water; add fifty minims alcohol.

Equals 4c. All other potencies prepared one to 99 of alcohol.

b—Decimal.

Dissolve one grain of the 6x trituration in fifty minims distilled water; add fifty minims alcohol. Equals the 8x, the 7x being lost in evaporation. All other potencies are prepared one minim to nine of alcohol, using dilute alcohol for the 9x and alcohol for the 10x.

THE ACIDS

An acid is a compound of an electro-negative element, with one or more atoms of hydrogen, which can be replaced by electro-positive or basic atoms. (Gould.)

The word acid is derived from *acies*, meaning *sharp*, and describes taste only.

Classed as to origin.—Animal, mineral and vegetable.

Classed as to action.—Corrosives, neurotics, simple and specific irritants.

Vegetable.

Oxalic, in rhubarb, acid of sugar, and sorrel grass.

Malic, in apples, pears and raspberries.

Tartaric, in tamarinds, pineapple, grapes and fermentation of wine.

Hydrocyanic, in peaches, apricots, almonds, cherries, nectarines, cherry laurel, pips of apples and pears.

Citric, in lemons, oranges and limes.

Acetic, in vinegar.

Mineral.

Nitric, muriatic, sulphuric, carbolic, arsenious, hydrocyanic, benzoic, phosphoric and picric.

Corrosive acids.—Nitric, muriatic and sulphuric.

Neurotic.—Hydrocyanic.

Mixed corrosive and neurotic.—Carbolic, arsenious and oxalic.

Mixed specific irritant, corrosive and neurotic.—Arsenious.

Pharmacy.—The \emptyset and potencies of nitric, sulphuric and acetic are prepared according to class V-a. Drug power 1/10, equals 1x.

Muriatic.—Prepare \emptyset by adding two parts by weight of distilled water to one of pure acid; prepare potencies as directed under class V-a. Drug power 1/10 equals the 1x.

Lactic.—Prepare according to class VI-b. Drug power 1/100.

Phosphoric.—Dissolve one part by weight of the pure acid in 90 parts distilled water, adding 10 parts alcohol.

Drug power 1/100 equals the 2x Dil., class V-b.

Hydrocyanic.—Equal parts by weight of 2 per cent anhydrous acid and distilled water. Drug power 1/100 Dil., class VI-b.

Carbolic and benzoic.—Prepare according to class VI-a.

Arsenious.—Boil to complete solution one part finely pulverized vitrous acid, with 60 parts distilled water; filter, increase filtrate to 90 by adding distilled water, then add 10 parts alcohol. Drug power 1/100 equals the 2x.

Oxalic and citric.—Prepare according to class VII. Drug power 1/100.

Picric.—Prepare according to class V-b.

Toxic action of the corrosives.—Is characterized by immediate action, destruction of tissue and stain.

Symptoms.—Much the same in all cases. Violent burning pain in the mouth, esophagus and stomach; vomit of dark shreds of mucous membrane and blood, retching, mouth is shriveled and corroded unless given in a spoon. Stain will represent the acid taken. Other symptoms are, thirst, difficult respiration and

deglutition, exhaustion, weak rapid pulse, cold, clammy skin, expression of anxiety and suffering; conscious to the end.

May prove fatal by inhalation of the vapor, causing death by asphyxia and closure of the glottis, due to swelling of the mucous membrane. Where recovery takes place from the immediate effects, there is fear and danger of starvation, in from one to two years, due to stricture of the esophagus.

Antidotal.—Treatment in general.

Never use the stomach pump; the softened and disorganized mucous membrane forbids it, as perforation may result.

Emergency.—Alkalies in general; as bicarbonate of soda, lime, whiting, plaster scraped from the walls, soapsuds, linseed tea, oil, barley, starch, magnesia, milk, etc.

ARSENICUM ALBUM.

Arsenious acid. White arsenic. Giftmehl. Ratsbane.

History.—There are few agents in medicine, the effects of which upon the healthy body are as well known as that of arsenic. The knowledge has been obtained through great sacrifice of human life. In the history of poisonings, it stands recorded as the most effectual means of murder and suicide. As a medicine it is mentioned by Hippocrates, Dioscorides, Plinius and others. Arabian physicians used it in the treatment of the itch, ulcerations and asthma; using it in the form of an ointment, and by inhalation of its vapor. Its introduction into medicine was opposed by Stoerk, Dierbach, Hufeland and others; they understood it as a far reaching poison, and could not understand nor conceive of a dose sufficiently small to be of therapeutic value, and, at the same time, avoid toxical effects. Pope Alexander VI committed most of his

murders with the famous *aqua topkana* and the *cantarella*, which had for their principal ingredient the "giftmehl." Hahnemann proved its value to the world, establishing its worth as a therapeutic agent.

Arsenic not only exercises its poisonous effects on man, but likewise on plants: a solution poured upon the roots will wither them in a day; seeds soaked in the solution are incapable of germinating. It is said that horses can bear large quantities without injurious effect.

Toxicology.—Is a specific irritant, corrosive, and neurotic.

Symptoms.—Lethal doses cause pain in the gastro-intestinal tract, purging, muco-bloody discharges, faintness, feeble, irregular pulse and death.

Hahnemann sums up the toxic and pathogenetic effects in three degrees:

First degree—*circumstances favoring its full effect.* Taken on empty stomach with heating liquors; persons of irritable nerves and choleric temperaments; system shattered by emotion: as grief, anger, fear, jealousy; spasmodic and inflammatory affections.

Symptoms.—*First stage:* On taking the poison there is shuddering through the body, anxiety, nausea which oppresses the chest and stomach, cold sweat, trembling in paroxysms, coldness of nose and extremities, blue circles around the eyes, tries to vomit and fails on account of closure of the cardiac orifice of the stomach.

Second stage: Burning, tearing pains in the throat, esophagus and stomach; respiration hot and spasmodic; the eyes glisten and project from their sockets, the nervous system relaxes, resulting in vomit of mucus, bile and blood.

Third stage: The sufferer neither sees nor hears, is anxious and fearful. The tongue is dry, parched, swollen, and trembling; lips are livid and covered with froth; face is bloated, with lead-colored circles

about the eyes. The victim seems a wretched and tortured sufferer from another sphere, either screams frightfully or whimpers in angry broken sentences for help from fire, agony and death; soon has entire loss of sensation, is quiet, the vomiting ceases, followed by involuntary stools, convulsions and death.

Characteristics of the first degree: The vomit is ineffectual in the first stage, profuse in the second and ceases in the third.

The abdomen is retracted in the first stage, distended and hot in the second and third stages.

The stools are suppressed in the first stage, and involuntary in the third.

The respiration is spasmodic in the first stage, hot in the second, and stertorous in the third.

The circles about the eyes range from blue to lead color.

The lips are livid, black, parched and tremulous.

Mentality ranges from anxiety and fright to hopeless despair.

Second degree—circumstances favoring its effect: Taken on a full stomach, persons of strong, healthy constitution not harassed by mental affairs, requires more than three or four grains.

Symptoms.—First stage: Occur less rapidly than the first degree, with less violence, vomits the contents of the stomach; has more remissions of pain, is of twisting, gnawing, colicky, gripping character, gradually increasing with frequent bloody, offensive discharges.

Second stage is marked by an incessant hiccough, which replaces the vomit, and admits of no relief; the loss of strength is gradual, and consciousness is not lost until the end.

Third stage: Now have mental agonies that are wanting in the first degree, taking the form of a hopeless despair, in which they regret the past, and see no hope for the future. Convulsion; the local effect

of the poison is lost, and is replaced by the mental agony which finishes the work of destruction.

Third degree—circumstances favoring its effect: May arise from the second degree in consequence of poor treatment, making the individual a chronic sufferer; or may occur *primary* without the corrosion.

Symptoms.—*First stage:* The force of the poison is thrown, or referred to, the nervous centers, causing cramps of the feet and limbs, alternating with paroxysms of fever, colic and spasmodic contraction of the abdomen; ending in paralysis and contractures of the limbs, with burning, neuralgic pains.

Second stage: Now have paroxysms of fever, followed by a miliary rash over the body, which is confluent and filled with an acrid fluid; recovers at this point, or the third stage is developed.

Third stage: Now follows paralysis with gout-like pains, and cellular swellings; the eruption dries and scales; have recurrent attacks of gastric disturbances, colic, fever and convulsions.

Fourth stage: The patient is feeble, cachectic, is afflicted with dropsical swellings, chills and night sweats, all pointing to suppurating patches in the intestines. Mentally there is a gradual loss and sinking of the vital forces, an aversion to all help, a nameless feeling of illness, all ending in insanity and death.

The action of arsenic on the body is that of organic decay, destroying the entire machinery of life, increasing in unabated fury to death. Representing in its *first degree* that of a *corrosive*, continuing as an *haematic*, and ending as a *neurotic*.

Antidotal.—The first principle to remember is never to use a hot solution of any kind, as it renders the poison more soluble, precipitating it into the system, and intensifying its virulent qualities.

Promote vomit with sulphate of zinc, mustard, apomorpha, milk, flour and water and albuminous substances; lime water to reduce its solubility; oil,

magnesia to invest the particles of arsenic which cling to the mucous membrane; castor oil to expel from the intestines; teaspoonful doses of hydrated peroxide of iron.

Dynamic antidotes—*Nux vomica*, *china*, *iod. cuprum*.

Pathogenetic.

The following centers are altered:

1. Nervous system.
 - (a) Pneumogastric.
 - (b) Respiratory center.
 - (c) Fifth nerve.
 - (d) Motor and sensory endings.
 - (e) Vaso-motor centers and nerves.
 - (f) Motor tract of the cord.
 - (g) Solar plexus.
 - (h) Ganglia of the heart.
 - (i) Emotional centers.
2. Mucous membranes.
3. Serous membranes.
4. Blood.
5. Organs affected.
 - (a) Heart.
 - (b) Kidneys.
 - (c) Lungs.
 - (d) Digestive tract.
 - (e) Generative.

Pathology of the altered centers:

Mucous Membranes.—*Gastro-intestinal:* The arsenic clings to the membrane, contracting it like boiling water; is now referred to the *solar plexus*, where it insidiously invades the nerve and circulatory supply, and through their degeneration the membrane and its underlying structures are destroyed; the ulcerated and gangrenous spots marking the invasion of the arsenic.

Symptoms.—Nausea, retching, scant vomit or hiccough, watery, slimy, bloody stools, with low fever of a typhoid type.

Respiratory.—*Secondary* to the involvement of the fifth nerve, the schneiderian and pituitary membrane are affected; with stimulation of the mucous glands; ending in sub-acute inflammation, with profuse flow of thin, hot mucus, which excoriates the parts and surrounding tissues.

Symptoms.—Sneezing, burning, itching and frontal headache; condition resembles hay fever and sub-acute colds.

Bronchi and lungs.—The membrane is affected *secondarily* to the terminal ramifications of the pneumogastric; which are *primarily* stimulated, and *secondarily* depressed to paralysis, rolling the membrane toward the lumen of the tubes, causing asthma. The finer cells of the lungs are engorged with blood and mucus, which undergoes decomposition and gangrene.

Symptoms.—Violent dyspnoea, muco-purulent sputum, burning behind the sternum, continuous cough, putrid odor from the bronchi; a state of gangrenous lung involvement—a neuro-necro-pneumonia.

Nervous system.—First destroys the functional activity of the *respiratory center*, the *origin of the pneumogastrics*, the *fifth nerve*, and *vaso-motor center*; gradually extending to the *posterior portion* of the *spinal cord*, where it paralyzes sensation, reflex action and voluntary power; it paralyzes the *motor endings* to muscles, and, at the same time, places the sensory in a state of spasm, causing a paralysis characterized by cramps and contractures of the limbs; if part is atrophied, it is due to hemorrhage in the *perineurium of the nerves* of the subcutaneous tissue, and may be termed coagulative necrosis.

Blood.—Reduces the proportion of fibrin, alters

both red and white corpuscle, causing pernicious anaemia and tissue decomposition.

Heart.—Affects all of its structures; nerves, ganglia and muscle, causing a gradual degeneration, with a general state of asthenia and prostration.

Vaso-motors.—Action ranges from depression to paralysis, causing slow, irregular, weak pulse, engorged cellular tissue, anasarca, and general dropsical conditions.

Kidneys.—Causes a degeneration of all or any of its structures, resulting in loss of function, with either suppression or involuntary flow of urine; the urine contains albumin, epithelium, fibrin casts, fat globules or blood corpuscles.

Serous membranes.—Selects the pleura, pericardium, peritoneum and arachnoid; its action is that of a plastic irritant, causing sub-acute inflammation with effusion.

Skin.—*Secondary* to blood degeneration, its action centers in the superficial layer, causing an eruption resembling lichen, eczema and leprosy, with falling of the hair and loss of the nails.

Emotional centers.—Action resembles a *storm*; the effects ranging from irritation to depression, ending in insanity.

Symptoms.—Restless irritability, melancholia, an anguish that cannot be allayed, develops mania to kill.

Deductions.—*The first degree* represents a *corrosive*, with its scant ineffectual vomit, its spasmodic, hot and stertorous respiration, trembling parched lips, burning anxiety and fright; the collapse begins with the purging, and has neither sweat nor sensation.

The second may be classed as an *emetic*; the vomit is profuse, and is later replaced by an incessant hiccough, which admits of no relief. The abdominal pain is excruciating, and aggravated from cold and pressure. The effects of the poison are referred to

the nervous centers, causing intense agony. The choleric symptoms may be wanting.

The third action is that of a *paralyzant*, with cramps and contractures; may follow any other degree or occur independently.

Its fourth action is that of an *haematic*, in which the fibrin factors are lost, and the red and white corpuscles are altered, causing pernicious anaemia, with dyspnoea, inability to lie down, short, hoarse cough, and anguish.

Therapeutic Characteristics.

Adapted to irritable, lymphatic temperaments, with rapid prostration and sinking of the vital forces.

In disease resulting from *disordered and defective nutrition*, of dropsical and choleric form. Scurvy.

Diseases characterized by *blood change*; as the eruptive, gangrene, cancer, erysipelas, and necropneumonia.

By *nerve change*; the various forms of insanity, chorea, epilepsy, spinal irritations, alcoholism, etc.

Countenance.—In the *gastro-intestinal* diseases it is white, waxy, cadaverous, with pointed nose, sunken eyes with dark rings. In the *asthenic fevers*, as pneumonia and typhoid, the face is cyanotic, lips dry and cracked, with an expression of suffering and prostration.

Fevers.—Are marked by periodicity, restlessness, weakness and prostration. The nerve life is attacked in all directions, the paroxysms are general, violent, and of long duration; the typhoid is a septic malignant picture of blood degeneration, as typified by the ecchymosis, profuse hemorrhages, and trophic changes. The patient perceives and complains of nothing; has insatiable thirst, high temperature, small frequent pulse, suppressed urine, muttering delirium, and often aphasia.

Mentally, they are sad, irritable, fear, yet welcome death; are hopeless of salvation as though guilty of crime; have delirium of dogs, cats, mice and vermin; develop mania to kill either themselves or others; fearful of being alone. The remedy in the pneumonias of the aged, where there is extreme dyspnoea, disturbed circulation, gangrene, disorganization of lung tissue, exhaustion, collapse, and impending paralysis. Useful in paralysis caused by suppression of psoric eruptions and exposure.

Rapid emaciation accompanies all conditions.

The stools are lenteric, frequent, with rapid emaciation within twenty-four to forty-eight hours; marked by innervation and exhaustion, burning thirst, which on drinking water is not relieved, but is vomited as it becomes warm in the stomach. They are always worse at night, from cold air, food and drink, from rest, and from lying on the left side.

Relieved from warmth, during the day, and having the head high.

MURIATIC.

Hydrochloric Acid.

Spirit of salt; is found native in the free state in the gases from volcanoes, and in the springs and rivers in their immediate district. Is a normal constituent of the body; formed from the neutral chlorides of the blood, in the parietal cells of the peptic glands, thence to the gastric juice in amounts of from 2 to 3 per cent, amount being regulated by its brain center control. Its function is to coagulate the albumens and to dissolve the limes which enter the stomach as food.

Pharmacy.— \emptyset is an aqueous solution prepared according to class V-a.

Toxicology.—Refer back to the general toxic action of the acids and their antidotes.

Pathogenetic.

The following centers are altered:

1. Blood.
2. Mucous membranes.
3. Brain center which regulates the supply of hydrochloric acid to the gastric juice.
4. Peyer's patches.
5. Salivary glands.
6. Skin.

Pathology of the altered centers:

Blood.—Diffuses itself into the vital fluid with more rapidity than any of the acids; changing its reaction to acid, altering the fibrin, thus deteriorating its purity, causing a sepsis like that of the malignant fevers.

Brain center controlling its secretion.—Two forms of action:

1.—Irregular control; the hydrochloric acid accumulates in the stomach, its reaction is changed to alkaline and digestion stops; the contents of the stomach is spoiled, eructations and pyrosis resulting.

2.—Failure of control; is not secreted, digestion is ended, food is neither taken nor wanted; there is foul taste, bluish brown tongue, and an accumulation of filth and crusts on the teeth and lips (sordes).

Mucous membranes.—Causes inflammation, destructive ulceration, deposits of pseudo membrane and fungoid growths.

Bronchi and throat.—The ulcerations resemble diphtheria, secretes a foul pus, and of bluish color.

Causes a bronchitis with hoarseness, burning and constriction about the throat.

Gastro-intestinal.—*Primarily* the force of the poison is spent upon the mouth, esophagus and rectum; the alkalinity of the saliva and pancreatic juice rendering the poison in the small intestines unabsorbable. As the blood and absorbents become

involved, peyers patches are degenerated, a low form of fever is developed, with involuntary stools, asthenia and prostration.

Results of its action on the *blood and glands* as to temperature and pulse.

Pulse sub-normal, intermittent, 60, with high temperature 103° to 105°, or

Pulse ranges high, 110° to 130°, with sub-normal temperature 96° to 98°; in either case there is collapse, the patient slides down in the bed, is unconscious, with apathetic muttering delirium, vacant, staring eyes, and dropping of the lower jaw. The tongue is blue, dry, and rattles in the mouth like wash leather; the entire mouth is covered with sordes and ulcerated spots, the patient sinking deeper and deeper into coma.

Skin.—Through blood degeneration, it causes an eruption like that of smallpox and tetter; the pustules are dark blue in color, with marked collapse and involuntary stools.

Mentality.—As a result of the sepsis and degeneration of the vital fluids, have irritability of fibre, peevishness, in which they want something, not certain as to what; imagine they are possessed of clairvoyant power, with visions of past, present and future; over-excitement with debility; quiet, apathetic moods, going on to collapse.

Therapeutic Characteristics.

Adapted to diseases of an asthenic form; where there is much debility, nervous exhaustion, and a tendency to malignant ulcerations, as in typhoid and the eruptive fevers, and diphtheria.

Dyspepsia; due to half cooked foods, pastry and hot breads. The labored digestion either precipitates an undue amount of hydrochloric acid to the gastric juices, or shocks the center to fail to secrete; symp-

toms are pyrosis, nausea, empty gone feeling in the pit of the stomach, that is not relieved by eating, eructations and putridity.

Typhoid fever; indicated late in the disease, and complicated with a scorbutic state of the system. May have either form of temperature and pulse as recorded in the provings. Characteristics are apathy, sensitiveness to storms, worse from motion, and putrescence of all fluids.

NITRICUM.

Aqua Fortis. HNO_3

Does not occur free in nature, but in combination with a base; either potassium or sodium, in guano deposits, in rain water, and surface wells of towns.

Pharmacy.—The \emptyset is prepared according to class V-a.

Toxicology.—Refer back to the general toxic action of the acids and their antidotes.

Pathogenetic.

The following centers are altered:

- 1.—Mucous membranes.
 - (a) Muco-cutaneous outlets of the body.
 - (b) Stomach and colon.
 - (c) Kidneys.
- 2.—Glandular system.
 - (a) Lymphatics.
 - (b) Salivary.
 - (c) Liver.
- 3.—Blood.
- 4.—Skin.

Pathology of the altered centers:

Most important center of action is on the **mucous membranes** of the *cutaneous outlets* of the body,

affecting principally the mouth, nose, rectum, and urethra. Of the gastro-intestinal canal, the small intestine escapes, for the reason that the alkaline secretions—the bile and pancreatic juice—neutralize the acid; when the acid reaches the colon, the alkalinity is in turn overcome by the acid and its full effect is observed.

The change in the membrane ranges from congestion to destructive ulceration and gangrene; the cutaneous outlets are fissured and ulcerated in fistulous openings with continuous destructive action.

Gastro-intestinal symptoms.—Tenderness and burning pain in the stomach, vomiting of lemon colored, glairy fluid and blood. Chronic dysentery of serum, shreds of membrane and blood.

The mucous membrane of the kidneys is so degenerated that the urine contains albumen and mucus; with either suppression or involuntary flow.

Blood.—The red and white corpuscles are degenerated, resulting in a constitutional dyscrasia, like that of the syphilitic and psoric miasm; the cryptogamic fevers and phthisis.

Skin.—Applied, it penetrates deeply with continuous destructive action, leaving in its path fungoid and condylomatous growths.

Characteristics of the ulcer:

Dips deeply into the tissues.

Is irregular in outline.

Is filled with granulations, which bleed as soon as they are touched.

Is covered with a thin yellowish green pus, which excoriates the surrounding parts, and is offensive. Pain is always present, and is burning and sticking in character.

Glandular system.—Selects the *lymphatics* of the lungs; *secondary* to the perverted lymph; degenerating the glands, causing phthisis, emphysema and

gangrenopsis. The sputum is scanty, muco-purulent, with marked fetor of the breath.

Salivary glands.—Action ranges from congestion to inflammation, with increase of function, which may range from slight to severe ptyalism; with bleeding gums, loose teeth and fœtid odor.

Liver.—Here it degenerates the hepatic cells, the effect ranging from inflammation to cirrhotic hypertrophy and jaundice.

Mentally they are irritable, peevish, and despondent, with a sense of weakness and trembling.

Therapeutic Characteristics.

Especially suited to individuals of a drunken habit; where the constitution is debilitated in consequence of a latent miasm, and long histories of scorbutic eruptions. Diseases of virulent taint, as syphilis, sycosis and scrofula, characterized by ulcerated mucous patches, tubercles, and offensive discharges.

Enlarged liver from any of the above causes and malaria.

Lean people with black hair, dark complexion, and who stoop and take cold easy.

Aggravated from warmth, early evening, and from sleep.

The mental state is a despondent nightmare; the patient being sad, peevish, alternates weeping with irritableness.

Of great value to antidote mercurilization.

Pains are stitching, aching, and tearing.

Discharges are greenish, blood-streaked, of foul odor and corrode the surrounding tissue.

HYDROCYANIC.

Prussic Acid.

Is *contained* in the kernels of peach, plum, cherry and apricots; in the bark of wild cherry, in

bitter almonds, and in the flowers and leaves of the laurel.

Chemically it is prepared by the action of hydrochloric acid on silver cyanid, or potassium ferrocyanid with sulphuric acid.

Pharmacy.—The \emptyset is prepared in proportion of equal parts by weight of the 2% anhydrous acid and distilled water. Dilutions according to class VI-b.

Toxicology.—Is the neurotic of the acids.

Inhalation of the anhydrous vapor causes instant death. One to forty-five minims of the dilute, and 9/10 of a grain, causes insensibility, loss of muscular power, gasping, convulsive respiration; cold, clammy skin; fixed eyes, spasmodic closure of the jaws, and death.

An important diagnostic point is the odor of peach and almonds on the breath.

Antidotal.—Inhalations and injections of ammonia and amyl nitrite; cold effusions over head and back to shock the vaso-motors to action. Strong black coffee, brandy, mustard water to promote vomit, siphon the stomach with dilute solution of hydrogen peroxide, which converts the poison into oxamid. *Nux vomica, atropine, veratrum vir.*

Pathogenetic.

The following centers are altered:

1.—Nervous system.

- (a) Respiratory center.
- (b) Origin of the pneumogastriacs.
- (c) Motor centers, vaso-motors and nerves.
- (d) Automatic nerve centers of the heart.
- (e) Peripheral sensory nerves.

2.—Blood.

Pathology of the altered centers:

Respiratory center.—Three stages engaged in its paralysis:

1. Asthma.

2. Convulsive.

3. Asphyxia.

Symptoms.—The respiration is spasmodic, lessened in frequency, difficult, ceasing before the pulse.

Pneumogastric selects the branches to the throat, lungs and heart, causing spasm and paralysis.

Symptoms.—Suffocation, and constriction about the chest.

Motor centers, vaso-motors and motor nerves.—Causes increased irritability of the motor system, ending in spasm and paralysis, muscular fibre losing its irritability *secondarily*. The vaso-motors of the cerebral arteries contract violently, causing the individual to fall to the floor, as in epilepsy.

Automatic nerve centers of the heart.—The inhibitors are momentarily stimulated, which is soon followed by paralysis, the heart ceasing in diastole.

The action of the heart is *secondary* to the respiratory disturbance, and the paralysis of the vaso-motors.

Peripheral sensory nerves are affected last; does not destroy nerve structure, but paralyzes its functional power.

Blood.—Its ozonizing power is lost, causing the blood to become dark and fluid. Action is *secondary* to nerve involvement.

Deductions.—Its ability to cause death depends on its promptness of action on the vital centers in the medulla, which it paralyzes instantly, and the time of its diffusibility along the spinal motor tract, the inhibitors of the heart, and the peripheral sensory nerves.

Brain symptoms range from insomnia to coma, irritable wiry temper, intoxication; mental state varies with the degree of depression present.

Therapeutic Characteristics.

Indicated in *persons* of neurotic temperament.

In *diseases* where the symptoms come on suddenly, with great severity, and general blueness of the surface of the body.

Congestive headaches, preceded by dizziness, followed by a dull occipital or frontal pain; with shivering, dyspnoea, and cardiac distress.

Chronic vertigo, with slow unequal pulse, and sensation of a wave from the stomach to the throat. May precede and is the forerunner of an epileptic attack.

The attack comes on suddenly, with a sensation of shock to the brain. Why? The spasm extends from periphery to center, with the body bent forward, and the limbs rigid, the attack ending with froth at the mouth, and an involuntary discharge of stool and urine.

Tetanic spasms.—In addition to the general characteristics, there is bloating of the face, neck and chest, with dilated pupils, glistening and protrusion of the eyeball.

Hysteria, without the globus, seem to enter into a new personality, pack their clothes and strike if interfered with; talk, laugh and scold until they are rigid.

Nervous diseases of the gastro-intestinal tract, as gastralgia, gastrodynia, enteralgia, cardialgia and dyspepsia. The pain comes on at a certain time each day; is sudden, and defined as a *clutch*; is in reality a *cramp*, due to spasm of the motor nerves supplying the circular fibres of the tract.

Other symptoms are tenderness, exhaustion and coldness.

The remedy in the last stages of the choleras, where the patient is threatened with asphyxia, and the cramps and diarrhoea have ceased.

Indicated in the *retention of urine in the aged*; due to a paralysis of the muscular fibres of the bladder.

In *diseases of the chest*, where there is rattling breathing, paralytic oppression, hoarseness, dry suffocative cough, attended with coldness of the skin and exhaustion.

Suffocative asthma, due to innervation of the vagi; with weak, intermittent pulse, of irregular, unequal volume; a sense of weight on the chest, and hopelessness.

Angina pectoris, due to debility of the contained ganglia of the heart.

Mentality.—Irregular, gloomy forebodings, alternating with a gay delirium, in which they sing and warble like a bird, jumping about with a stick in the hand.

Characteristics are prostration, coldness, cyanosis, dyspnoea, periodicity, and suddenness of action.

CARBOLICUM.

Carbolic Acid. $C \cdot H \cdot OH$.

Pharmacy.—The \emptyset is prepared from the pure crystallized acid according to class VI-a.

Toxicology.—Is a corrosive and neurotic poison.

Symptoms.—When poured upon the skin it causes burning, tingling and numbness, soon followed by a white eschar; when swallowed there is burning pain in the mouth, esophagus and stomach, with or without vomiting; the systemic effects now quickly follow as absorption obtains, and are manifested by staggering gait, muscular twitchings, lividity of the face and hands, dilated pupils, rapid thready pulse, great prostration, coma and death.

The remote systemic effects are the same when absorbed either by the skin, lungs, stomach or open cavities. The skin, breath, urine and stool exhibit the odor of the acid. The fatal dose varies, ranging from 60 grains to one ounce of the dilute, death occur-

ring within ten minutes to several hours, and may be delayed several days.

Antidotal.—Wash out the stomach with a soluble sulphate, preferably a soda, which converts it into phenol-sulphonate. Raw eggs, milk, vinegar and alcohol are recommended, but dependence should not be placed on them, as they are likely to fail. Hot and cold effusions, lime water, oils, strychnia and atropine. Promote vomiting if you can; not easy, as the local anesthesia of the tissues prevents.

Pathogenetic.

Symptoms produced by administering in doses of six to eight grains dissolved in a wineglassful of water:

1. Loss of sensibility in mouth and throat; the numbness followed by a cooling sensation, like that produced by mint.

2. Slight nausea, if the stomach be empty, followed by an uneasy feeling in the abdomen like that before an attack of gravel.

3. Slight vertigo, ringing in the ears, partial deafness, vertigo worse on rising; must sit quickly.

4. Loss of pulse rate four to eight the minute, with decrease in volume.

5. Diarrhœa follows the third or fourth dose, and disappears the third or fourth day.

6. Long continued use of the drug causes muscular debility, loss of flesh and marasmus.

(Bill Amer. Jour. of Med. So., N. S. lxxlv, 45.)

The following centers are altered:

1.—Brain.

(a) Respiratory center.

(b) Peripheral nerve endings.

2.—Gastro-intestinal mucous membrane.

3.—Blood.

4.—Skin.

Pathology of the altered centers:

Brain.—In small doses it stimulates the respiratory center and peripheral nerve endings. Large doses, congests the entire brain, the action going on to paralysis. The symptoms ranging from vertigo to coma. Resembles apoplexy, hydrocephalous and nervous affections of an anæsthetic character.

The peripheral endings are *primarily* stimulated, causing muscular twitchings; action ends in paralysis.

The gastro-intestinal mucous membrane is shriveled, shrunken, disorganized and of white color, action being limited to the upper third of the tract. Action is similar to the aphthous inflammations of the mouth, esophagus and stomach. Without pain or vomiting.

Blood.—The composition of the vital fluid is destroyed, the putridity being apparent on section of the vessels.

Therapeutic Characteristics.

Local use is that of a bactericide, destroying the lowest form of animal life, preventing fermentation and putrefaction. Does not act on putrid gases, but kills the living germs developed in the process of putrefaction. It facilitates the separation of the slough, and causes healthy granulations to spring up.

Following amputations the cut surface may be bathed with a solution of the acid, the result being a white sear, which coagulates the vessels and prevents air from coming into contact with the wound. Great care must be exercised that the solution be not too strong, as absorption may take place and systemic effects be developed.

Internally, the best effect is observed from the higher potencies, although the lower ones have been used with success. It would be well, however, to keep in mind that the first three potencies may cause toxic effects.

It is useful in necro-pneumonia, where there is a dry tickling cough, profuse fœtid sputum, stertorous

breathing and a sensation as though the chest were too narrow. Albumenuria, as a complication of scarletina; the urine contains an excess of phosphates and albumen, and may be *green* in color.

Useful in aphthous inflammations of the mouth and throat; diphtheretic in character, the membrane dark, aphthous and gangrenous. Useful in diseases characterized by coma, confused sensorium and ordinary vertigo.

In gastritis of a septic character, where the erosion extends from the mouth to the stomach, with burning and anguish, nausea and bloody dysentery.

Characteristics of the Mineral Acids as a Class.

1.—Produce inflammation and destructive ulcerations of the mucous membranes. Pseudo membranes.

2.—They increase the alkaline secretions, the saliva, bile and pancreatic juice, and decrease the acid,—gastric juice.

3.—All have irritability of the nervous forces, with weakness and prostration.

4.—All produce a degeneration of the assimilative powers—scorbutis.

5.—A debility, identical with that of defective nutrition and sepsis.

6.—All disorganize the blood corpuscle, as found in cancer, the miasmatic fevers, typhoid fever, diphtheria, scarletina and the specific miasms.

7.—*Coagulation* of the blood is produced by muriatic and carbolic; *fluidity* by arsenious and hydrocyanic.

Characteristics of the Vegetable Acids as a Class.

1.—They do not act as deeply as the mineral.

2.—They increase the alkaline, and decrease the acid secretions.

3.—All produce weakness without irritability of the nervous forces.

4.—Acidulated drinks quench the thirst in fever, by increasing the flow of saliva.

5.—Continued use of acidulated drinks and fruits cause dry, parched mouth, flabby tongue, and dyspepsia.

6.—Fruits containing hydrocyanic acid, such as cherries, peaches, etc., cause toxic effects which may end fatally.

ACONITUM NAPELLUS

Wolfbane, Monkshood, Blue Rocket.

Nat. Ord., Ranunculaceae.—A family characterized by acrid and narcotic properties.

Habitat.—Mountains of Europe, the Alps, Pyrenees, Silesia, Hartz and Bavaria.

The word *aconite* means *without dust*, and refers to its growth among the rocks, where it thrives with scarce enough soil to cover its roots.

Napellus is taken from the Latin *napus*, meaning *turnip*, and refers to the shape of its root.

It is called *monkshood*, because its blossom resembles the hood of a monk's cloak.

Wolfbane, because it has been proven poisonous to wolves while other animals eat it with impunity.

Blue rocket, because its blossom expands suddenly without warning.

Plant.—*Stem* is annual, three or four feet high, of angulate roundness, its upper half clothed with

Leaves, which are dark green above and light green below, five-lobed and cleft, the upper being more simple than the lower.

Flowers during June and July; the stem forms the flower stalk, its summit crowned with a beautiful raceme of violet colored, helmet shaped blossoms.

Root, shape of a turnip, tapering off in long tail with rootlets, two to five inches long and of dark brown color; when dry it breaks with a short fracture, showing a white faranaceous, brown or gray substance with a hollow center. A transverse section

shows a white, star-shaped center with eight rays or points.

Alkaloid is *aconitine*.

Pharmacy.—To make the \emptyset gather in flowering time, the whole plant except the root; chop, pound, express the juice, and prepare according to class I.

History.—Aconite was known to the ancients as early as the 15th century, and by them was considered a plant of extraordinary poisonous properties. Matthiolus, physician to the Pope of Rome, was the first to experiment with this poison with a view to investigate its poisonous qualities, and to ascertain if it be of any therapeutic value; the dose was not measured, one dram being given as often as three ounces; the preparation used was a powder of the root or an infusion of the leaves.

The result frightened the ancients, and they were wont to look upon it as being an agent of supernatural origin; that it had been created by the gods of the infernal regions as a means of punishment to those who angered or incurred their displeasure.

Proven by Hahnemann in 1805.

Toxicology.—Is a neurotic syncopant; ranks with hydrocyanic acid in its toxic effect. Average fatal dose is one dram to one ounce of the \emptyset and 1/50 of a grain of the alkaloid.

The dose to kill depends on the constitution of the patient and the amount taken.

Symptoms following a lethal dose are of two kinds:

1.—Burning in the mouth, throat and stomach, with loss of consciousness and death.

2.—Pain in abdomen, vomiting and purging, dilated pupils, cold skin, numbness, feeble pulse, oppressed breathing, fainting and death.

Cause of death may be by shock, sudden and complete collapse or asphyxia.

Antidotal.—Rub limbs and back with hot towels, ammonia or brandy to bring the circulation to the surface. Give black coffee, nux vomica, stomach pump, atropine 1/150 of a grain; keep the patient in a horizontal position; the main point to remember is to get and maintain a red skin and perspiration.

Results of autopsies.—Mucous membranes are found destitute of epithelium and intensely congested; the cerebral vessels, the left ventricle of the heart and the lower lobes of the lungs are distended with a dark fluid serum.

Pathogenetic.

The following centers are altered:

1.—Nervous:

- a—Respiratory center in the medulla.
- b—Sensory nerves.
- c—Ganglia of the heart.
- d—Arterial vaso-motors, periphery to centers.
- e—Motor nerves.

2.—Mucous membranes:

- a—Gastro-intestinal.
- b—Schneiderian.
- c—Conjunctiva.

3.—Serous membranes:

- a—Pleura, arachnoid, peritoneum.
- b—Synovial.

4.—Fibrous tissue:

- a—Tendons.
- b—Flexor muscles.
- c—Attachments to joints.
- d—Sheaths of muscles and nerves.

Pathology of the altered centers:

Respiratory center action ranges from depression to paralysis.

Symptoms.—Under large doses, the respiration becomes slower and deeper, until the center is exhausted, then have dyspnoea to death.

Sensory nerves.—Causes paralysis, first of the perceptive centers, second the peripheral extremities of nerves, third the nerve trunks.

Symptoms.—Most prominent are numbness and tingling.

Nervous ganglia of the heart.—The discharging centers which govern the heart's action are directly paralyzed, with a short stimulation (*primary*) which reduces pulsation, becoming more rapid as the centers become exhausted, with final irregular systolic movements, long pauses, which lessen to death, the heart dying in diastole.

Vaso-motors of the arterial capillary circulation.—Normally the vaso-motors are in a state of semi-contraction. Pathogenetic doses of aconite directly cause depression and paralysis, not only of the vaso-motors, but of the conducting power of the afferent nerves of the spinal cord, so that impulses are not transmitted from the periphery to the vaso-motor center in the medulla; this action results in congestion or active engorgement of organs or other parts. This action, together with that of the ganglia of the heart, is directly responsible for the *primary* medium, bounding pulse, and that of the *secondary*, which is rapid, weak and intermittent; the temperature is another result, is at first lowered three degrees, with chill and collapse, then rises to a height of from three to five degrees, corresponding to the rise and fall of the blood pressure and loss of the conducting power.

Symptoms accompanying the nervous change.—Disturbance of function of the part affected, marked restlessness and anxiety; if the cerebral sinuses are engorged have partial insensibility or delirium, swollen face, blue lips, disturbed sight and hearing.

Muscular fibre.—By increasing the irritability of the anterior columns of the cord and the peripheral endings to muscles, muscular fibre becomes stiff and

swollen; at times the contraction is so great as to cause convulsions; the action on the motor system follows that of the other nervous centers, the heart muscle is affected *secondary* to its ganglia, and is paralyzed as the circulation makes its last circuit in diastole. The muscular fibres of the arteries are affected *secondarily* to the vaso-motors, the action going on to hypertrophy, and is another cause of the irregular pulse.

Mucous membranes.—Through the vaso-motors the membrane is intensely congested, at the same time the mucous glands are stimulated, causing increased flow of mucus.

Symptoms.—*Gastro-intestinal.*—Nausea, vomiting of greenish gray, watery liquid, bile, mucus and blood; the nausea extends from the pit of the stomach upward to the throat, with a rising of sweetish fluid to the mouth, with burning sensation, loss of appetite, bitter taste, unquenchable thirst, colic, diarrhœa or dysentery of greenish blue bloody stools.

Schnuiderian.—Violent sneezing as though the head were jarred to pieces or a spasmodic sneezing, followed by a discharge of clear mucus from the nose. At the same time the conjunctiva becomes congested with burning, smarting and profuse flow of mucus.

Scrous membranes, affected through the vaso-motors; the congestion going on to the beginning of plastic inflammation. The symptoms vary according to the location affected; pain is always present and is rheumatoid in character.

Tendons and fibrous tissue, affected through the vaso-motors. The congestion causing contraction of the tendons, ligaments, sheaths of muscles and nerves; the pains are aching, drawing and tearing in character, with swelling and redness of the affected part.

Mental.—Causes a peculiar mental condition, which might be termed the mania of *fear*, in which the individual is afraid to cross the street or go into

a crowd, or a general state of fearfulness, without any definite reason, resulting in great anguish; may predict the time and day of their death. The point to remember is that they are *afraid*, and more often without than with an apparent reason.

Deductions.

Aconite acts directly on the respiratory center and the peripheral sensory branches of the vagus, affecting the heart's ganglia *secondary* to the above centers.

The sensory nerves are paralyzed at the periphery and irritated at the center (cord).

The motor tract of the cord and the peripheral motors are increased in their irritability, thereby inducing irregular contraction or convulsions, and does not occur until all other centers are involved, the vaso-motors responding first.

While it produces paralysis of the vital centers, it does not alter their structure, affecting their functional power only.

Therapeutic Characteristics.

Especially suited to individuals who are young, plethoric, with bright, lively or florid complexions, dark hair, and not given to complaining or brooding.

Useful in complaints that are sthenic in character, coming on suddenly and violently, such as exposure to cold northwest winds, sudden changes in the temperature from warm to cold, checked perspiration, injuries, as sprains, breaks and concussions; emotional trauma, as fright, anger, humiliation, cold food and drink.

The kinds of fever for which it is useful are the simple catarrhal and in the congestive stage of pneumonia and pleurisy where the skin is hot, dry, temperature high and full, bounding pulse; a renewal of the congestion may occur as a consequence of

taking cold, exhibits no previous chill or rise of temperature; the pulse marking the change is small, feeble, rapid, and may be intermittent, depends on the degree of cardiac weakness present.

Modalities.—Patient is worse from early evening to midnight, from tobacco smoke, vegetable acids and wines, lying on the left side, from warmth and noise.

Is better from washing in cold water, after perspiration in the open air, and during the day.

Aconite does not alter the blood either in quantity or quality; therefore is not at any time indicated in diseased conditions characterized by blood change.

Useful in all sthenic congestive states, marked by arterial excitement, to the commencement of suppuration.

The mental state is that of fearfulness and anxiety as recorded in the provings.

The range of action is short, twenty-four to thirty-six hours.

THE ARACHNOIDA

Family of Venomous Tropical Spiders.

1.—*Tarentula*: Two varieties.

Cubensis, native of Cuba and Mexico.

Hispana, native of Spain, Italy and South America.

2.—*Mygale Lasiadora* is the black spider of Cuba.

3.—*Theridian Curassavicum*. — The orange or black spider of Curacoa. Is about the size of a cherry stone, and inhabits the orange trees of the West Indies; it is marked on its posterior with three orange-red spots, and a large square yellow spot on its abdomen.

4.—*Aranea Diadema*, the diadem, papal cross or garden spider of Europe and America; inhabits old buildings, ruins, stables and outhouses, and is known by its ovoid form and cross of yellow and white points on the back.

5.—*Tela Araneae*, cobweb, spider's web of the black spider; inhabiting dark cellars and barns.

Pharmacy. — *Tarentula cubensis*. Place live spiders in a glass jar, irritate them by striking the jar as long as they will throw off their virus, and until they fall exhausted to the bottom of the jar; remove from the jar, pour in alcohol until you have a light yellow color, and prepare according to class VI-b. Drug power 1/100.

Tarentula Hispana or *Lycosa*.—Triturate the live spider to dryness with sugar of milk; drug power 1/100; prepare potencies according to class VII; con-

vert to an aqueous solution at the 6x in the usual way.

Mygale, Theridian and Aranea Diadema.—Crush and cover live spider with five times its weight of alcohol. Drug power 1/10. Prepare potencies according to class IV.

Tela is the active principle of the black spider; is prepared from the new web as directed under class VII. Drug power 1/100.

TARENTULA CUBENSIS.

Toxic.—The bite of the cubensis is painless and not observed until the next day, when an inflamed pimple appears, surrounded by a red ring. The travels of the spider from the bitten point are marked by a red erysipelatous line. The part bitten swells rapidly until it becomes a large, painful abscess with pepperbox openings, which coalicae, forming large sinuses, discharging pus, tendons and fascia, the abscess ending in death to the tissues.

Symptoms.—Burning, excruciating pain, high temperature, intermittent pulse, dysentery, recurrent chills, marking the sepsis, delirium, the symptoms going on unabated to death.

Antidotes.—*Arsenicum* for the pain, *silesia* for the sloughs, local application of equal parts of distilled water and *ledum palustre* Ø.

Pathogenetic.

The following centers are altered:

Blood, muscular fibre, fibrous tissues, the tendons and fascia.

Pathology of the altered centers:

Blood.—The fibrin is destroyed and the alkaline reaction changed to acid, causing sepsis like that of anthrax, malignant pustule and carbuncle.

Muscular fibre.—Through blood degeneration the muscle becomes a mass of decay, the action ranging

from inflammation to abscess and gangrene, involving all of the deeper structures, the cellular tissue, fascia and tendons.

Therapeutic Characteristics.

Curative range is limited; useful in malignant haematic diseases, such as may be prevalent in the cattle ranges, as anthrax, carbuncle, pustule.

Boils, abscesses, all varieties of skin diseases, where induration and pain is the rule, with marked constitutional sepsis, resolution ending in sloughing, no matter how small the abscess, boil or pimple.

TARENTULA HISPANA.

Bite of this spider produces choreaform spasms and spinal irritation.

Pathogenetic.

The following centers are altered:

- 1.—Terminal branches of the motor portion of the spinal cord.
- 2.—Sensory tracts of the cord.
- 3.—Heart and arteries.
- 4.—Ovaries and uterus.

Pathology of the altered centers:

Motor system.—*Primary* action is on the motor tracts of the cord, gradually extending to the peripheral motors of the muscles, causing irregular stimulation, ending in spasms and convulsive contraction of the right arm and left leg.

The sensory tracts and their peripheral endings are stimulated to a high degree, causing increased sensibility to touch, spinal irritation, hyperesthesia and neuralgia.

The combined action of the motor and sensory system causes a cramp of the spiral muscular fibres of the heart, and a lax state of the motors of the

aorta, with symptoms of distension, a peculiar stretched or bursting sensation, simulating aneurism. The cramp or spasm of the heart may alternate with a purr or murmur.

The *Italian Tarentula*.—The bite of the *Italian tarentula* causes a yellowish black, livid spot, with acute pain, followed by numbness and moderate swelling; other symptoms are anguish, sensation of sinking, dyspnoea and pain in the region of the heart. The most important center of action is on the sensory nerves, prostrating them, with a short, *primary* stimulation.

The *gray tarentula* differs from the Italian, in that it produces dysentery in addition to the other symptoms.

Mygale and Theridian act on the same tracts of the motor and sensory nerves as the *Hispana*, and with the same effect, the choreaform movements occurring in different locations.

Mygale.—The contractions are of the motors controlling the eyelids and face, with head jerked to the left; the eyelids open and close in rapid succession; as the motors of the limbs become involved there is unsteady gait; on bringing the hand to the head it is forced back, all ending in general jerk, tremor and constant movement of the muscles.

Theridian affects the terminals of the motor system, causing constant movements of the muscles of any part of the body; affecting the spiral fibres of the stomach, it causes nausea, preceded by vertigo, like that of sea-sickness.

Aranea Diadema affects the sensory bulbs, causing chilliness, lax circulation, and changes in the constitution resembling the hydrogenoid dyscrasia; associated with the general effects of the family. The symptoms of aranea return with regularity and on damp days, marking periodicity and dampness as characteristics of the remedy.

The *Tela* acts on the vaso-motors of the arterial system, choosing for its *primary* attack the arterioles, *secondarily* the larger vessels, causing rise and fall of blood pressure. On the peripheral motors to the muscles, it acts as a pleasant stimulant, causing increased muscular energy: an erethism of the entire system.

Mental state of the family as a whole.—Causes a peculiar mentality termed tarentulism, in which the delirium of dancing becomes a second nature, and ranges from a slight movement of the feet, gradually increasing until the entire body is hurried into a sort of a dance, which continues until they fall exhausted to the floor, perspire freely, and return to apparent health. Experiment has proven that if these choreac movements do not occur, the organism does not react, and grave symptoms may appear. As the movements are the direct result of the organism reacting against the invasion of the virus, paroxysms return each year following the bite and are excited by music, the summer heat, or the sight of suffering.

Differential mental effects of the family:

Hispana develops a cruel mentality, in which the desire to kill and to perform cruel acts becomes a seemingly normal performance; they make sudden destructive efforts, requiring much vigilance to prevent damage, all of which is followed by laughter and apologies. They are soothed and quieted at the sight of bright colors, gazing on smooth clear surfaces, as standing water, and listening to music, which in turn excites the motor delirium.

The *Italian variety of the Lycosa* gives rise to a degenerate melancholia in which they seek desert places, as cemeteries, stretch themselves in boxes simulating death, or have suicidal tendencies, favoring wells or pools of shining water; may roll in the mire like pigs, have rapid change of sentiments, satisfied and pleased with bright colors which soon ends

in dissatisfaction, sadness and anxiety. All of the mental conditions are recurrent and preceded by an uncontrollable restlessness and trembling.

Theridian has more of the hysteric element than any of the spiders; have a restless, busy state which does not relieve, and a complaint that time passes too quickly; an hour seems a week, a day or a month. They imagine their head is not their own, and that they can lift it off. They faint after the least exertion, are weak, cold and anxious.

The Tela causes a pleasant delirium, in which they jump about the room, followed by tranquillity and sleep.

Characteristic of the family, we find weakness, trembling, coldness, motor delirium, melancholia and periodicity.

Therapeutic Characteristics.

The *tarentulas* are indicated in the various nervous conditions incident to the climacteric period.

In the various forms of insanity, due to degeneration of the central nervous structures, either cerebral or cord.

Tela is of value to produce sleep; it resembles *opium* without the bad effects; was employed by the ancients as a cure for ague and asthma.

All the spiders with the exception of the *cubensis* are nervous remedies, and should so be studied in comparison with other groups.

All are annoyed by bright lights and colors, smooth, shining surfaces, with alternate pleasure in the same objects.

Bodies of water, either pools, wells or lakes, are a constant menace to a *tarentula* patient, as the water seems to beckon them onward, suicide being the result.

Music relieves and calms most of the conditions.

ARNICA MONTANA

Leopard's Bane, Falkkraut, Mountain Arnica.

Nat. Ord.—Compositae.

Habitat.—Northern Europe to the north of France, growing from the seashore to the limits of the eternal snow-capped mountains.

Plant is a perennial herb.

Stem, twelve to fourteen inches high, with lanceolate opposite leaves, its summit surmounted by large, simple or compound orange-yellow flowers.

Root is one to two inches long, of brown color, contorted, with number of small fibres three to five inches long; the whole plant has an aromatic odor, an acrid nauseous taste, and contains a volatile oil.

Pharmacy.—To make the \emptyset gather at flowering time, in proportion of two parts root, one part leaves and one part flowers, taking care to remove from the calyx of flower the larva of the arnica fly; prepare according to class III.

Arnica Radix.—Prepare the \emptyset from the freshly dried and pulverized root according to class IV.

Toxicology.—Various forms of action.

1.—That of a *neurotic syncopant*; have dimness and flickering of vision, vertigo, stupor, intermittent pulse, trembling weakness of the limbs, precordial anxiety, fainting, collapse and death, or, in vomiting with recovery.

2.—As a *choleric irritant*, with burning pain in the stomach, ineffectual vomit, colic, sense of constriction at level of attachments of diaphragm, hic-

cough, anxiety, cold sweat and extremities, small, frequent pulse, collapse, sometimes tremor and spasm.

3.—As a *vesicular irritant* to the skin, either by external application or internal medication with the various dilutions. Following *internal medication* there appear on the skin fine vesicles on an erythematous base, with heat and itching, or red inflamed pustules, resembling boils or smallpox.

Applied to the skin, it causes general redness, burning and itching; a miliary rash on a red base, which may or may not be confluent, filled with pus and covered with a leathery crust; exhibits every sign of a bruise, the extravasation first appearing dusky or purple, later greenish yellow, with soreness and swelling. May be referred to the cellular tissue of the eyelids and other parts of the body, causing a phlyctenoid erysipelas in spots, with rise of temperature, rapid pulse, depression, and little, if any, local effect at the point applied.

Antidotal.—Apply hot bottles and warm coverings to bring the circulation to the surface; *arsenicum*, *aconite*, *camphor*, *ippecac*, *belladonna*, *vinegar*, *chloroform* for the spasm; wines and brandy increase its action.

Pathogenetic.

The following centers are altered:

- 1.—Venous capillaries, absorbents, and the terminal ends of sensory and motors to the capillaries.
- 2.—Muscular fibre at the junction of the tendons and forming the superficial layer of muscles.
- 3.—Motor nerves to muscles.
- 4.—Spinal nerves.
- 5.—Cardio-inhibitory center.
- 6.—Serous tissues.
- 7.—Skin.

Pathology of the altered centers:

The venous capillaries, with their supply of *motor*

and sensory terminals, are primarily depressed, the absorbents losing their power of absorption at the same time; this causes increased blood pressure and consequent escape of the vital fluid through its vessels by osmosis into the surrounding tissues, the extravasation occurring in any tissue or part of the body and remaining until the absorbents recover, after which the vessels regain their contractility, the various stages of recovery following.

The action of *Arnica Montana* resembles a bruise in all of its stages. May be independent of all other complications, with the exception where the hemorrhage is secondary through irritation of the spinal nerves to the stomach; here the primary symptoms are those of a spinal or cerebral irritant, with pain in the dorsal region of the cord, which is tender on pressure. *Secondarily*, the pain is referred to the stomach, the spinal symptoms being entirely relieved, and is of a griping, burning character, with nausea and vomiting of blood, which marks the hemorrhage, and is followed by a choleric diarrhoea.

Muscular fibre.—The irritability of the fibre is increased, causing contraction of the muscular bundles, with soreness, aching and tearing; at the same time the motor nerves are prostrated, creating a sensation of helplessness and weariness, with slight temperature rise, and rapid pulse.

Cardio-inhibitory center is stimulated, causing syncope or fainting.

Symptoms.—Sudden muscular debility, in which the knees become weak, and they are compelled to sit down; if not, they fall; the pulse is lowered to below 64, is irregular, thready and feeble; the temperature sinks to below 90°; a sensation of emptiness in the head, convulsive contraction in isolated bundles of muscles, about the jaws and temples, with paleness of the face and sunken eyes.

The serous membranes are affected secondary

to group 1, causing plastic inflammation, with effusion of coagulable lymph, without adhesions. The pain is sharp and stitching and is due to an involvement of the muscles and motors.

The action on the skin has already been defined in the various forms of action.

Mentality.—Are downcast, waspish, peevish, extremely sensitive and indifferent; dream about frightful objects, of lightning, of graves and of men being flayed; horror of instant death.

Other peculiar symptoms are: Sensation as though an insect were crawling alongside the nose, and of being encircled with a tight cord; a sense of weight across the lower part of the lumbar region, and a slight burning and scraping extending from the throat to the stomach.

Therapeutic Characteristics.

Adapted to sanguine plethoric individuals with rosy complexions, or, where they are debilitated, with soft flesh and impoverished blood.

The remedy in inflammation where the vital powers become torpid, and neurophlogosis results.

In diseases of traumatic origin, such as sprains, bruises or concussions, involving the soft tissues of the body, the muscles, cellular, or the viscera.

Acts as a prophylactic in constitutions favoring carbuncles; after parturition, where there has been an extensive laceration or prolonged labor, being careful not to either precede, follow or alternate with

Useful in over-exertion of healthy muscles, or a *China*, as they antidote each other.
normal exertion of weak muscles.

In chronic cardiac hypertrophy and rheumatism of laborers, sailors and miners.

Typhoid fever, in the nervous putridus stage; dry tongue with brown streak down the middle, putrid

odor from the mouth, much prostration, indifference, hemorrhagic spots on the body.

Vertigo, induced by falling or a blow, injuring the semi-circular canals of the ear.

Continued hoarseness, due to strained vocal cords.

For the remote effects of an injury, best results from high potencies.

Keynotes.—Violence or over-exertion, sensitiveness, torpidity, tingling and electric-like shocks, indifference, sense of being haunted and confusion.

Antidotes.—*China, quinine and plumbum.*

THE AMMONIAS

Causticum, Carbonicum, Muriaticum, Phosphoricum,
Valerianate.

Pharmacy.—*Causticum*, hydrate of ammonia, baker's salt. The \emptyset is prepared from a 10 per cent solution of ammonia, according to class V-a. Drug power 1/10.

Carbonicum is the volatile salt; the \emptyset is prepared from the pure carbonate of ammonia, according to class V-a.

Muriaticum, or the chloride.—A combination of muriatic acid and ammonia and a by-product of coal gas liquor. The \emptyset and potencies in dilution are prepared according to class V-a. Triturations as directed under class VII.

Phosphoricum.—Prepared in proportion of twenty fluid ounces of dilute phosphoric acid, saturated with ammonia to excess, by a process of evaporation and crystallization. Drug power 1/100. Prepare by trituration as directed under class VII.

Valerianate.—Prepare by saturating valerianic acid with dry ammonia gas passed through burnt lime. Prepare by trituration as directed under class VII.

The ammonias are found native in the gas of volcanoes, coal mines and mineral waters; the chloride is a normal constituent of the body, and was first discovered by the ancients in Asia Minor and Arabia,

and was named by them for the Province of Amonia, and was first used as a cure for the itch.

Toxicology.—All of the ammonia compounds introduced into the economy, including the gas, have similar action, varying only in *intensity*.

May be *distinguished* from other poisons by their alkalinity, volatility and pungent odor.

All have constriction about the throat, dyspnoea and aphonia.

Symptoms.—Acrid burning taste, on swallowing a sensation of excoriation and burn along the esophagus to stomach, which is soon followed by pain in the epigastrium, tenderness over abdomen, vomiting of mucus, blood and shreds of membrane; dyspnoea, difficult deglutition, cold and clammy skin, small feeble pulse, purging, insensibility and death.

Inhalation of the gas causes suffocation, anxiety, distention of the cerebral vessels, bloody foam from the mouth, convulsions, constriction of the throat, closure of the glottis and death.

The action is that of a corrosive alkaline irritant, causing death by destruction and shock.

Differs from the acids, in that the acids have characteristic stain, shriveled and corroded tissues, and are conscious to death.

Antidotal.—Never use the stomach pump. Why? Neutralize the poison with a solution of dilute acetic acid, vinegar, lemon or orange juice, wines and milk; large quantities of olive oil to convert the ammonia into soap.

Dynamic antidotes.—*Camphor, arnica, hepar sulphur.*

Pathogenetic.

The following centers are altered:

1.—*Mucous membranes.* General, gastro-intestinal. Special, esophagus, larynx, bronchi and glottis.

- 2.—Respiratory center and tracts.
- 3.—Motor and sensory centers in cord.
- 4.—Cerebral cardio-inhibitory center.
- 5.—Spinal vaso-motor centers.
- 6.—Blood.

Pathology of the altered centers:

Mucous membranes.—Action ranges from softening to disorganization. Catarrhal inflammation. The membrane of the *esophagus*, at its junction with the stomach, may be completely dissolved, the corrosion extending through all coats, leaving an aperture in the anterior wall of the stomach. Where the destruction is not complete the membrane becomes thickened and contracted, the stricture being so great as to close the lumen of the canal, or to render it so small as to forbid the entering of food, thus causing death by starvation. The symptoms vary according to the degree of inflammation or corrosion present and the preparation taken; have nausea to insensibility or vomiting until exhausted. Pain ranges from extreme tenderness to excruciating pain, purging is late, and ends in hemorrhage.

The penetration of the gas to the *bronchi* causes the membrane to become swollen, with consequent closure of the lumen of the tubes, death occurring in from four minutes to so many hours. The same condition obtains in the *glottis*, sudden death occurring when all other conditions seem better.

Where the *mucous glands* are *primarily stimulated*, without an involvement of the other structures of the membrane, we have a catarrhal inflammation of the various tracts, the discharge ranging from a profuse watery to a tough, glaring mucus.

Respiratory center and tracts are primarily depressed, with a short pause in the breathing; soon recovers itself, the depression being lost in the stimulation which now asserts itself, the respirations being

increased in frequency until the center and tracts are exhausted, with aphonia to death.

Motor and sensory centers.—Is a specific irritant to these centers, causing over-stimulation, the effect ranging from tremor to tetanoid convulsions; *secondarily*, they cause paralysis, by the exhaustion of the centers in consequence of their over-stimulation. *Differs from strychnia*, in that after the first convulsion there is not a return upon every new irritation of the sensory. *From veratrum viride*, in that the paralysis of the reflex motors precedes the spasm, the ammonia stimulation being immediate.

The cardiac inhibitory center.—By stimulating this center the movements of the heart are gradually lessened; at the same time the *spinal vaso-motors* are stimulated, narrowing the caliber of the peripheral arteries, increasing the blood pressure (which would otherwise be lowered from the inhibition), thereby forcing the heart to death in diastole. *Secondarily*, the peripheral capillaries are stimulated; this, together with the blood change, causes ecchymotic spots on the skin and viscera.

Blood.—Exists normally in the form of a chloride, and is the element which preserves its fluidity; *when in excess* it digests the red corpuscle and the fibrin, causing scorbutic states, hemorrhages and marasmus.

When there is a loss it results in the formation of calcareous incrustations and deposits in the tissues.

Continued small dosage causes the muscles to become soft and flabby, teeth fall out, paroxysms of hectic fever, an eruption of pustules, high-colored, turbid and foetid urine, all ending in marasmus and disorganization of the spleen, kidneys, lungs and stomach.

Therapeutic Characteristics.

Adapted to sub-acute and chronic diseases, in

lymphatic people with lax fibre, without energy and without resistance.

The indications for the different preparations will vary according to their combination, the Phosphorus, Calcium, Muriatic acid and Valerian all having their own specific effects, yet withal a general range of ammonia which cannot be mistaken.

Indicated in eruptive diseases, marked by blue color, burning, smarting and itching; in addition, the carbonate has a tendency to putrescence and gangrene.

In the convalescent stage of typhoid fever, where the patient does not gain strength, has persistent hemorrhages from the orifices, progressive wasting of the muscles, hurried, feeble pulse, hot, dry skin, and decomposition of the urine.

APIS MELLIFICA

Poison of the Honey Bee.

Family.—Apidae.

Habitat.—Europe and America.

Pharmacy.—To prepare the \emptyset , place live bees in a bottle, irritate them by shaking or striking the bottle, and pour over them five times their weight of alcohol; the whole to remain intact for eight days, shaking twice a day, after which strain, decant and filter. Drug power of the \emptyset 1/10. Dilutions must be prepared according to class IV.

To prepare *Apium Virus*.—Draw out the sting and poison sac from a freshly killed bee; insert the sting into a small bottle, and squeeze the poison into it; or, hold the live bee with a pair of pincers and allow it to sting into a lump of milk sugar.

Prepare by trituration according to class VII.

Toxicology.—*The circumstances controlling the toxic effects* of the bee are similar to the ophidians, being influenced by the time of the year, mood of the bee and the mode of introduction into the body, whether by sting, inhalation or taken in the form of diluted virus or dried bee sacs.

Symptoms of the sting.—Rapid swelling, redness, burning, itching, a sensation like that of electric shock through the body, out to the fingers and toes, staggering, bewilderment, confusion, prostration, dyspnoea, anxiety, suffocation and death. May prove fatal in from ten to fifteen minutes, or be delayed several hours.

Inhalation of the poison causes an itching sensation in the ears, mouth and root of the tongue, which creeps to the bronchi and bronchioles, ending in asthma and aphonia, with bloated cyanotic face; may have convulsions with a dread of water which had been demanded.

When introduced into the stomach, the taste is like that of almonds, astringent and irritating, with heaviness and confusion.

The \emptyset and dilutions cause drowsiness, weakness, numbness of the finger tips, tiresome prostration, loss of motor power, throbbing, burning sensation in the temples, nausea, vomiting and diarrhoea; may end in an eruption of smooth red spots or large white wheals, which become pink on being rubbed, resembling ant bites.

Mentality.—Complains of being plagued with flying machines; becomes angry, contrary and quarrelsome, have a dread of death, as though they would not breathe again, or may have a general quiet confusion.

Antidotes.—Expressed juice of plantain leaves or its infusion, lettuce leaves, buttermilk, *merc. sol.*, 6x *lachesis*, *cantharis*, *urtica urens*.

Pathogenetic.

The following centers are altered:

- 1.—Cellular tissue.
- 2.—Serous and mucous membranes.
- 3.—Glandular structures.
- 4.—Kidneys.
- 5.—Skin.
- 6.—Centers of co-ordination.

Pathology of the altered centers:

Information concerning the tissues acted upon by the bee poison is exceedingly meager, and not at all satisfactory to the writer.

Cellular tissue.—Effect is dropsical infiltration

and consequent oedema of any part of the body; the cause of the dropsy may be the result of depressed vitality and sluggish circulation, but is not definitely known.

Serous membranes.—Causes a sub-acute inflammation, which is neither plastic nor adhesive, the secretion being more of a benign, aqueous formation.

Mucous membranes.—The membrane appears swollen and depressed in spots; the inflammation is catarrhal in variety, and resembles the pituitotic form.

Glandular structures.—Affects the lymphatics, tonsils, genitalia and mammary, causing congestion, with burning, stinging and weight, ending in benign cysts, hypertrophy and induration.

Kidneys.—Pituitotic inflammation of the canaliculi, ureters and bladder, causing dark, scant urine, or entire suppression, and may or may not contain albumen. The effects depend on the amount of swelling of the mucous membrane, and may cause cellular swellings in the eyelids, extremities or vital organs.

The *confusion* is caused by a loss of equilibrium between the *centers of co-ordination*.

The *suffocation* seems to be caused by the swelling of the mucous membrane of the glottis and trachea. Other symptoms are dyspnoea, hoarse rattling and short, suppressed cough. No record of action on the nervous centers and nerves.

Therapeutic Characteristics.

Useful in *the eruptive diseases*, where they run an irregular course, exhibit scant eruption, dark in color, high temperature and pulse, scant or suppression of urine, and an apathetic mentality.

Effusions into the viscera, especially the ovaries, scrotum and the various serous tissues; in the joints where the synovial sacs are affected.

Useful in asthma as a sequella from suppression of the hives. In diseases of the throat, where the

membrane is tough, gray and appears as if varnished, with much oedema.

Characteristics.—Selects the left side of the body; mentally are apathetic or quarrelsome, irritable and confused; are worse after midnight and from motion; dream of flying vehicles in the air.

BELLADONNA ATROPIA

Deadly Nightshade. Common Dwale.

Nat. Ord.—Solanacea.

Habitat.—Native of Europe, growing east to the Caucasus Mountains in shady places; the variety on the mountains is said to be the best.

History.—Was known to the Greeks as early as the 16th century, who named it atropia because of its never-changing qualities.

The word belladonna means beautiful lady, and was so named by the Venetians, who were wont to use the distilled extract of its leaves to beautify their complexion and to dilate the pupils for brilliant effect.

A perennial *plant*, producing thick, smooth *stems*, four to five feet high, at first three-forked, afterwards two-forked, its upper third bearing *bright green leaves*, which are broadly ovate and entire, occurring in unequal pairs, and covered with a slight down.

Flowers in July, is an imperfect, solitary, pendulous, bell-shaped blossom, dark full purple in the border, paler towards the center; yields large, shining, purple berries.

Root of plant several years old, is fleshy, creeps one foot or more and is from one-half to one inch in diameter, and when dried wrinkles longitudinally and breaks with a woody fracture.

Alkaloids.—*Atropinum, asparagine.*

Toxicology.—Is a neurotic deliriant.

Symptoms.—Dryness of the mouth and throat,

with constriction, nausea and vomiting, dilated pupils, double and indistinct vision; rapid, thready and intermittent pulse, giddiness, delirium, convulsions, stupor and death.

Lethal dose.—One-half dram of the \emptyset , one dram of the extract and one grain of *atropia*.

Effects commence in from one-half to two and one-half hours after taking; death occurs in from one-half to two hours after.

Antidotes.—*Zinc sulphate* in an emetic dose, twenty to thirty grains in water, stomach pump, lemonade, black coffee, *nux. vom.*, *opium*, *strychnia*.

Lethal doses of atropine cause depressed functions, affecting the motor before the sensory nerves, and the intellectual and moral faculties last. The paralysis always begins in the iris, passing to the muscles which control deglutition, vocalization, pronunciation and movements of the eye.

Pathogenetic.

The following centers are altered:

- 1.—Respiratory center.
- 2.—Functional center of the pneumogastrics.
- 3.—Spinal centers.
- 4.—Accelerators and inhibitors of the heart.
- 5.—Motor nerves of non-striated muscle.
- 6.—Vaso-motors, both general and malphigian.
- 7.—Perspiratory centers, peripheral glands.
- 8.—Peripheral nerve fibres of the sympathetic, trigeminal and motor oculi, to the iris.
- 9.—Inferior hypogastric, third and fourth sacral.
- 10.—Nerve control of the glands (mucous).
- 11.—Glandular system.

Pathology of the altered centers:

Respiratory center and pneumogastric.—Moderate doses act as a direct stimulant to the centers controlling the function of respiration; in doses approach-

ing the toxic, or toxic, they are paralyzed, death resulting from loss of functional power.

The spinal centers are primarily paralyzed; recovering their irritability, they are not able to generate impulses normally, but in a series of shocks, resembling a tetanic spasm.

Nerve centers of the heart.—The accelerators are stimulated, and the inhibitors paralyzed; result, a rapid pulse.

Motor nerves of non-striated muscle.—Selects the hollow viscera; the arteries, intestinal tract, bladder, heart, uterus and sphincters.

The *primary* effect is paralysis.

Secondarily, the motors recover in irregular bundles, causing a violent, spasmodic contraction, which ceases suddenly, returning gradually, with vomiting, retching, cold extremities and delirium, if the intestinal tract be the point of attack.

If the uterus, either have spasmodic colic, with clutching, and all symptoms of acute congestion, or a paralysis of the walls, precipitating a hemorrhage of bright arterial, steaming hot blood. The action on the uterine motors is preceded by a loss of tone to the third and fourth sacral nerves and the inferior hypogastric.

Vaso-motor nerves—general, are stimulated to exhaustion; at the same time the muscular coat of the vessels lose their irritability; this causes the capillaries to dilate, congestion resulting; the pulse ranges from full, rapid and bounding to rapid, thready and intermittent, the change corresponding to the stimulation and exhaustion, and the location of the stasis.

Malpighian circulation of the kidneys is stimulated to such a degree that entire suppression of its function, with a notable increase of the sulphates and phosphates, may result; *secondarily*, it is paralyzed. This, together with the exhausted motors of

the walls of the bladder and the sphincters, causes enuresis.

Iris.—Dilates the pupil by paralyzing the peripheral fibres of the motor oculi, and by stimulating those of the sympathetic and the trigeminus; while *atropia* affects the nervous supply, *belladonna* is a tissue irritant to all of the tunics of the eye, lachrymal sacs and canals, causing hyperæmic congestion, with redness, smarting and lachrymation.

Perspiratory centers in medulla, lumbar and dorsal region of the cord.—The *primary* effect is that of stimulation of the nervous control of the glands and centers, causing profuse perspiration; *secondarily*, they are paralyzed, with corresponding arrest of secretion, with a hot, dry, smooth, red skin.

Nervous supply to the mucous glands is *primarily* depressed, causing suppression of their function; giving rise to dryness of the mucous membranes, which continues from acute congestion to the first stage of inflammation; as the nervous control regains its activity, the glands are stimulated to action, the secretion being scanty and streaked with blood.

Glandular system.—Selects the tonsils, submaxillary and salivary glands, depressing their nervous control; causing acute congestion. Acts in conjunction with the peripherals to the mucous glands; the mouth and throat are red, dry and hot.

General action on the entire brain is that of over-excitation, or active engorgement; with bloated, red face, swollen jugulars, throbbing carotids, injected and staring eyes, dilated or contracted pupils, and deep, stertorous breathing. Causes an opposite condition, which corresponds to the depression of the vasomotors, the entire mass softening and dotted with hemorrhagic points and capillary effusions; associated with pale face, drawn and haggard expression, rapid, weak or intermittent pulse.

Causes delirium of three kinds: Rage, wild, exalted.

Rage.—Tear their clothes, bite and strike, attempt to run away, cannot bear to be contradicted, howl and shriek if denied.

Wild.—Imagine that wild beasts, dogs, cats, bats and ghouls are pursuing them, and that the sheets are covered with cucumbers. Both conditions are caused by the pressure of the engorged vessels on the cerebral centers.

Exalted.—Here they find everything young and beautiful, count imaginative large sums of money, have spectral illusions of flashes of light, bits of brilliant plumage, insects with jeweled wings, heaps of diamonds, silver clouds, and stars on the ceiling. Mentality here is indicative of the *secondary* action of the drug.

Deductions.

Functional center of the respiration is *primarily* stimulated and *secondarily* paralyzed.

The power of the spinal centers to generate impulses is at first lost; as the organism reacts, it is restored in successive shocks.

Causes rapid heart rate by stimulating the accelerators and paralyzing the inhibitors.

The vaso-motor system is affected from center out to the periphery, the irritability of the muscular coat of the vessels being lost at the same time.

Causes irregular spasmodic contraction of the motor nerves of non-striated muscle, inducing both spasm and exhaustion.

Induces perspiration by stimulating the entire perspiratory system, beginning in the centers; the exhaustion is *secondary*, with dry, hot skin.

Causes acute congestion of the mucous membranes by paralyzing the nervous control of the mucous glands.

Lessens intra-ocular pressure, and paralyzes accommodation, by paralyzing the nerve endings of the motor oculi, and stimulating those of the sympathetic and fifth nerve to the iris.

The *suppression of the function of the kidneys* is due to the stimulation of the malpighian circulation; the secretion of urine rises and falls with the arterial pressure.

The inflammations are deep seated and dangerous; the antagonism is between the brain and the capillaries, or out to the ganglionic system.

Atropine.—As a result of physiological administration, in doses from 1/30th to 1/130th of a grain, have dilation and immobility of the pupils of the eye; objects appear as if enveloped in a fog; as the blindness creeps on they have hallucinations of sight, gigantic forms of pleasing and terrifying appearance; somnolence and confusion of ideas, anaesthesia, diminished sensibility, dryness of the mouth and fauces, loss of appetite, delirium if the dose be large, otherwise stupor. Embarrassed utterance from paralysis of the tongue, words are articulated slowly, with marked halt.

Therapeutic Characteristics.

Adapted to sthenic, hyperæmic congestions, following the *exhaustion* of the central nervous system, the reflex power of the spinal cord, and the origin of the vaso-motors.

Indicated in all inflammations, which can be directly traced to the brain, in the first stage and before effusion.

Fever characteristics.—As to condition of the brain, whether dizzy, stupid, or in delirium.

The appearance of the face—bloated or flushed, glistening or staring eyes.

Condition of the tongue and mouth—whether

dry or sticky; tongue either dry, red, angry or sodden.

The urine red or deep yellow, either suppression or involuntary. Characteristic delirium as developed in the provings. Full bounding pulse if a sthenic fever, weak, feeble pulse, and pale, shrunken face, in typhoid; and then only as an intercurrent.

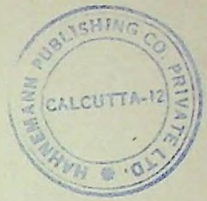
Useful in headaches, due to exposure to sun rays or stove heat. In vertigo and delirium tremens, where the mania is of animals and they are threatened with convulsions.

Aversion to the following foods: Coffee, beer, acids, and meat, with an inability to swallow liquids.

Pains gradually increase, suddenly decline and appear elsewhere, are tearing, pinching, throbbing, and aching; painful spots are tender on gentle pressure, yet firm pressure is tolerated. Patient is aggravated from noise, stooping, jarring the bed, from heat, light, walking, taking liquids, and moving the eyes.

Atropine is useful in the perspiration of phthisis or other exhausting diseases; all potencies, beginning with the 30x and 1/240th of a grain hypodermically.

In asthma where the dyspnoea comes in paroxysms, of pure nervous type, and there are no discharges.



BRYONIA ALBA

Wild Hops. White Bryonia.

Nat. Ord., Cucurbitaceae.

Native of Germany and France; growing in hedges and along fences.

The plant is a perennial climber, rising to the height of many feet, and armed with spiral creepers.

Its leaves are angular in shape, five-lobed, tuberculous on both sides, rough to the touch, and occur alternately on the stem.

Flowers.—Axillary, in monoecious bunches, yielding black berries.

The root has many branches, lies transversely, is five to ten inches in diameter, yellowish white in color, has circular wrinkles, bitter acrid taste, and a nauseating odor which disappears on section.

Contains an alkaloid called *bryone*, and a form of starch called *amylum*.

Pharmacy.—Prepared from the fresh root, according to class 1, with this exception, that it be set aside two weeks to deposit the contained starch. Drug power of the \emptyset $\frac{1}{2}$.

Toxicology.—Is a vegetable irritant.

Given in doses from three to four grains, three ounces of the infusion, half to one dram of the \emptyset , it causes severe pain in the abdomen, vomiting, tenesmus, purging, cold sweats, convulsions, collapse and death.

Injected into the pleural sac, it causes pleurisy, serous effusion, hepatization of lungs and death.

Antidotes.—Promote vomiting with emetic of

mustard. Camphor, coffee, rhus tox., nux vom., castor oil, flaxseed enema; apply hot fomentations to the abdomen.

Pathogenetic.

The following centers are altered:

1. Blood.
2. Serous membranes.
3. Muscular fibre.
4. Mucous membranes.
5. Peripheral nerve endings.
6. Skin.
7. Brain.

Pathology of the altered centers:

Blood.—Change in the vital fluid resembles the infiltration of typhoid, the initial fermentive explosion of the cryptogamia, and the toxins of the eruptive diseases.

Serous membranes.—Selects the pleura, peritoneum, arachnoid, and the synovial sacs of the small joints. Causes inflammation of these membranes, of a torpid, rheumatic character, followed by serous effusion, scant, and inclined to adhere.

Symptoms vary according to location.

Pleura.—Sharp stitching pains, aggravated on movement, short, quick, oppressive breathing, slight temperature rise, and acrid sweats.

Arachnoid.—Frontal headache, sensation of fullness and weight in the cranium, vertigo, confusion, epistaxis, and hot, red face.

Peritoneum.—Of the liver more often than the kidneys.

Symptoms.—Tenderness of the hepatic region to touch, and on deep inspiration; pain may be referred to the diaphragm, is shooting and burning in character.

Synovial sacs.—Causes tenderness, swelling, and pain on movement.

Muscular fibre.—Action is that of a specific irri-

tant. The fibres are intensely red, congested, and spasmodically irritated and contracted; the motors retaining and increasing their irritability; the combined action causing soreness and pain on the slightest movement.

Mucous membranes.—*Primary*: It arrests the secretion of the mucous glands, causing dry atonic surfaces; *secondary*: the glands are irregularly depressed and stimulated; as the stimulation goes on, profuse muco-bloody discharges are established, with sloughing of the membrane.

Symptoms vary according to the membrane affected.

Gastro-intestinal.—*Primary*: It selects the large intestine; *secondary*: it invades the small intestine, attacking peyers patches, causing them to ulcerate; the stools range from a sero-mucus to shreds of membrane and blood. The infiltration of the patches is secondary to the blood.

Stomach.—Causes a contractive pain at the lower point of the oesophagus, bitter risings to the throat, nausea and vomiting, and pressure in the stomach like that of a stone.

Respiratory tract.—Either causes a pure bronchitis, which does not extend beyond the first division of the bronchi, or penetrates to the lower lobe of the right lung, causing pneumonia.

Symptoms.—A continuous, violent, irritating cough, scant expectoration of muco-bloody sputum, dyspnoea, pain if pleura be involved.

Causes rise of temperature by accelerating or stimulating the peripheral nerve endings to the capillary vessels, causing an inflammation characterized by engorgement and nervous irritation.

Secondary to the blood, it causes a rash resembling measles, erysipelas of the joints, and of the lying-in chamber.

Brain.—Action on the brain as a whole is purely

functional; does not change the nerve centers or nerves, but places the centers at a *variance with each other*.

Symptoms of this action are confusion, irritability of temper, hurried speech, delirious talk, in which they fancy they are away from home and among strangers, and want to go home; dreams about the affairs of the day.

Therapeutic Characteristics.

The *Bryonia* patient is the nervous, thin, dry, bilious individual of irritable and choleric temperament, with little or no energy.

Useful in inflammations that have advanced to the second stage with effusion of serum and lymph into cavities or organs, and where absorption is necessary.

Diseases of a catarrhal and rheumatic nature.

When synochal congestions pass from the acute stage to the nervous.

Characteristic pains are stitching, tearing, worse at night and from motion.

Mentality.—Ill humor, easily angered, confused, distracted, drowsiness, yawning, and the delirium of the pathogenesis.

Fever characteristics.—Chewing motion of the mouth, dry, yellowish coating on the tongue, epistaxis 3 a. m. in any stage of typhoid before ulceration.

Useful in the rash of the newborn and lying-in patient.

Headache.—Brain seems to turn in a circle, sensation as though the forehead would fall out, on stooping dizziness, steady pain in the forehead, with a feeling of intoxication.

In most cases the surface of the body is yellow, and is due to an inactive liver.

Lumbago.—Of the muscles of the lumbar region, the muscular fibre is in a state of inflammatory irri-

tation, is made worse on motion, the pain is excruciating, and relieved by warmth.

Strength.—A matter of general depression, a weakness of the lower limbs, obliging the patient to sit down; are faint, lazy, and have recurrent cold sweats.

Stomach.—Flat, sweet taste, bitter risings to the throat, nausea, desire for coffee; vomiting in the morning and at midnight; sensation of stone in the stomach.

Concordants.—*Alumina, belladonna, mercurious, phosphorus.*

Inimical.—*Rhus tox., apis mell.*

AGARICUS MUSCARIUS

Toadstool, Mushroom, Bug and Fly Agaric.

Nat. Ord., Fungi.

Native of Asia, Kamschatka and America; growing in dry pine and birch forests, from August to October.

Its *stem* is from four to six inches high, surmounted by a membranous ring and cap.

The *cap* is at first vaulted, later becomes flat, spreading out like an umbrella; its *color* scarlet-red, with a border of either white or brownish yellow stripes, covered with yellowish white scales.

Its *pulp* is fleshy, ranges in color from white to yellow and red; the entire pulp arranged in lamellae, which radiate from center to margin. Has an offensive smell, and burning acrid taste.

Contains an acrid volatile active principle called muscaria.

Pharmacy.—Select the youngest growth, with convex cap and solid stem, peel, bruise and weigh; add two parts by weight of alcohol, set away eight days, decant, strain and filter. Drug power 1/6. Prepare potencies according to class III.

Toxicology.—Its action is that of a *neurotic intoxicant*, and a *specific irritant*; either form may occur alone, or follow each other.

The effects resulting from eating the fungi, either cooked by mistake for the *champignon*, or the dried product of the surface.

By administering from 20 to 400 drops of the first three potencies, and from $1/3$ to $1/130$ of a grain of muscarinum.

Historical.—The influence of the agaricus upon the brain is that of an intoxicant like alcohol, opium and haschisch; and was so used by the Kamchatkans. The intoxication differing from alcohol in that it was *more vertiginous* at the outset, while the delirium was *more active* in the end. They preferred the dried product before gathering, as it contained more narcotic properties than when fresh; rolling it in a bolus, and swallowing it whole.

The symptoms begin with the hour, or may be delayed to two, after taking the fungi, two small ones being sufficient to cause an intoxication lasting the day or night. Is a state of cheerfulness, with flushed face, followed by gay delirium, loquacity, singing, the telling of secrets, and the illusions of distance, in which they attempt to step short distances, but take a stride sufficient to clear several feet. At other times they become unconscious, or may have increased strength so that they are able to perform seemingly impossible feats, ending in convulsions.

May now sink into a deep sleep, if the end be favorable, and awaken with no recollection of the preceding hours; if not favorable, have cold sweats, small, frequent pulse, altered features, cyanosis of the nose and lips, stupor and death.

The irritant form is that of gastro-enteritis, with nausea, vomiting, purging, pain, gaseous distention and anxiety; action may end at this point; if not, then all symptoms of narcosis appear with death.

Antidotal.—*Emergency:* Expel the poison from the stomach and intestines with large doses of castor oil, give an emetic of mustard and water to promote

vomit, if they are not vomiting. *Belladonna, atropine, camphor, tartar emetic, ether.*

Vegetable acids and salt increase its action.

Pathogenetic.

The following centers are altered:

- 1.—Spinal nerves, motor and sensory.
- 2.—Ganglionic cells and fibrils of the brain.
- 3.—Vaso-motors.
- 4.—Optic and ophthalmic branch of the fifth nerve or trigeminous.
- 5.—Vascular plexuses, arterioles and capillaries.
- 6.—Inhibitors of the heart.
- 7.—Internal rectus muscle of the eye.
- 8.—Spinal cord in general.
- 9.—Digestive tract.
- 10.—Dyscrasia.

Pathology of the altered centers:

Spinal.—Affects the origin, and all of the branches of the spinal, motor and sensory nerves, causing over-stimulation to exhaustion.

Motor symptoms are irregular and hurried movements, trembling, staggering gait, increased strength and endurance, convulsions.

Sensory symptoms.—A state of hyperesthesia, with pain, tenderness and tension in spots, attended with burning and stinging.

The cord in general has hyperesthetic spots its entire length, constituting spinal irritation.

The *harmony of nervous equilibrium* between the cord, motors and sensory is disturbed, if not entirely destroyed at times; and accounts for the various abnormal sensations, fancies, and rhythmical movements.

Brain.—Selects the ganglionic cells and fibrils, in the regions of the vascular plexuses, at the junction of the capillary nets and arterioles; does not

alter the structure, but interferes with its functional power, even to paralysis.

Primarily the ganglions are stimulated, the amount of stimulation depending on the region affected and the individual; and may be studied in the following forms:

The *primary* illusions and sensations are usually pleasant; they believe they see a beautiful and brilliant sunset, or that they have returned from a pleasant journey, speak with volubility and animation to those who are not present. Imagine mice are crawling over them. Sing and lament alternately.

The delirium is gay and loquacious; imagines they are an officer commanding at drill; rolls imaginary objects in hands to make them round. Develop mania in which they are extremely noisy; cry and break the furniture to pieces.

The *primary* excitation is usually followed by the *secondary*, in which the functional power or energy of the ganglions is *depressed*, the intellectual faculties fail to respond, apathy, fainting and coma resulting; of which, if they recover, they have no recollection of what has happened.

Vaso-motors are *primarily* stimulated, with a *secondary* dilatation of the larger vessels and fine capillary nets, while the arterioles retain their *primary* contraction; this forces the blood to accumulate in the larger vessels, lowering blood pressure to almost one-third of the total amount. The skin assuming a pale cyanotic appearance.

The inhibitors are stimulated to paralysis, with slow, almost absent, pulse. *Secondary* to the inhibitors the cardiac muscle is paralyzed, the heart dying in diastole.

Acting on the *optic nerve*, it stimulates both ganglia and tract, causing indistinct vision, diplopia, and myosis of a high degree.

Digestive tract.—Action is usually delayed, and is *secondary* to the circulatory changes, the mucous membranes degenerating as the venous stasis asserts itself.

The symptoms vary according to the degree of degeneration present, range from nausea and vomiting, foul smell, burning, thirst, to distention of the abdomen, colic and purging.

The *dyscrasia* of agaricus may be summed as
An aberration of the nervous system.

A deterioration of the fluids of the body, and

A disturbance of the secretory functions of the body.

Therapeutic Characteristics.

Adapted to diseases having their *origin* in the *nervous system*; no matter what the pathological disturbance may be, it will not yield unless the general dyscrasia of the nervous structures be traced.

In *headaches and hemicrania*, due to the effects of alcohol, or violent nervous excitement; with chorea-like twitchings, tremor, and the mania of mice.

The remedy in *spinal irritation*, where there are tender, burning spots along the length of the cord; or tension-like pains in all the nerve trunks and branches supplying the neck, shoulder and arms down to the fingers, and along the back lumbar and sacral region to the feet. The pain may be so great as to cause convulsive motions of the limbs.

Lassitude, due to nervous causes.

Characteristic Symptoms.

Sensation of an ice wave radiating from the spine over the body, or ascending from the knee to point of hip over the glutei muscles.

Neuralgic pains followed by a *cold current* along the tract. Paroxysms of creeping, crawling sensation under the skin.

Mentality.—One of cheerfulness, ecstatic, lose their personality in one that is of higher rank. The indifference usually follows, with weak memory and aversion to labor.

Vertigo.—Due to the loss or disturbance of the functional power of the cerebral ganglions, caused by exposure to sun rays or alcohol.

Over-sensitiveness of any part of the body.
Chillblains.

All conditions may terminate in exaggerated movements, and display of strength.

Degeneration of the digestive tract, with foul odor from the mouth, white tongue, may or may not have vomiting or purging. Sleepiness during the daytime.

ANTIMONIUM TARTARICUM

Tartar Emetic.

Pharmacy.—Pure tartar emetic is prepared by boiling for one hour in a glass vessel, two ounces of oxide of antimony, two and a half ounces of acid potassium tartrate and eighteen ounces of water. Filter while hot; after the filtrate has crystallized, re-dissolve in water, and precipitate in fine minute crystals with alcohol.

Prepare the \emptyset by dissolving one part by weight of the pure tartar emetic in ninety-nine parts of distilled water. Drug power 1/100.

Prepare dilutions as directed under class V-b. Triturations as directed under class VII.

Toxicology.—Toxic action is of two kinds: That of an irritant and as a narcotic.

The *symptoms of its irritant action* are nausea, vomiting, difficult swallowing, bilious and bloody dysentery.

The *narcosis* may follow the irritant action, or may occur independently.

Symptoms.—Slow pulse and respiration, repeated fainting, or convulsions, prostration, coldness and blueness of the body, cyanosis and death.

The ointment applied to the epigastric region causes praecordial anguish and syncope.

All narcotic symptoms are relieved by the appearance of pustules on the skin.

The toxic dose is not definite, may range from one-half to fifteen grains.

May have toxic symptoms following the use of low potencies in susceptible individuals.

Antidotal.—*Ipec.*, *cocc.*, *puls.*, *tannin* in any form, combines with the poison forming an insoluble tannate.

Pathogenetic.

The following centers are altered:

- 1.—Terminals of the pneumogastric to the lungs and stomach.
- 2.—Motor and sensory nerves.
- 3.—Cerebral vomit center.
- 4.—Cœliac plexus.
- 5.—Ganglionic system.
- 6.—Venous circulation and blood.
- 7.—Cartilage.
- 8.—Skin.

Pathology of the altered centers:

The terminals of the pneumogastric are *primarily* stimulated with a corresponding stimulation of the mucous glands, and their secretion; this is soon followed by the *secondary* effect, which ranges from depression to paralysis, forbidding the expulsion of the accumulated mucus; at the same time the vomit center is *primarily* stimulated and *secondarily* depressed, either action causing intense nausea and vomiting; and the coeliac plexus is irregularly stimulated and depressed, thereby contributing to the effect of the vagus terminals and the vomit center. *The combined action* causing, in addition to the catarrhal effect, a pustular eruption on the mucous membranes resembling that of smallpox.

Symptoms vary according to the membrane affected.

If stomach: There is a sensation of hunger, nausea, vomiting, severe pain, due to stimulation, and closure of the esophagus, dysenteric stools of

mucous bile and blood, with soreness, exhaustion and prostration.

If respiratory: The morbid condition may include the entire system, the posterior nares, the bronchi and lungs; here the membrane is loaded with mucus, extending into the finer air cells of the lungs, where with the accumulated carbonic acid gas of the retarded circulation it causes symptoms of atelectasis and pulmonary œdema.

The respiration is irregular and varied in rhythm, with much rattling and difficult expectoration; extreme prostration, cyanosis and coma.

The *cough* is short, weak, hoarse, suppressed and suffocating.

The sensory nerves are depressed from the *primary* stage going on to paralysis, with complete anesthesia toward thermic and chemical irritants.

The motors are affected *secondary* to the sensory, and as with them, are depressed to paralysis, prostrating the muscles, with a loss of reflex irritability and motive power.

The vaso-motors of the venous circulatory system lose their contractility, retarding the circulation until the arterial system fails to receive oxygen; the blood becomes dark, power to clot is destroyed, as non-æration becomes apparent.

The contractions of the *heart muscle* are lessened in frequency and force, the arteries pulsating more frequently than the ventricles, with arrest of the heart in diastole.

As a result, the *pulse* is rapid, small, thready and irregular; lessening to death, with cyanosis.

Temperature.—Nauseating doses reduce one to three degrees, lethal doses five degrees, and small doses do not affect at all.

Skin.—When given internally or applied locally, there appears in from one to three days a diffuse redness, followed by an eruption of pustules, one-

eighth to an inch and a half in diameter, surrounded by a red base, painful and filled with pus resembling the mature pustules of smallpox. They appear first on the extremities, gradually spreading over the body, in isolated groups, which finally become confluent, with temperature rise and an indolent bronchitis.

Cartilage.—Selects the costal; does not alter the original, but reproduces; beginning at the endings, it causes a growth resembling a spread hand, one to two lines in thickness, with irregular margins and shining surface, somewhat resembling a cicatrix.

Mentality.—That of asthenia; characterized by apathy, stupor, weariness, drowsiness, or a praecordial anguish and restlessness.

Deductions.—On entering the stomach it is referred through the mucous surface to the coeliac plexus, from whence impression is sent to the vomit center, vagus, and ganglionic system, with final involvement of the periphery.

Therapeutic Characteristics.

Adapted to torpid, hydrogenoid and lymphatic constitutions.

In diseases that are characterized by asthenia, anguish and exhaustion.

Becomes the remedy in the stage of resolution of the exudations of trachial, bronchial and pulmonary inflammation; where the mucus is profuse, the expulsive power is feeble, with rattling and increasing dyspnoea; lividity about the mouth, and cyanosia.

May have a short, croupy cough, or may have stopped entirely, if an impending paralysis of the pneumogastriacs be present.

In children, when badly choked and cyanosed, with small, feeble, rapid pulse, and stoppage of the cough, give oft-repeated doses until they vomit pro-

fusely the accumulated phlegm both from stomach and bronchi; does this by irritating the vomit center and the peripheral endings of the pneumogastric; and must vomit until the face is red and the breathing easier, as the children are not able to take care of the product in any other way.

Is not the remedy in phthisis, either intestinal or pulmonary, as it hastens the dissolution of the tubercle, thereby precipitating the end.

Useful in cartilaginous degeneration of the chest, occurring as complications in diseases of the skin and amputations. In headaches following indigestible foods and worms.

The tartar emetic patient is always worse in the evening, in damp, cold weather, on getting warm, and from lying crooked in bed.

Universal characteristics.—Cyanosis, coldness, depression.

BAPTISIA TINCTORIA

Wild Indigo.

Nat. Ord., Leguminosæ.

Native of America and Canada; growing in woods and on hills in dry, poor soil.

Plant is a perennial shrub, growing a stem from two to three feet high, smooth, slender, glaucous and branchy.

Leaves are bluish green, small, three foliate and nearly sessile.

Flowers.—July to September. Canary yellow, in short, loose, few-flowered racemes, terminal branches.

Pharmacy.—Prepare the \emptyset from the fresh root, according to class III. Drug power 1/6.

Toxicology.—Lethel doses cause prostration, numbness, dyspnoca, delirium, stupidity and death.

Pathogenetic.

The following centers are altered:

- 1.—Blood.
- 2.—Motor and sensory nerves.
- 3.—Mucous membranes.
- 4.—Lymphatics.

Pathology of the altered centers:

Blood.—Destroys the fibrin factors and the red corpuscles, causing sepsis and degeneration of all of the fluids of the body.

The motor and sensory nerves are affected sec-

ondary to the blood, the action ranging from depression to paralysis, without *primary* stimulation.

Symptoms.—Numbness, malaise and prostration; as the vaso-motors of the cerebral circulation become exhausted, the vessels engorge, with a sensation of fullness as though the head would burst; the peripheral vessels are soon involved, a red, swollen besotted face results, with delirium.

Lymphatics are affected *secondary* to the blood; in their effort to take care of the putrid secretions, absorption is not only delayed, but lost, causing a degeneration of the entire system, as well as the vegetative functions.

Mucous membranes.—*Secondary* to the blood and lymphatics, the membrane degenerates in spots of apthous formation, blue in color, and of a dry parched consistency.

Symptoms will vary according to the membrane affected.

Gastro-intestinal.—The tongue ranges from a yellow to a brownish cast; bluish and partly decayed gums, sordes on the teeth and lips, entire mouth dry and parched. The stomach is irritable, with griping pain, and as peyers patches ulcerate and degenerate, have diarrhœic stools of dark mucus and blood, with violent tenesmus before and after stool. The absorption from the degenerated patches causes a continuous fever, with depression of the vitality, rapid, thready pulse, and stupidity.

Throat.—Is not swollen, although a sensation of fullness in the mucous tissues prevails; ulcerated patches are bluish, superficial, and emit a putrid odor. May have salivation as a complication.

Mentality.—Confusion, goes to sleep answering questions, sleep is disturbed by frightful dreams, listlessness, anxious, yet certain of death; have a peculiar delirium, in which they believe that the body is scattered about, and devote the time to gather the

pieces together; or that the limbs belong to someone else, and are on a hunt for the owner.

Therapeutic Characteristics.

Is a **toxaemic remedy**; and indicated in diseases characterized by loss of absorption, a tendency to softening and breaking down of tissue, and depression of the nervous system.

In all fevers having a typhoid tendency, with dark red, besotted expression, stupor and delirium.

In any disease where the discharges are offensive and putrid.

Characteristics.—Delirium of sepsis, either stupor or listlessness, confusion, besottedness, wandering.

Decomposition of the fluids of the body.

Putridity, adynamia, weak and trembling, can swallow nothing but liquids.

Complains of soreness and bruised sensation.

Low form of temperature and pulse.

CACTUS GRANDIFLORUS

Night Blooming Cereus.

Nat. Ord., Cactaceae.

Habitat.—This beautiful flowering plant is native of Mexico and the West Indies.

Stem.—Cylindrical, with three to five angles, prismatic, and branched or beset with radiating spines, which form its protection.

Flowers.—Are eight to twelve inches in diameter, white, with brown and yellow sepals; blooms at night and withers before sunrise; has odor of vanilla and benzoic acid.

Alkaloid.—*Cactina*.

Pharmacy.—Gather the fresh flower and tenderest stems; reduce to a fine pulp, and gradually mix with two parts by weight of alcohol; allow to stand in cool, dark place eight days; strain, decant and filter. Drug power of \emptyset 1/6.

Prepare dilutions as directed under class III.

Toxicology.—Lethal doses cause clonic and tonic convulsions, dyspnoea, the pulse and respiration lessening to death.

Antidotes.—*Aconite, camph., bryonia, rhus tox.*

Pathogenetic.

The following centers are altered:

- 1.—Ganglia of the heart.
- 2.—First cervical ganglion.
- 3.—Circular fibres of the heart and arteries.
- 4.—Pneumogastrics.

Pathology of the altered centers:

Ganglia of the heart.—The *primary* effect of the *cactus* and its *alkaloid* is to *increase* the action of its centers, causing irritability; the degree varying according to the amount taken.

As the action of the cardiac centers is increased, the circulation is directed to the **first cervical ganglion**, which controls the circulation of the brain, in *irregular current*, shocking the vital centers; manifested by dyspnoea, anxiety and nervous excitement.

Through the effect on both heart and brain, it causes stimulation and contraction of the **circular fibres of the heart and arteries**, with rise of arterial pressure and high pulse rate; as the *secondary* effect, that of exhaustion, becomes apparent in the heart ganglia, blood pressure falls, the pulse and respiration declining to the end. Its action on *heart, brain* and *circulation* causes irritability, hyperaesthesia, neuralgia, spasm, and palpitation.

Pneumogastrics.—Causes paresis of the branches and filaments of this nerve; producing constriction about the chest, asthma, indigestion, and acidity of gastric secretions.

Characteristic symptoms.—Sense of constriction about the chest, as of an iron band.

Sensation at heart as if a great stone lay upon it. Sensation as if heart was transfixed by a blunt instrument. Vertigo, dimness of sight, suffocative attacks.

Therapeutic Characteristics.

Indicated in diseases marked by irregularity of the heart, nervous excitement and oppression.

Is not the remedy unless you can trace the symptoms to a profound cardiac disturbance.

In palpitation of the heart day and night, with great melancholy, from indigestion.—*Burt.*

Functional disorder of the heart from mental emotion, aggravated at the menstrual period.—*Hale*.

Sense of contraction in all parts of the body. Difficulty in breathing, with great nervous excitability. Rheumatic diseases where there is more or less cardiac disturbance.—*Burt*.

Suffocative attacks, with fainting, cold sweat and loss of pulse. Acute stitches in the heart, causing outcry. Oedema of the left hand.—*Breyfogle*.

Sadness, ill humor and melancholia.

Aggravation.—From motion, evening and morning.

CHINA

THE BARK OF BARKS.

Yellow Peruvian Bark. Calisaya. Cinchona
Officinalis.

Nat. Ord., Rubiaceae.

Native of South America, in the forests of Loxa, Bolivia and Southeastern Peru, growing 5,000 to 8,000 feet above sea level. The tribe *Cinchoneae* consists of shrubs and trees, with opposite leaves, terminal panicles of flowers of agreeable odor, and either rosy, purple, or white color; trunk and limbs are covered with a fine fibrous texture bark, of a rusty orange brown color, with external stains.

Pharmacy.—The bark is stripped from the trees and carefully dried to preserve its brightness and the lichens attached to the epidermis.

Is found in commerce in flat pieces and quills.

The \emptyset is prepared from the pulverized dried bark in proportion of five times its weight of alcohol. Drug power 1/10.

Dilutions as directed under class IV.

Triturations from the powdered bark according to class VII.

Alkaloids are many; the most important one is *chininum purum*, or *pure quinine*, and is obtained by treating a cold solution of its sulphate with sodium carbonate until neutralized; washing the precipitate with cold water and drying at a temperature of 77° F. So prepared, it should be a light, snow white,

flaky powder, without odor, of alkaline reaction and bitter taste.

For Homeopathic use the pure quinine is triturated as directed under class VII.

Historical.—Derives its name from that of the Countess of Cinchon, a Peruvian countess, who discovered the bark and used it in the form of an infusion for the cure of an ague from which she had long suffered.

Called *pulvis patrum*, or powder of the *fathers*, by the Jesuits, who distributed it among the poor; it was also known as the *cardinal's powder*. The natives of Peru held the tree sacred, and under the charge of special gods, because of its poisonous qualities; they fought the Europeans when they invaded the district and began the work of stripping the bark from the trees. In 1765, Pringle discovered that an infusion of the bark had the power to prevent putrefaction, thus establishing its antiseptic qualities.

In 1790 Hahnemann began the proving of the drug, the result of which was the establishment of the law of similars.

Toxicology.—Is a neurotic inebriant.

The *primary* effect is that of a stimulant, a vascular erethism with flushed face, increase of warmth and muscular power; soon followed by the *secondary*, in which the face is pale and bloated, sunken eyes, buzzing and ringing in the ears.

Fifty-three grains causes, in addition to the symptoms already enumerated, violent agitation, furious delirium and death within a few hours.

Forty-eight grains of the powder, or one to three drams of the \emptyset , causes semi-consciousness, blindness, deafness, giddiness, all of which may be followed by vomiting, thus saving life.

Antidotes.—*Sulphur, camphor, arsenicum, ipecac, carbo-veg., bell., lachesis, pulsatilla, veratrum, emetics.*

Pathogenetic.

The following centers are altered:

- 1.—Nerves of special senses; auditory, optic, olfactory.
- 2.—Supra-orbital branch of the trigeminus or fifth nerve.
- 3.—Trunk and branches of the pneumogastric.
- 4.—The motor tract of the cord; peripherals to muscles, and the vaso-motors.
- 5.—Spleen, liver, ducts and gall bladder, kidneys.
- 6.—Blood.
- 7.—Muscular fibre.
- 8.—Entire brain.

Pathology of the altered centers:

Nerves of special senses.—Affects the center before the nerve trunk; causes depression to paralysis.

Symptoms.—*Auditory:* Ranges from buzzing, roaring, and singing in the ears to complete deafness.

Optic: Have dilated pupils with mistiness, ending in complete blindness.

Olfactory: Loss of smell.

The supra-orbital branch of the fifth nerve is stimulated to such a degree as to result in severe hyperesthesia and neuralgia.

Pneumogastric and its branches.—The *primary* effect is that of stimulation, followed by depression and paralysis.

Symptoms—*Gastro-intestinal:* *Primarily* the digestive functions are stimulated, and food is eaten with evident relish; as the *secondary* creeps on, there is bitter putrid taste, white coated tongue, bilious vomiting and diarrhoea.

Lungs.—Large doses cause tightness and op-

pression of the praecordia, dyspnoea, debility, pale, sallow face, and prostration.

Blood.—It destroys the white corpuscle, decreases the size and number of the red corpuscle, and increases the fibrin; the blood change is similar to that found in pernicious aenemia, due to hemorrhage and malarial cryptogami.

Motor tract, peripherals and vaso-motors.—Beginning in the cord, it abolishes reflex action before voluntary motion. The vasos and peripherals are stimulated to spasm *primarily*, and paralyzed as the organic reaction asserts itself, the symptoms ranging from contraction and spasm to paralysis. At the same time it acts as an irritant to **muscular fibre**, placing the fibres in a state of tonic contraction, which soon ends in exhaustion and paralysis.

The *symptoms* are those of debility, muscular prostration, and are always present *secondary* to blood change.

Spleen.—*Primarily* diminishes it in size; due to the spasm of the vaso-motors of the muscular fibres of the veins, causing rapid contraction of the vessels.

Secondary: Now have organic reaction; the spasmodic contraction of the vessels is in turn overcome by the exhaustion of the vaso-motors, the vessels dilate, causing the nervous control of the malpighian corpuscles and semi-lunar ganglia to become exhausted, thus interfering with the blood-making functions. Hypertrophy resulting.

Liver, ducts and gall bladder.—The vaso-motor control of the hepatic cells is in a state of paresis, causing congestion; at the same time the *ducts* are stimulated, forcing the bile back to the cells, from whence it is carried by way of the veins and lymphatics into the circulation, causing jaundice. Like the ducts, the *gall bladder* is in a state of continual contraction, which prevents the formation of gall stones.

Kidneys.—The vaso-motors of these organs are exhausted and paralyzed without previous stimulation, causing hemorrhage and a lowering of the percentage of phosphates and uric acid.

Deductions of its action on the brain.—Causes congestive hyperemia ending at the beginning of inflammation, and in one or all of the following conditions:

Blindness, deafness, vertigo, convulsions, slow respiration, delirium; which may be either nervous and excitable, or gay and noisy; convulsions, feeble pulse, collapse and death.

CHININUM PURUM

QUININE.

Occupies the neurotic element of the Cinchona, paralyzing the nerve centers *without previous stimulation*.

Given in *massive doses*, it causes extreme prostration, cold, moist, pale, shrunken skin, slow, feeble respiration, almost absent pulse, coma. The vasomotors are directly paralyzed, diminishing arterial pressure, arresting the heart in diastole.

Pathogenetic doses are taken up by the gastric juice, which is favorable to its absorption, causing marked debility, aenemia, chlorosis, the paroxysms of temperature rise, marking the effort of the blood-making organs to regain their functions.

Therapeutic Characteristics.

Adapted to diseases marked by anaemia, which may be due to alcohol, hemorrhage, lactation, sweats, and the malarial cryptogami.

In *masked ague*, affecting the branches of the fifth nerve in the form of attacks of neuralgia; the pain is severe and recurs same hour each day or week, as the case may be.

In *ague chill*, ranging from a shivering coldness to a congestive or syncopal chill; if syncopal, it occurs suddenly, resembles the collapse in cholera, without its discharges; the reaction usually ends in fever; if not, then unfavorable.

Is the remedy in *pernicious malarial fever*; lose

no time after the first chill in getting the patient under the influence of the remedy. Large doses of the crude drug or potencies may be necessary to control the impending paroxysm or chill, which marks the explosion of a new colony of the malaria germ. An important rule is, that *in potencies below the 3x, it should not be given* until the tongue is clean, the pulse soft and the skin moist and cool.

Following the fever, the debility is marked; nerve centers are weak, sweats profusely on the back, which stains the linen yellow.

In *deafness* caused by the debility of malaria, have a semi-paralysis of the auditory ganglia. Quinine 30x. 200x.

The *hemorrhage* is dark and clotted, and so profuse that it renders the patient almost bloodless, with gasping for breath, coldness of the body and sunken countenance.

All complaints of cinchona are periodical.

The least touch of air and draft causes suffering.

Always sweats profusely during sleep.

The mentality is one of gloom, apathy and indifference.

Trembling of the limbs.

Relieves tetanus, by abolishing the motor reflexes.

Indigestion marked by flatulence, foul, bitter taste, acid belching, thirst, longing for acids, and diarrhoea.

CARBO VEGETABLES

Vegetable Charcoal. Wood Charcoal.

Pharmacy.—Obtained by carbonizing either beech or birch wood.

To prepare for Homeopathic use: Select charcoal of medium thickness, of bright luster and fine texture. Expose to a red heat, after which cool in an earthen vessel, pulverize finely, preserve in well-stoppered bottles in a dry place.

Prepare by trituration according to class VII.

Toxicology.—Lethal doses cause praecordial anguish, suffocation, hippocratic countenance, icy coldness of the body, blueness and collapse to death.

Antidotes.—*Arsenicum, lachesis, camphor, lycopodium, phos., coffee.*

Pathogenetic.

The following centers are altered:

- 1.—Blood. Venous circulation.
- 2.—Lymphatics.
- 3.—Sensory nerves.
- 4.—Central nerve plexuses.
- 5.—Mucous membranes.

Pathology of the altered centers:

Blood.—Disorganizes the red corpuscles; causing a sepsis, like that of low grade ulcerations and inflammations.

Lymphatics.—Are inactive, causing sluggishness of the lymph stream, with final degeneration of the

glands; manifesting itself in ulcerations, gangrene, and scorbutic affections.

Glandular involvement *secondary* to blood disorganization.

Sensory nerves.—Are in a state of depression, causing general torpor, chilly creepings, with final ice chill.

The central nerve plexuses.—Are as held in a vise, the blood seems centered in the central organs, forbidding its circulation to the surface. The most prominent symptoms are cyanosis and coldness.

The entire range of action is that of toxaemia; and may be summed up as follows:

Devitalizes the purity of the blood.

Degenerates the secretions of the body.

Lowers the nervous forces, by sinking its energy.

Therapeutic Characteristics.

Adapted to cachectic, scrofulous individuals who do not react well in disease.

Is an antipsoric; used as an intercurrent, it clears up the case, assisting the seemingly indicated remedies to act.

Useful in diseases depending on the toxins; as in the putrid fevers, ulcerations and fermentation.

In typhoid fever, where the ulcerative stage is fully developed, the diarrhoeic discharges are frequent, with distension of abdomen, pinched features, and blueness of the body. Give the remedy until the skin is *red*, may require but a few doses to bring about the desired result.

Chronic diseases of the lungs and larynx, with hoarseness, greenish, bloody, purulent and offensive sputum. The amount of blood present depends on the extent of mucus degeneration, and scorbutic alteration of the venous capillaries.

Mentality.—Apathetic, anxiety, sensitiveness, insomnia.

Worse from fats, cold, in morning and in damp weather.

Indigestion marked by sour or putrid belching, and fermentation.

Universal symptoms.—Blueness, coldness and putridity.

CAULOPHYLLUM THALICTORIDES

Blue Cohosh. Pappoose Root. Squaw Root.

Nat. Ord., Berberidaceae.

Habitat.—United States, Canada to Kentucky and Carolina, growing in rich, moist woods.

Plant.—A perennial herb; with contorted, branched root, exhibiting knotty rhizomes of previous stems.

Stem.—Arises from imbricate scales, attaining a growth from one to two and a half feet high, is glaucous when young, and smooth when old.

Leaves.—Branch outward from the summit of the stem, forming a large trialecternate compound leaf. The leaflets are two to three lobed, and of obtuse, wedge shape at base.

Flowers.—From April to May, before the leaves are fully developed, the flower stalk arising from the base of the upper leaf. *Inflorescence* in loose panicle, yellowish-green or lavender in color.

Yields a two-seeded berry of mawkish taste, and without flavor.

Pharmacy.—Gather the fresh root in early season and reduce to a fine pulp; weigh; gradually mix with two parts by weight of alcohol; set away eight days in cool, dark place; decant, strain and filter. Drug power of \emptyset 1/6.

Prepare dilutions as directed under class III.

History.—Used by the aborigines and early pioneers to facilitate parturition, rheumatism and colic.

Pathogenetic.

The following centers are altered:

- 1.—Hypogastric plexus.
- 2.—Motor nerves.
- 3.—Muscular system.

Pathology of the altered centers:

Hypogastric plexus.—Through irritation of this center, the *motor nerves* of the uterus are stimulated to spasm, causing normal contractions, both in the unimpregnated and gravid uterus, of intermittent form, and hyperaesthetic in character.

Muscular system.—Selects the short muscles of the neck, back and small joints, causing drawing, cutting pains, stiffness, and pain on moving, especially affecting the *second joints* of all fingers, wrist, toes and ankles.

General symptoms.—Dull frontal headache, sensation as if the temples would crush together.

Constant inclination to swallow. Gulping up of sour, bitter fluid. Teeth sore. Colicky pain in the stomach and intestines. Panting, breathing with oppression on the chest; nervous excitement.—*From proving by Dr. Burt.*

Therapeutic Characteristics.

Curative range is not great; is adapted to persons having rheumatic and hysteric tendency.

Is of great value in the treatment of diseases peculiar to women: *Dysmenorrhoea*, with irregular, spasmodic pains; given between and during the periods.

Menorrhagia, or metorrhagia, with irregular pains in the uterus, the bowels often sympathizing.—*Burt.*

In labor, for the following conditions:

Deficient labor pains; when they do not appear with vigor and regularity; at full term, during labor when the pains disappear from exhaustion; or when

they are too severe, too painful or spasmodic.—*Hale.*

Is of value in the expulsion of retained secundines. One of the most useful remedies we have for the prevention of premature labor, abortion, and protracted lochia from atony of the uterus.—*Burt.*

Indicated in articular rheumatism of the small joints of the hands and feet, wrists and ankles; with drawing, cutting pains and stiffness.

CIMICIFUGA RACEMOSA

Black Cohosh.

Nat. Ord., Ranunculaceae.

Named squaw root and snake root for the Indians, who used it in the cure of snake bites, and to facilitate labor. Also known as *macrotys racemosa* (Rafinesque) and *actea racemosa* (Linne).

An **indigenous perennial** growing in rich open woods along the edges of fields and newly cleared hillsides of Eastern United States and Canada.

Stem.—Grows from three to eight feet high, is smooth, angular and furrowed.

Leaves.—Occur alternately on stem, tri-alternately divided, the leaflets ovate, with incised serrated edges.

Flowers.—In June and July; small creamy-white, and occur in long wand-like terminal racemes, one to three feet in length.

Fruit.—An ovid sessilated pod, containing many smoot, flat seeds.

Alkaloid.—*Macrotin.*

Pharmacy.—The \emptyset is prepared by pounding the fresh root to a fine pulp, and mixing gradually with two parts by weight of alcohol; set away eight days in a dark, cool place; decant, strain, filter. Drug power of \emptyset 1/6. Prepare dilutions as directed under class III.

Toxicology.—When administered in doses of from one to twenty-five drachms of the tincture, it causes prostration, nausea, vertigo, dilatation of the pupils, quick, small, feeble pulse, anxiety, restlessness,

uneasiness, and illusions of rats, mice and insects on the floor and ceiling.

Antidotes.—*Aconite, Bryonia, Gels., Camphor, Bell., and coffee.*

Pathogenetic.

The following summary of the proving of macrotin the alkaloid, with the 3x trituration, three to four gr. being taken three times a day, gradually increasing the quantity until 25 gr. a day were taken:

(a) *Mind.*—He is constantly troubling himself about something; fearful, thinks there is some incurable disease; feels miserable; words cannot express how badly she feels; fear of impending danger. Sits for a long time without thought, moving her hands and feet; frequent sighing. Melancholy; at times very irritable; forgetfulness, with inability to concentrate ideas, which in turn angers. Suspicious of everybody; thinks they have not told the truth in regard to themselves.

(b) *Head and face.*—Pain in occiput gradually extending to vertex and forehead, relieved for a time by pressure and sleep; followed by soreness in the eyeballs next day. Severe sharp pain over left eye, extending through head to occipital protuberance. Headache worse towards evening, during motion, and preceded by lachrymation.

(c) *Mouth and throat.*—Dry, sticky feeling in mouth. Tongue coated yellow, and feels heavy. Dryness in throat, causing frequent hacking and coughing.

(d) *Stomach and abdomen.*—Nausea and eructations in the evening. Faint feeling in epigastrium, extending over chest and head, followed by throbbing sensation over the whole body. Faintness at epigastrium on meeting anyone he knows, like that produced by sudden fright. Sharp, cutting pain in umbilical region early in the morning, relieved after

large papescent stool. Alternate constipation and diarrhoea.

(e) *Genito-urinary system*.—Frequent, variable urination. Pulsating pain in the back, relieved by pressure and appearance of menses. During menstruation bearing down pain, with sensation of tightness around hips. Menses scanty, dark and clotted. Dark circles round the eyes the week before menstruation, disappearing on appearance. Mammae sore, and extremities heavy below the flow.

(f) *Chest and back*.—Sudden sharp pains below the left nipple; darting pains in chest, both sides, with palpitation. Pain in left chest extending through to back. Pain extending from heart down left arm to fingers, with palpitation. Frequent palpitation at night in bed, or from least exertion or excitement. Sensation in neck as if muscles were too short. Pulsating pain in lumbar region, relieved by supporting back. Pain in whole back, as if all its muscles were bruised.

(g) *Extremities*.—Dull pain in right arm from elbow to shoulder. Pain in left shoulder shooting down to fingers. Weakness in both arms, and inability to move them. Heaviness of legs as if very tired. Pain in left knee, inside patella, and in right ankle. Muscles feel as if too short. Pain in muscles of thigh.

(h) *Sleep*.—Sleeplessness until 2 a. m. Disturbed sleep; dreams much of trouble and danger. When falling asleep, starts up suddenly for fear he will fall, or to avoid danger. Dreams of being on heights and in danger of falling. Wakes up at night with palpitation.

(i) *Generalities*.—Great restlessness; must move about, and mind feels easier for doing so. Desire to move constantly about, but feels so weak and tired as hardly able to get on his feet, yet after walking a while he feels better, but soon relapses into his previous feeling of weakness. Whole muscular sys-

tem seems exhausted after least exertion. The acute pains are aggravated by motion. (Trans. of Penns. State Hom. Med. Soc., 1873. Cyclopaedia of Drug Pathogenesis.)

The following centers are altered:

- 1.—Brain.
- 2.—Spinal cord.
- 3.—Motor system. Motor nerves. Muscular fibre.
- 4.—Sensory nerves.
- 5.—Circulation.
- 6.—Ovario-uterine system.

Pathology of the altered centers:

Brain.—Causes erethistic hyperaemia, *primarily* of the base, gradually extending over the entire brain; action is that of a rheumatic irritant.

Symptoms.—Severe headache, vertigo, dimness of vision, intense aching in the eyeballs; sensation of weight in the brain; delirium and illusions.

Spinal cord.—The irritation of the brain extends to the cord in general, and to its motor and sensory columns in particular, producing *primarily* spinal irritation of depressing character, with either drawing, tensive pains in the back, or dull and heavy pains, with tenderness on pressure. As the **nerves of motion** become involved, nervous tremors resembling chorea gradually appear, which are later followed by paralysis; at the same time there is a loss of tonicity in the muscular fibre, most likely due to the *atony with irritation of the motor nerve supply.*

The **sensory nerves** are unduly irritated, causing a pure neuralgia, universal in range, of the left side in particular, and of depressing, rheumatic character; the pains are aching, pressing, remitting, and are attended with restlessness and exhaustion.

Muscular fibre.—Does not act upon the tendons, or terminal attachments of muscles; but selects for its point of attack the muscular bundles, or bellies

of the larger muscles; here it causes two kinds of muscle disease:

1.—*Myalgia*, or loss of tonicity in the muscular fibre, and occurs *secondary* to motor involvement, especially affecting the muscles of the head, cervical, lumbar, and the muscles of the thighs. Causing soreness, lameness, rigidity, and aching, stitching, cramping pains.

2.—*Myositis*, or inflammation of the muscular structures, with or without the attendant myalgia; the most important symptoms are stiffness, pain, fever and exhaustion. Marked by *suddenness of onset*, the *severity of symptoms* and its *location in the bellies of the muscles*.

In *cardiac muscular involvement*, either condition may be, and usually is, present; the disorder marked by tumultuous, irregular, sudden, strange emotions of the heart, termed by the various writers as *chorea of the heart*. As the *circulation* receives the *reflex impulse of temperature rise*, and the *vaso-motors* exhaust, the pulse becomes irregular, intermittent and weak.

Stomach.—Causes nausea and vomiting through depression of the **solar plexus** and **sympathetic ganglionic system**.

All of the provings are attended by faintness, sinking, and emptiness at the epigastrium, which at times alternated with sensation of repletion; both sensations preceded the nausea and vomiting.

Ovario-uterine system.—Does not cause inflammation or *structural* changes, but depresses the nervous energy simultaneous with the atonic irritability of the muscular structure of these organs. Causing *rheumatic hyperaesthesia* of great severity, *amenorrhoea*, *dysmenorrhoea*, *retroflexion*, *uterine inertia* and *abortion*; at the same time the nervous influence may be reflexly directed to other portions of the body: as to the limb of the same side, or

extends upward from below the mammary gland to the shoulder; all of the conditions are attended by depressed states of mind, as melancholia and hysteria, headaches and sinking at the pit of the stomach. The pains are heavy, pressing-down, labor-like, with pain in the back, down the thighs and through the hips; scanty flow of coagulated blood, or profuse flow of the same character. Causes hemorrhage *secondarily* by impairing the tonicity and normal vitality of the uterus.

The **mentality** of both cimicifuga and macrotin is that of sorrowful melancholia, and is due to a *central hyperaesthesia of the general sensory nerve centers*, and a *depression of muscular action*.

Dr. E. M. Hale mentions a patient who was taking five drops of the 1x at regular intervals for the rheumatism, which developed an *illusion of a mouse running from under her chair*; this illusion disappeared upon suspending the medicine, and recurred when taking it in the same doses.

General symptoms.—Weakness and restlessness in afternoons; sensitiveness to cold air; sensation as if from severe muscular exercise, especially in small of the back. Sensation in the head as though he had been on a *spree*, and was getting over it. Perspiration, after 3 a. m., sometimes lasting all day, with weak, irregular pulse, and pain under left breast. Sleeplessness.

Therapeutic Characteristics.

Useful in nervous and muscular irritation of rheumatic, neuralgic or gouty origin.

Indicated in chorea arising from rheumatic irritation of the cord, from uterine disease, or from purely psychological causes.

Symptoms.—Abnormal movements, uncontrolled by the will, in all those parts of the body supplied by motor nerves; affecting both voluntary and invol-

untary muscles. The motions consist of twitching, jerking, twisting actions; they are sometimes attended by pains like neuralgia or rheumatism. The movements abate or are absent *during sleep*. They are aggravated by emotions; at the menstrual period; they are attended by depression of spirits, sleeplessness, and often by mental derangement.—*Hale*.

Not useful in inflammatory or synochal fevers, but where the febrile paroxysm follows reflex irritation of the sympathetic.

Is the remedy in muscular rheumatism of the belly of the muscle; attended by severe pain, sudden onset, and restlessness, especially useful in "stiff neck," lumbago, and intercostal rheumatism.

Night sweats, due to impaired supply of nervous energy to the skin, and where the nervous system has been weakened by long illness, trouble or care.—*Hale*.

Headache resulting from loss of sleep, night watching, abuse of alcoholic drinks, from mental strain and worry of mind, and from exposure of the head to draughts of cold, damp air.—*Hale*.

Hale gives the following indications for its selection:

Pain over the eyes extending along the base of the brain into the occiput.

Brain feels too large for the cranium, a pressing from within outwards, or a sense of compression of the temples.

Excruciating pain in the forehead, eyeballs, vertex, nape of neck, and occiput, with fullness and throbbing, as if the top of the head would fly off.

Dull pains in the occiput, with shooting pains down the back; the head is jerked backward.

Intense pain in the eyeballs, with black specks before the eyes; dilated pupils; double vision; congested conjunctiva, and lacrymation.

Intense throbbing pain, as if a ball were driven

from the neck to the vertex with every throb of the heart.

Nausea and vomiting attend the pain in the head.

Is the remedy in reflex headaches occurring at the climacteric and menstrual periods.

Headaches of drunkards and students.—*Burt.*

Indicated in the vomiting which precedes cerebro-spinal irritations, and that resulting from nervous headache. In the nausea and vomiting of drunkards, tea drinkers and pregnancy. The most important symptoms are sensation of faintness, sinking and emptiness.

Useful in mental diseases arising from loss of vital fluids: hemorrhage or lactation; nervous disorders of pregnancy or at the climacteric period; excessive application to business or study; sexual excesses followed by irritation of the nervous centers. The mental symptoms range from hysteria, which may terminate in acute mania, to depression ending in melancholia; sorrowful in character, the patient grieved, troubled, apprehensive and sleepless.

It may be called the pain of the soul, "the mania of sorrow."—*Dr. Talcott.*

Is an *antidote* to the *opium or morphine habit*, in which it is doubly indicated in the utter despondency which is characteristic of both the *cimicifuga* and *opium*.

Diseases of the abdominal structures in which either *cimicifuga* or *macrotin* are indicated:

1.—Rheumatism of the muscular tissues.

2.—Neuralgia occurring after miscarriage and confinement.

3.—Rheumatic neuralgia.—*Hale.*

Becomes the remedy in uterine and ovarian irritation arising from cervical congestion, innervation, abortion and flexion; accompanied by reflex conditions and symptoms.

COLCHICUM AUTUMNALE

Meadow Saffron, Autumn Crocus.

Nat. Ord., Melanthaceae.

Native of Germany, France, the Isle of Colchos and the southern part of Europe.

Is a perennial plant, growing in meadows, maturing in autumn.

The root forms a bulb or cormus, size of a small lemon, round on one side, flat on the other, having fibrous radicles at base. It is *invested* with two coats, an outer of dark brown, an inner of shining clear color.

Contains an acrid, bitter and nauseous milky fluid.

The flower stalk rises from the *secondary* bulb, which has grown the preceding year; the blossoms are long rose-colored tubes, mature and fall within a few days, and are replaced by seed capsule and leaves the following spring.

The leaves are five inches long, one inch at base, at which point the capsules are sheathed, and which contain from one to three seeds.

Pharmacy.—The \emptyset is prepared from the fresh cormus at flowering time, in proportion of equal parts by weight of alcohol and substance. Drug power $\frac{1}{2}$. Prepare potencies according to class I.

Toxicology.—The effects are those of a choleric irritant, and resemble *veratrum album*, *arsenicum*, etc.

Symptoms.—Violent pain in the abdomen, vomiting, difficult respiration, coldness, cramps in the

soles of the feet, general cyanosis and death. Or may have purgings of rice water stools, cramps of abdominal muscles and feet, shrunken features, cold, clammy perspiration, hear queer sounds, objects whirl around in a chaotic manner, cyanosis, exhaustion and death.

Toxic summary.—The *pain* is spasmodic, of gripping character, with abdominal cramps.

Vomiting occurs early and is persistent, is of mucus, bile, blood, or resembles that of coffee grounds.

The *purgings* is variable, like that of cholera, with rice water stools, which may be flocculent and involuntary.

Cramps are present in 90 per cent of all cases; affecting the heels, back of limbs and abdominal muscles, the tongue and throat in about 1 per cent.

The *surface of the body* is pale, shrunken and moist, with purplish cheeks and lips, blue and cold tongue.

Either form causes suppression of urine.

Antidotal.—Strong black coffee, vinegar, ammonia, milk, camphor aconite, bryonia, cocculus.

Lethal dose.—Ranges from one to four ounces of the infusion. Of the alkaloid one-half grain and up.

Pathogenetic.

The following centers are altered:

- 1.—Spinal motor and sensory centers.
- 2.—Ganglionic system of nerves.
- 3.—Brain as a whole.
- 4.—Fibrous and serous tissues.
- 5.—Secretory supply of the mucous membrane of the gastro-intestinal tract.
- 6.—Blood, arterial vessels and inhibitors of the heart.
- 7.—Kidneys.
- 8.—Skin.

Pathology of the altered centers:

The spinal motor centers are stimulated to exhaustion, without peripheral involvement to any great extent. The symptoms range from a tremor to convulsive attacks, attended by weakness and exhaustion, which may amount to paralysis; does not at any time cause reflex spinal convulsions.

The sensory centers are irregularly depressed and stimulated, causing either numbness or extreme sensibility.

Strychnia differs, in that at the stage of exhaustion of the spinal centers, the afferent nerves are stimulated, fixing muscular fibre in a state of tonic contraction, thus inducing reflex convulsions.

Ganglionic system of nerves.—Degenerates the ganglions of organic life, with a corresponding degeneration of the viscera supplied; selecting the mucous glands of the gastro-intestinal tract as the point of attack, it destroys their power to regulate the flow of mucus from their points; the membrane becomes swollen and injected with hemorrhagic spots, while the mucus, serum and blood pours into the stomach and intestines, *causing choleric vomiting and purging.*

As the *secondary* action creeps on, the secretion is checked; the softened and degenerated glands and membrane partially detaches itself, the discharges are scant, foul and involuntary, with distention of gas, thirst, burning, cold, blue tongue and asthenia.

Fibrous tissues.—Selects the tissues closely associated in the joints; the periosteum, synovial sacs, and the attachments of the ligaments of the flexor muscles. Causing congestion, inflammation, with urate deposit; *the symptoms* are those of synovial arthritic gout, the pain acute, gnawing, and dragging in character, ending in stiffness, which is worse on movement and from touch. Other symptoms are swelling, redness and lameness.

Kidneys.—Congests the malpighian bodies, with a final depression of its functions; the urine is either suppressed or scanty and hot, and of black color. The organic and inorganic solids of the urine are increased, the urates and urea being especially abundant; the urates are in turn retained in the blood, and deposited in the joints by osmosis, thus contributing its share to the agonies of arthritic gout.

Blood.—Degenerates the red and white corpuscles, and is the medium for the urates, which as they accumulate are deposited in the vessels of the arterial system, causing a calcareous degeneration of the vessels, forcing a paresis of the vasomotors of the great vessels with consequent *distention*; and an *emigration* through the capillary supply to the joints. As the vessels fill by reason of their non-contractility, the sounds of the heart become as one, forcing the inhibitors to death, the heart ceasing in diastole long before failure of the respiration.

When applied to the **skin**, it causes numbness, sensibility not being apparent for some time; instead of purging, may have a profuse, cold, clammy perspiration.

The **brain** as a whole is disturbed and confused as though intoxicated, with difficulty of thought, looking at objects, anxiety, and a patient peevishness.

Therapeutic Characteristics.

Useful in diseases caused by *toxins*, as typhoid, half spoiled fruits, ptomaines of fish and meat; and are marked by great exhaustion with hoarse voice, nausea, purging of rice water stools, tympanitic distention, sunken features, cold breath, tongue and surface of the body, and cramps in the muscles. Adapted to constitutions favoring the non-elimina-

tion of urea, a gouty or rheumatic diathesis, in one of two forms:

In gout of an asthenic form, with deposits.

Synovial or arthritic form, without deposits but with paralytic weakness, cold surface and vital atony.

Useful in the suppression of urine, in cases of poisonings by syncopants, where the urine is black, with deposits of brick dust sediment.

The pains in warm weather are usually felt at the surface of the body; towards evening as the air grows cooler, they seem to penetrate the deeper tissues and bones.

Peculiar symptoms.—Have appetite for many different things, but as soon as they smell them become nauseated and shudder as though something extremely bitter had been swallowed.

Peevish dissatisfaction, with vertigo.

Sensation of lameness in all of the limbs.

Tingling in parts as if frost bitten.

Twitches like electric shocks through one side of the body.

Stomach feels cold.

COLOCYNTHIS

Bitter Cucumber. *Citrullus Colocynthis*.

Nat. Ord., Cucurbitaceae.

Habitat.—Spain, Turkey, Islands of the Greek Archipelago, Nubia, Japan and Egypt, growing in warm dry regions.

Plant.—Is slender, rugged (scabrous), with white branched root, striking deep into the ground.

Stem is angular, branched, and trails the ground, resembling the common cucumber.

Its leaves are green above, white and rough below; of triangular, obtuse form, the whole plant covered with fine down.

Yields a *fruit* the size of a small orange with smooth, greenish-marbled surface, containing a white, light, spongy, porous, bitter, inodorous pulp filled with seeds.

Pharmacy.—Remove the outer yellow rind and seeds from the dried fruit; reduce to a coarse powder and weigh; cover with five times its weight of alcohol, and set away in a dark, cool place eight days; shake twice a day. Strain, decant and filter. Drug power of Ø 1/10.

Prepare dilutions as directed under class IV.

History.—Ancient usage is of marked interest; *Dioscorides* and *Galen* mention the bitterness of its fruit and its power as a purgative; *Hippocrates* introduced tampons moistened with the infusion into the os uteri to cause abortion in susceptible subjects. *Rhazes* states its use in paralysis, spasmodic diseases,

headache, gout and rheumatism. The *Arabians* used it as an ingredient in hair dye, a remedy for alopecia and scaly eruptions of the scalp, and as an antidote for scorpions' bites. *Matthiolum* attested to its power as an intestinal irritant.

First proven by Samuel Hahnemann, original record Vol. vi.

Toxicology.—In doses ranging from one to three drachms and more, it acts as a violent irritant poison. Causing incessant vomiting, tormina and purging of mucous, serous and bloody stools, abdominal pain, small, frequent pulse, peritonitis, collapse and death.

Antidotes.—*Camphor*, mucilaginous drinks, opium, milk, infusion of galls, coffee, *cham.*, *cocculus*.

Pathogenetic.

The following centers are altered:

- 1.—Coeliac plexus. Sensory portion of the spinal cord.
- 2.—Muscular fibre and glands of the intestinal canal.
- 3.—Mucous membranes.
- 4.—Serous membranes.
- 5.—Lumbar and crural nerves.
- 6.—Trigeminus.
- 7.—Pneumogastric.

Pathology of the altered centers:

The **coeliac plexus of nerves** and **sensory portion of the cord** are stimulated to such a degree that hyperaesthesia and violent neuralgia of the structures supplied results; selecting the *gastro-intestinal* canal for its point of attack. The symptoms range from a severe pain to an excruciating colic in the region of the umbilicus, twisting and burning in character; at the same time the **muscular fibres and intestinal glands** are stimulated, adding violent tormina and purging to the sufferings of the prover. The inflam-

mation extending to the *mucous membrane* with interstitial distention, the membrane traversed by erosions and bluish-red patches.

When vomiting occurs it is due to its influence upon the *gastric nerves*. Violent purgation and vomiting may be induced by rubbing the abdomen with the tincture.

As the *secondary* action asserts itself, the *peritoneum* becomes inflamed, its cavity filled with serum, and its folds adhered; the abdomen becomes tender and tumid, with intolerable heat, suppression of stool, intense thirst, dryness of the throat, collapse and death.

Lumbar and crural nerves.—Observation proves it affects the surface trunks as vigorously as the abdominal plexuses. Causing neuralgia of these nerves and their branches, the pain darting from the hip joint down the anterior crural and sciatic trunks to the foot, followed by numbness.

Where it affects the spermatic and ovarian nerves, the pain is needle-like in character, and attended with swelling and burning of the ovaries, testicles and spermatic cord.

Trigeminus.—Not only affects the trunk, but all of its branches, causing hemicrania and toothache of arthritic and rheumatic character. The pains may be defined as stitching, tearing and boring, as though the head were in a vise. Visual disturbances are not *primary*, but occur *secondary* to irritation of the ophthalmic branch of this nerve, the irritation of the eye being manifested by burning, tearing pains, sensation of hardness in the eyeball, and obscured vision.

Pneumogastric.—The sensitive filaments to the lungs, heart and stomach are *irritated secondary* to that of the abdominal plexuses by reason of their intimate connection with the sympathetic; the ex-

haustion of which is directly responsible for the collapse of its *secondary* action.

Mentality.—Disturbs the power to preserve the logical cohesion of ideas; provers fancied themselves in a strange room. The sleep is troubled, and full of fancies; where the proving affected the sexual sphere, the dreams were voluptuous in character.

Therapeutic Characteristics.

Adapted to choleric, arthritic temperaments, and where a neurosis of the abdominal plexuses is suspected.

Useful in *colic* due to cold and innervation; with agonizing pain around the navel, causing the patient to bend over double, or seek relief by pressing the abdomen against table or other hard objects. The pains are of griping, intermittent and shifting character.

In *worm-colic* corrects by regulating the coeliac plexus, which with the return to normal tissue action dislodges the intestinal entozoa.

Dysentery where the stools are slimy and bloody, with bitter taste and vomiting of mucus, bile and blood.

"*Sciatica*, where the pains are of a shooting and cutting kind, that run like lightning from the hip to the knee, or even to the heel, affecting the right side more than the left; greatly aggravated at night; in neuralgic subjects."—*R. Ludlam*.

Mentally, they are depressed, joyless, irritable and are not able to receive and regulate ideas; are easily angered, the indignation producing vomiting, colic and diarrhoea.

Rheumatism which has its origin in the nerve trunks and branches; pains are tearing, stitching and boring, are aggravated on motion, and induced by cold and damp weather.

Useful in *ovarian neuralgia* with cramp-like pain, with relief from bending double.

Aggravation.—From mental strain, anger, at night, from motion and rest.

Amelioration.—Head bent forward, bent over double; hard pressure; from coffee and smoking.

DIGITALIS PURPUREA

Purple Fox-Glove, Fairy Fingers.

Nat. Ord., Scrophularaceae.

Native of Europe, growing best on soil rich in siliceous and calcareous deposits.

The *root* is perennial, and from it arise short-winged footstalks, with their wealth of *leaves*, which are obtuse, ovate, eight inches long and three inches wide below. The above are twelve inches long, occur alternately on the stem, are sparse, and lanceolate, both the upper and lower leaves have wrinkled, velvety surfaces, of fine, deep green color, the lower paler and more downy than the upper.

The *stem* arises from the root, in the second year of its life, is single, erect, downy and leafy, from two to three feet high, terminating in clusters of *beautiful finger-shaped flowers*, purple in color, with white center and black spots.

Pharmacy.—Prepare the \emptyset from the fresh leaves of the uncultivated plant according to class I. Drug power $\frac{1}{2}$.

Alkaloids are *digitalin* and *digitoxin*. Prepare as directed under class VII. Drug power $\frac{1}{100}$.

Toxicology.—Toxic action is of two kinds—a neurotic depressant of the heart, or that of a gastrointestinal irritant.

Symptoms of neurotic action.—Slow, irregular pulse, dimness of vision, dilated pupils, prostration, convulsions, coma and death within twenty-four hours.

Symptoms of irritant action.—Vomiting, colic, purging, severe headache and exhaustion to death.

Antidotal.—If first degree, promote vomit, but avoid emetics; instead use the stomach pump. Keep patient in horizontal position and apply external heat. Tannin, sweet milk with galls camphor, nux vomica, ether, acids.

Pathogenetic.

The following centers are altered:

- 1.—The inhibitors and musculo-motor nerves of the heart.
- 2.—Vaso-motors of the arterial system.
- 3.—Pneumogastric; origin and branch of the stomach and lungs.
- 4.—Vomit center.
- 5.—Center controlling the function of colors.
- 6.—Spinal reflex functions of the motor and sensory tracts.
- 7.—Kidneys.

Pathology of the altered centers:

Heart.—Selects the ventricular portion, stimulating its motor supply irregularly, causing it to contract not as a single large muscle, but as a number of small ones irregularly arranged; giving the ventricle an uneven and rough appearance. The irregular spasm of the muscular bundles prevents the blood from filling the ventricle in perfect diastole; instead, spots indicate its presence, which is finally forced out, leaving the ventricle pale, motionless, contracted and shrunken with the auricles distended in diastole.

The **vaso-motors of the entire arterial system**, the arteries, capillaries and arterioles, are primarily stimulated spasmodically with the ventricular systole, and as with the ventricular muscle, the arterial walls become tetanized, resulting in a gradual closing of the lumen of the vessel, which resists the passage of

the vital fluid, inducing a stimulation of the *inhibitors* of the heart, the combined action causing the pulse to be slow, unequal and intermittent at the sixth, eighth or fifteenth beat; pulsations are strong, even as the inhibitors exhaust to death.

Deductions as to Its Action on the Heart.

1.—Acts directly on the muscular tissue of the heart as a tetazient, paralyzing to death.

2.—Does this by stimulating the muscular motor supply, with its contained ganglia.

3.—Stimulates the inhibitors to exhaustion.

4.—By contraction and spasm of the vaso-motors.

5.—Influence on the heart muscle is at first stage strengthened, second stage irregular, and third stage rigidity, the heart dying in ventricular systole and articular diastole.

Symptoms.—Tightness and oppression of the chest. Vertigo, black spots before the eyes, pale, bloated face, coldness and numbness of the extremities, crave fresh air, want to be fanned, pulsations may shake the chest, quiet and dyspnoea.

The vagus origin and peripherals to the stomach and vomit center are irregularly depressed and exhausted, causing nausea and vomiting in paroxysms, ceasing entirely at times only to return as violently as before. Other symptoms are languor, moist, cold, clammy extremities, confused aching and heaviness of the head, flashes of light.

The vagus peripherals to the lungs are affected *secondary* to the heart and circulation, causing passive congestion, with loose rattling cough and dyspnoea.

Nervous center controlling the function of colors is alternately stimulated and depressed, objects appearing green, yellow, red and black.

The reflex functions of the motor and sensory tracts of the spinal cord are depressed to paralysis, the sensory being lost before the motor.

The symptoms are lassitude, prostration, numbness, tremor and convulsions.

Through vaso-motor stimulation the blood pressure of the **kidneys** is increased, causing spasmodic filtration. Action is *secondary* to the heart. The urine is dark, turbid, scanty, with a small percentage of urea, chlorides and phosphates.

Therapeutic Characteristics.

Indicated in diseases where the heart is more or less involved, with irregular, intermittent pulse at the sixth, eighth or fifteenth beat, followed by anasarca.

In cardiac irritability, hypertrophy and mitral regurgitation following pneumonia; and dependent on exhausted inhibitors.

Collapse and asthenia following any great strain as from chopping wood, firing engines, parturition, etc.

Cardiac dropsy.—Here it corrects the irregular action of the heart, upon which the oedema of the limbs depends, and reabsorbs the effused serum into the relieved veins, is in turn taken up by the kidneys, filtration is stimulated, and the urine which has been dark, scanty and turbid, is now profuse, free from albumin, and of normal specific gravity.

In collapse the patient is cold, livid, bathed in cold, clammy sweat, with a fluttering in the region of the auricles.

In general appearance the face is puffed, cyanotic, patient sits up with head either thrown forward or backward on support; usually prefers the open window.

In asthma, following pulmonary engorgements, the respiration is rattling, difficult, the neck seems too short, may or may not have small hemorrhages, relieves by contracting the arterioles smoothly.

The remedy in general debility, due to atony of tissues, poverty of secretion; eruptive diseases.

Mentality.—The digitalis patient is hard to understand, they are not able to express their feelings; may be sad and despondent, cry much, alternated with peacefulness, in which they are satisfied, when they return to the former state and cry and moan until exhausted.

Antidotes tobacco, whiskey, mushrooms, aconite, and all poisons having syncopant action.

The stomach symptoms not as important as the underlying cause, may be traced to a cardiac debility. The nausea and vomiting is spasmodic, with tumultuous pulsations of the chest. Is the remedy in sea-sickness, sick headaches, and from the effects of tobacco.

GELSEMIUM SEMPER-VIRENS

Yellow Jessamine.

Nat. Ord., Loganiaceae.

Native of the Southern states, Virginia, Georgia and Alabama. Is a climbing plant, growing to great length, fifty feet or more; forming a beautiful trellis on trees and lattice work.

Its leaves are perennial, entire and lanceolate.

Flowers are cone-shaped with five-lobed border, yellow in color, of delicious odor, and occur in axillary clusters.

The root is ten to twenty inches long, and from a few lines to two inches in diameter; is covered with a bark two lines thick.

Alkaloid is *gelsemine*.

Pharmacy.—The \emptyset is prepared from pieces of the root, size of a goose-quill, according to class III. Drug power $1/6$. \emptyset should be clean, brown, odor of the enraged honey bee, of bitter taste and acid reaction.

Toxicology.—Lethal doses cause death in one of two ways: either as a neurotic syncopant or by asphyxia.

The symptoms are nausea, ineffectual attempt to vomit, dimness of vision, dilated pupils, diplopia, vertigo; slow, feeble pulse; praecordial oppression, slow and irregular respiration, loss of speech, drowsiness, staggering gait and death without loss of consciousness until late in the poisoning, and without convulsions.

Antidotes.—*Electricity, ether, capsicum, China, nux vom., coffee.*

Pathogenetic.

The following centers are altered:

- 1.—Motor and sensory centers of the spinal cord. Peripherals.
- 2.—Automatic respiratory center.
- 3.—Third and sixth cranial nerves.
- 4.—Infra-orbital nerve.
- 5.—Brain.
- 6.—Mucous membranes.
- 7.—Heart, uterus and sphincters.

Pathology of the altered centers:

Beginning in the **motor tract** of the spinal cord, it paralyzes *motility* and voluntary movements, the muscles preserving their irritability and contractility.

Secondarily, the paralyzed centers are tetanized, causing convulsions.

The sensory centers and columns are affected *secondary* to the motor, depressing and paralyzing sensibility without previous stimulation.

The most prominent symptoms of its action on the motor and sensory system are: anesthesia, muscular torpidity, and convulsions.

The automatic respiratory center is progressively palsied to death; the respiration is slow, deep, lessening to asphyxia. Does not affect the phrenic, intercostal or pneumogastric nerves.

The peripheral fibres of the third and sixth cranial nerves supplying the circular fibres of the iris, and orbital muscles, are paralyzed, causing dilated pupils, mistiness, dimness or lost vision; or a diplopia, in which objects appear above each other, disappearing in inverse order. As the motor muscles of the eye become involved, have impaired movement of the eyeball, outward and inward with oscillation. At the same time the muscular fibres of the upper lid

are paralyzed, giving rise to a loss of power to lift the lid; ptosis resulting.

Infra-orbital nerve is intensely congested and irritated, causing severe neuralgia, with shooting pains and associated with the ocular symptoms.

The action on the **brain is that of an intoxicant**, without any incoherence or mental excitement; large doses cause stupor and coma, proving its narcotic properties. Small, repeated doses cause giddiness, staggering, drowsiness, stupidity, and a sensation as though the head were going round and round.

Through innervation it causes a passive congestion of the **mucous membranes** of the respiratory and gastro-intestinal tracts, with profuse flow of mucus, and atony of the tissues.

Symptoms.—*Respiratory*: Chilliness, hoarseness, redness of the membrane, temperature rise of from 100 to 102 degrees, followed by profuse thin mucous discharges.

Gastro-intestinal: Light furred tongue, thirst, sour taste, colic and dysentery. If the motor supply of the membrane of the esophagus is unduly stimulated, have a sensation of a lump which cannot be swallowed.

Heart and circulation.—Does not influence the blood pressure, the vaso-motors and cardiac ganglia being unaffected; the heart muscle, through its motor palsy, is gradually paralyzed and arrested in systole. The pulse is full, soft and compressible, or feeble, fluttering and imperceptible, corresponding to the rise and fall of the systolic movements.

Uterus.—Here it affects both its motor and sentient control, causing either a paralysis, ending in atony and hemorrhage, or an undue stimulation, ending in spasm and cramp.

The sphincters are either paralyzed, with enuresis, or spasmodically contracted, with retention of urine.

Causes a disturbance of the *spinal sensory reflexes*, with chilliness along the back and arms, followed by a moderate rise of temperature, bloated red face and languor.

Does not cause true inflammation.—Its relation is to the spinal ganglia and not to the vaso-motor stimulation.

Therapeutic Characteristics.

Adapted to nervous, excitable and sensitive individuals, of leuco-phlegmatic temperament.

Indicated in complaints arising from a disturbance of the emotional centers, as grief, fear, and anxiety.

In fevers, where it develops under circumstances favoring a paresis of the motor nerves, governing voluntary motion; where the blood vessels are full and dilated, and lack the resistance of a fully developed sthenic inflammation, with languor, muscular weakness, a desire for absolute rest, shivering or chill, followed by moderate rise of temperature, drowsiness, and small, full, soft, compressible pulse.

Conditions found in the remittent and intermittent fevers, first week of typhoid fever, cerebro-spinal, and the eruptive. Useful in post-diphtheritic paralysis of the throat, with hoarseness and aphonia.

Face is usually bloated and red, with drooping lids and other eye symptoms.

Headaches.—Due to exposure of sun rays and shade heat; begins in the eye, is at once referred to the occiput, creeping again over to the forehead and eyes. The symptoms are those of the so-called *blind headaches*, with heaviness, vertigo, dimness of vision, malaise and staggering; pain may extend to the shoulders.

Mental.—Depression of spirits, confusion of perception, stupidity, irritable impatience, unpleasant dreams, melancholia, insomnia, due to long-continued

mental or nervous excitement. Impending convulsions in the parturent state, where there is a sensation of a wave to the throat from the stomach.

THE HALOGENS

IODIUM.

Iodium, Bromium, Chlorium, Spongia Tosta.

Iodium.—Iodine, a non-metallic element.

Exists in nature in combined state with potassium and sodium in the various mineral waters and sea water; in marine plants, the algæ, and marine animals, as the sponge, and the oyster. Is contained in cod liver oil to the amount of 3 or 4 per cent, and forms a large percentage of tobacco. The iodine of the pharmacopœia is obtained by the sublimation and crystallization of the mother liquor with manganese-dioxide and sulphuric acid.

The \emptyset is prepared by dissolving one part by weight of resublimed iodine in ninety-nine parts by weight of alcohol. Drug power 1/100.

Prepare dilution as directed under class VI-b, and triturations as directed in class VII.

Toxicology.—In doses from two to five ounces, either taken or injected: cause cold, pale, shrunken skin, præcordial anxiety, quickened respiration, pulse small and weak or thin and hard; pain and burning in the abdomen, retching and vomiting, colic, purging, restlessness, collapse, prostration and frequent syncope, death is usually sudden, without loss of consciousness.

Antidotes.—*Starch, opium or its alkaloid morphia, Phos., Ars., Bell., Merc., Hep., Sulph.*

Besides the acute form of poisoning, have a chronic form termed by various authors as *iodic saturation, iodic cachexia, or constitutional iodism;*

and for the convenience of description and study may be *divided into three degrees: slight iodism, moderate, grave.*

These effects are more frequently had from small repeated doses than from large, and from inhalation of the vapor.

Slight iodism.—The earliest symptom is a slight pallor and shrunken appearance of the face; a complaint of general weakness, and a need of restoratives, which food or cordial relieves for a time; *delay* creates epigastric pain and malaise, soon notice they are *getting thin*, although the appetite seems to remain the same. Upon the emaciation follow palpitations, prostration, insomnia and depression of spirits, all disappearing on cessation of the drug.

Moderate iodism.—Here, if the medicinal malady be not recognized, and the drug be discontinued, the symptoms increase, the appetite either fails altogether or increases to bulimia. The countenance expresses either fright, prostration or excitement. All symptoms gradually disappear under antidotal treatment and on discontinuing the drug.

Grave iodism.—This form is distinguished by the rapidity and intensity of the symptoms; tremor marks the invasion, not only objective but an internal agitation, like that which follows bad news, a regretted quarrel, or a remorse; with tears or impatience at the least contradiction. The emaciation comes on with frightful rapidity, so that in from eight to ten days to three weeks they are hardly recognizable; look as though twenty years older. Making progress until it reaches marasmus. The pulse is quick, small and irregular in volume. The skin is pale, yellow or green; expression is sad, anxious, deeply sunken eyes with dark circles, and a wandering look. The voice trembles, and are easily out of breath. Repose of mind is lost and is replaced by terror, weep-

ing and nightmare. All conditions going on, death supervenes in the midst of advanced marasmus.

If they survive antidotal treatment they retain for a long time their thinness, weakness and pallor. (Hughes' Pathogenesis, Vol. 11, pp. 694-709.)

Pathogenetic.

The following centers are altered:

1.—*Glandular system:* selecting the mesenteric chain, lacteals, thyroid, salivary, pancreas and generative organs.

2.—Blood.

3.—*Nervous system:* motor nerves, ganglions, vaso-motors of the arterial circulation, and the endings to muscles.

4.—Skin.

5.—Mucous and serous membranes.

Pathology of the altered centers:

The *primary* action on **the glandular system in general** is that of a stimulant, with increased action. This is soon followed by the *secondary*, that of depression, in which the glandular substance becomes disintegrated and atrophied, with loss of functional power.

The *mesenteric glands and lacteals* lose all power to receive an uninterrupted flow of lymph, preventing afferent and efferent flow, which prevents the *absorption of fats*; this in turn causes the *albumins to remain unassimilated* in the blood, and are deposited as tubercle in the tissues. The lymph and chyle being thus supplied to the blood in an imperfect or vitiated state, impairs the nutritive processes of the body, causing marasmus, tuberculosis, ricketts, eruptions, and chronic diarrhœas.

Thyroid gland.—The function of the gland is lost; instead of the albumins being reabsorbed by the lymphatics, they accumulate in the gland, constituting soft goitre.

The salivary glands are stimulated to salivation; the flow of saliva is profuse, of salty taste, and without foul odor.

The pancreas are *primarily* congested with stimulation of its secretion, which accumulates in the intestines, causing intestinal indigestion; *secondary*, there is loss of function with atrophy.

The generative organs of both sexes suffer atrophy with less of function, after a short *primary* stimulation.

The blood contains the unassimilated albumins, with an increase of fibrin, resulting in pernicious anæmia and marasmus.

Motor system.—*Primarily* acts as a spasmodic irritant to the arterial vaso-motors, placing them in a state of spasm; with weak rapid pulse, paleness and coldness. *Secondary*, exhaustion overtakes them, with sudden relaxation of the spasm, and a flushing of the capillaries, diffusing the skin, with rise of temperature, which soon passes, leaving the patient exhausted. If oft-repeated, the heart wears out and dies in diastole.

The motor endings to muscles.—Selects the extremities, back, hands, lips, cheeks and vocal; action is first to stimulate, ending in paralysis.

Symptoms are tremor, unsteadiness, articulation jerking, ending in debility and paralysis of the part affected.

The ganglions controlling co-ordination, sight, sleep and mentality are alternately depressed and stimulated, causing insomnia, disordered vision, inquietude and palpitation of the heart.

Action on the **skin** is *secondary* to the absorption system and the blood, causing an eruption which ranges from a mild acne nodule to a pustular and papular form of lichen, which, on scaling, leaves a brown spot. The nodule comes first as a boil, consisting of several hard nodes, which, on suppuration,

forms a deep painless ulcer, does not heal readily, and has a tendency to gangrene; at the time of its indolence the poison may be referred to the extremities, causing degeneration and gangrene of the bones, the limbs becoming cold, black, with wasting of the muscles. the bone breaking as often as new tissue forms, causing ricketts in its entirety.

Mucous membranes of the gastro-intestinal and respiratory tracts, and kidneys. Action is *secondary* to the vaso-motor involvement; the mucous glands are stimulated to hypersecretion, with colic, gaseous formation, hunger, thirst, watery and frothy stools. *Secondary*, the opposite state obtains, the relaxation of the motors is complete, atony, burning in the stomach, and loss of appetite resulting.

Respiratory tract.—Chooses the nose, larynx and bronchi, causing congestion, swelling, formation of pseudo-membranes and ulcers that bleed easily.

Symptoms are itching in the throat, hoarseness and aphonia, difficult and wheezing respiration, loose, short, barking cough; nose is swollen and painful, with loss of smell; discharge, if profuse, may be tinged with blood or shreds looking like flesh.

Through degeneration of the lymphatic supply of the *kidneys*, the mucous membrane is in turn not able to dispose of its surplus secretion, causing nephritis, with scant albuminous urine.

Serous membranes.—Its *primary* action is to cause inflammation with arrest of secretion; *secondary*, there is relaxation, with effusion of serum, and all of the conditions of plastic inflammation.

Symptoms vary according to the membrane affected; if pleura, have pain, dyspnoea and cough. If joints, have red, swollen, throbbing surface, with aching rheumatic pains.

Temperature.—Does not cause a true synochal inflammation. The rise is always due to a pathological condition, as croup, pneumonia, marasmus, pernicious

anaemia, and tuberculosis, and is caused by the unassimilated albumins in the blood.

Therapeutic Characteristics.

Adapted to scrofulous constitutions, with cachectic debility and general emaciation.

The patient is the brunette of slight build, of wiry, quick perception, easily debilitated, and always looking for something.

Useful in diseases characterized by a loss of absorption, with night sweats, slow fever, diarrhoea, dry laryngeal cough, and a desire for change.

Useful in the croup caused by long continued damp weather, where the cough is short, barking and loose. Constriction about the throat, and wheezing, hoarse respiration.

There is aggravation from warmth in general, wrapping the head, from motion, noise and wakefulness.

The iodine patient is relieved from sleep, and as a rule cannot get enough sleep.

Never inject iodine in goitre or ovarian cysts; may result in palpitation of the heart, syncope or depression.

Antidotes mercurial salivation, and is the remedy in the salivation of pregnancy.

Progressive emaciation or marasmus, with good appetite.

Characteristic symptoms are insomnia, tremor, anxiety, giddiness, malaise and restlessness.

BROMIUM.

Bromine.—A non-metallic element.

Exists in nature as a bromide, in the salt springs of Prussia, in the ash of sea-weeds, and sponges.

Is prepared from the mother-liquor of sea-water,

and saline springs, by a process of distillation and crystallization, on adding peroxide of manganese and hydrochloric acid.

To prepare the Ø dissolve one part of pure bromide in ninety-nine of distilled water; drug power 1/100.

Prepare dilutions as directed under class V-b, using distilled water for the first four dilutions.

Toxicology.—Lethal doses cause spasms of the muscles of deglutition and respiration, with dyspnoea. Soon follow intense heat in the stomach, great anxiety, restlessness, trembling of hands, rapid tense pulse, cold clammy skin, sunken eyes, breathing rattling and whistling; death by collapse or closure of the glottis.

Antidotal.—Inhalation of steam and ammonia to relax; *emetics*—starch, flour, arrow-root, the bromine combining with the amylaceous principals.

Pathogenetic.

Symptoms following the repeated administration of the 1st, 2d, 3d, 4th and 5th dilution: Cough with suffocative, oppressed respiration; with gasping for air, tears, and increased secretion of nasal mucus. A sensation as though something were in the throat, causing hawking. Exhaustion, loss of energy, vertigo and burning pains along the esophagus and stomach.

Altered centers:

Action on the various tissues is not definitely known; the reader is referred to the study of *kali bromatum* for its neurotic effects.

The only center of action as brought out in the provings is that of the *mucous membranes*, which are swollen, with stimulation of the mucous glands to excessive secretion. Selects the bronchi and larynx. Glottis.

Symptoms.—Mucous rattling, suffocative, difficult and wheezing respiration, with sensation of smoke in the throat.

Therapeutic Characteristics.

Adapted to blonde individuals, with short, thick, fat neck.

Useful in diseases of the respiratory tract, as asthma, croup, where the patient is of scrofulous diathesis.

CHLORUM.

Chlorine.—An element.

Occurs native in saline springs, in combination with magnesium, potassium and calcium.

Pharmacy.—Is prepared by decomposing a chloride with an acid. To make the \emptyset , dissolve one part by weight of the pure hydrate, containing 3% of the chlorine gas, in two parts of distilled water. Drug power 1/100.

Prepare dilutions according to class V-b.

Toxicology.—Inhalation of the gas causes during inspiration a crowing noise, choking cough and spasm of the glottis; expiration becomes impossible, asphyxia resulting.

Antidotal.—Plenty of fresh air, relax by the inhalation of ether and amyl nitrite.

Pathogenetic.

Pathogenesis is not well known, presents but one center of action: the *mucous membrane of the nose, throat and glottis*. Here it causes congestion, ulceration and formation of pseudo membranes; the ulceration is of low grade, resembling a low form of diphtheria, the patches aphthous, white, small and putrid.

The inhalation of the gas causes all the conditions of "laryngismus stridulus," affecting principally the membrane of the glottis, which is rolled or swollen in folds.

Other symptoms of either condition are: Difficult breathing, a sense of tightness in the chest, stupor and cardiac arrest.

Therapeutic Characteristics.

Range is limited; applies to low grade sub-acute inflammations of the respiratory tract, as diphtheria, croup and asthma, with more membrane and impending suffocation than any of the group.

SPONGIA TOSTA.

Sponge.—Among the lowest forms of animal organisms.

Inhabits the Mediterranean Sea near Greece and Syria, the waters surrounding the West Indian Islands, and in the Pacific Ocean. The mass grows from a broad attachment to rocks, its whole traversed by anastomosing canals, opening from without, appearing as pores. Its structure is of gelatinous or semi-cartilaginous consistency, containing lime, calcium and iodine.

Pharmacy.—Roast the sponge brown over charcoal, cover with five times its weight of alcohol, set away eight days in cool, dark place, shake twice a day, decant and filter. Drug power 1/10. Prepare dilutions as directed under class IV. Triturations according to class VII.

Toxicology.—Large doses of the crude roasted sponge cause palpitation, suffocation, gasping, sawing respiration, lividity of the lips, terror and fear of death.

Antidotes are *camphor*, *pulsatilla*, *cocc*.

Pathogenetic.

The following centers are altered:

- 1.—Mucous membranes.
- 2.—Glands.
- 3.—Heart.
- 4.—Blood.

Pathology of the altered centers:

Mucous membranes.—Selects the membrane of the larynx and trachea, causing inflammation, which ranges from the simple to the severest form of laryngitis, with arrest of secretion. The symptoms are hoarseness, aphonia, dry barking cough, the respiration sounding like a saw through a pine board.

Glands.—Causes induration of the glandular structure, ending in hypertrophy, having a special affinity for the thyroid, testes, ovaries and the surface lymph chains.

Symptoms.—Swelling, aching, stitching pains, with sensation of hardness.

Heart.—Causes fibrinous deposits on the valvular structure, with a peculiar purr or murmur, at the same time lowering the nutrition of the heart muscle. The most important symptom is suffocation, which occurs suddenly, and usually at night.

Blood.—Alters by increasing the fibrine, causing a peculiar anaemia, characterized by dyspnoea, weakness in the cardiac region and palpitation of the heart.

Therapeutic Characteristics.

Adapted to scrofulous individuals of fat habit and blonde complexion.

Rheumatic affections of the valves of the heart, inflammation of the larynx, trachea and first division of the bronchi. Swelling and induration of glands.

Mentality is cheerful, sings; fright and terror in the croup, asthma, and laryngeal phthisis.

For detailed study of symptoms study Breyfogle's Epitome.

Characteristics of the Family as a Class.

1.—All have an affinity for the mucous membranes of the larynx and bronchial tubes, causing inflammation, mucorrhoea and pseudo formations.

2.—All act on the glandular system, causing congestion, hypertrophy and abscess.

3.—All act on the blood, increasing the fibrine, causing anaemia, marasmus and tuberculosis.

IPECACUANHA

Cephaelis Emetica.

Nat. Ord.—Rubiaceae.

Habitat.—A native *shrub* growing in central South America, between 8th and 20th south latitude.

Root.—Penetrates the ground obliquely, is from three to four inches long, of the size of a small writing-quill, variously bent, contorted, simple or branched; consisting of an interior slender, light straw-colored ligneous cord, its cortical portion or bark marked with circular fissures, a line in depth, penetrating the central body; giving the appearance of a number of *rings upon a central cord.*

Stem.—Arises below the surface of the ground; is procumbent at base, smooth, ranges from one to three feet high, of light brown color below, green above, and covered with down.

Leaves.—Few in number, rarely more than five or six; are ovate, and occur opposite in deciduous stipules.

Flowers.—White; in globular head of twelve.

Fruit.—A purplish ovoid berry.

Alkaloid.—*Emetia.*

Pharmacy.—Gather the root January to March; dry; reduce to a coarse powder, and cover with five times its weight of alcohol; set away eight days in cool, dark place; shake twice a day. Decant, strain and filter. Drug power of \emptyset 1/10.

Prepare dilutions as directed under class IV.

History.—The earliest mention of *ipecacuanha*

was by *Michael Tristran*, in the *Purchas, pilgrimes*, fol. vol. IV, 1311, who named it *pigaya*. In 1649 *Piso* published an account of its curative virtues in the epidemic of dysentery of Brazil at that time. In 1672 it was imported by the physician *Legros* to France, where it came into the possession of *Helvetius*, who kept its name secret, and sold it upon the streets of Paris as a wonderful specific for dysentery, successfully treating members of the royal family. *King Louis XIV* in due time bought the secret for a thousand louis d'or. In 1686 it became generally known throughout Europe. *Pelletier* and *Cabentou* in 1820 discovered the alkaloid *emetine*. Proven by *Samuel Hahnemann*. Vol. III of original provings.

Toxicology.—Lethal doses cause shuddering, chilliness, nausea, vomiting, praecordial anguish, depression, sometimes epistaxis or bronchial hemorrhage, drowsiness and death.

Inhalation of the dust causes continued sneezing, spasmodic cough and asthmatic dyspnoea.

When *locally applied* to a denuded surface, it occasions severe pain, inflammation, and an eruption of small papules with rose margin.

Antidotes.—*Arnica*, *ars.*, *veratrum*, *cich.*, *ant. tart.*

Pathogenetic.

The following centers are altered:

- 1.—Pneumogastric.
- 2.—Incident nerves.
- 3.—Vaso-motor center.
- 4.—Lungs.
- 5.—Heart and circulation.
- 6.—Skin.
- 7.—Temperature.

Pathology of the altered centers:

Pneumogastric.—Selects the ramifications and

filiments to the *mucous membranes* of the *gastro-intestinal* and *respiratory tracts*, causing a *primary* irritation, with increased action of the mucous glands, and a *secondary* catarrhal inflammation.

Symptoms: *Gastro-intestinal tract*.—The most constant and important is *nausea*, which is always present in a greater or less degree, and is more readily excited when introduced into the stomach than when injected subcutaneously.

Vomiting may or may not follow; depends upon the size of the dose taken and the susceptibility of the individual; is soon followed by uneasiness, rumbling in the intestines, and dysenteric discharges. Other symptoms are: Disgust for food, headache, chilliness, dyspnoea and perspiration.

Respiratory tract.—In addition to the irritation of the *vagus* endings, may have involvement of the extremities of the **incident nerves**; this, together with the catarrhal inflammation of the mucous membrane, causes an accumulation of mucus in the bronchial tubes, which is difficult of expectoration, and accompanied by nausea, dyspnoea, asthma, spasmodic cough and oppression of the *praecordia*.

Sometimes the *conjunctival* and *Schneiderian* membranes are most affected, with smarting and reddened eyes, incessant sneezing, and copious discharge from the nose.

Lungs.—Pulmonary tissue becomes pale, emphysematous, in some portions collapsed and consolidated, the pulmonic lesions proving more intense as the hyperaemia of the gastro-intestinal tract is limited to its upper third or half.

Heart, circulation and Vaso-motor center.—Experiment has proven that *ipecac* and *emetine* in *lethal* doses cause death by cardiac paralysis, and *not* by arresting the respiration.

Continued *moderate dosage* causes a *primary*



stimulation of the vaso-motor centers, with resultant rise of pressure; and a *secondary loss of tone*, in which the vessels become flaccid, hemorrhage resulting.

Temperature.—That of the *surface of the body falls*, and *rises* in the intestinal tract, the intensity of the rise varying with the degree of irritation present.

Skin.—*Secondary* to the emesis, it relaxes the skin and promotes cutaneous transpiration; applied to the denuded surface, it acts as an irritant, causing inflammation and pustular eruptions.

Therapeutic Characteristics.

Commentary.—Many homeopathic writers argue that *ipecac* is *incapable* of curing dysentery and asthma in the doses demanded by the law “*similia*.” We believe with others that “*incapable*” is a *perilous word to use in pathogenesis*; experiment has proven that this agent in its *own individuality* causes these affections, thus establishing its relation to “*similia*.” Owing to the *argument, disagreement and contradictory* statements of the various authors, we are in a maze of uncertainty as to the gleanings of facts, and have deduced such information and conclusions as is possible from the information at hand.

Indicated in affections of the **respiratory and gastro-intestinal tracts**, where there is an inflammatory irritation of the mucous surfaces, resulting from a *reflex-excitability* of the incident nerves and vagi terminals.

Respiratory.—Sneezing of hay fever, the violent expulsive cough of pertussis, the spasmodic forms of croup, asthma and capillary bronchitis; most important symptoms are wheezing, constriction about the chest and throat, dyspnoea, and rattling of mucus.

The cough is of simple catarrhal origin, with neurotic base; is loose, with inclination to vomit and suffocation.

The chest seems full of phlegm, but does not yield to coughing.—*Burt.*

Haemoptysis, with rattling cough and expectoration of blood.—*Burt.*

Becomes the remedy in **gastric derangements** characterized by *constant nausea*, vomiting, with sensation of stomach hanging down loose.

In the abdomen we have flatulent colic, griping in the umbilical region with mucous diarrhoea.

The stools range from greenish mucus to blood, or look black with fermentation.

Useful in hemorrhages of the uterus, due to atony of its vessels; symptoms are a pallor of the countenance, nausea, and bearing down pains.

Headache as if the brain and skull were bruised, penetrating through all the bones of the skull down to the root of the tongue with nausea.—*Hahnemann.*

Mental.—Want of disposition to work. Ill-humor, sudden anger, apathy of mind, impatience, and fretfulness.

Fever.—Of value in intermittent fever where the gastric symptoms, with nausea and vomiting, predominate.—*Burt.*

Gastric headaches.—Commencing with nausea and vomiting worse by motion and stooping, pale face, irritability and despondency.—*Burt.*

Is an antidote to **opium poisoning**; excites vomiting through the vagi terminals; use large doses, just short of lethal. Hahnemann recommends 30, 40, 60 drops of the tincture.

KALI GROUP

Pharmacy. — **Kali causticum.** — *Potassium hydrate, caustic potash.* To prepare the \emptyset , dissolve one part by weight of the pure caustic potash in nine of distilled water. Drug power 1/10. Dilutions as directed under class V-a.

Kali bichromicum. — *Bichromate of potash.* Is a dichromate of potassium treated with an acid, either nitric or sulphuric, to crystallization. To prepare the \emptyset , dissolve one grain of the crystals in ninety-nine of distilled water. Drug power 1/100. Dilutions as directed under class V-b. Triturations as directed under class VII.

Kali carbonicum. — *The bitartrate of potash.* The pure bitartrate is water moistened, dried, baked and exposed to moist air to precipitate the earthy limes. The \emptyset is prepared from the pure carbonate according to class VII.

Kali chloricum. — *Chlorate of potash.* A combination of twenty ounces of carbonate of potassium, fifty-three ounces of slaked lime, eighty ounces of black oxide of manganese, twenty-four pints of hydrochloric acid, diluted with distilled water; prepare by process of roasting and crystallization. Prepare as directed under class VII. Dilutions, class V-b.

Kali bromatum. — *Bromide of potassium.* A combination of bromide of iron with a solution of potassium carbonate, crystallized by a process of repeated evaporation. Is neutral in reaction, and has pungent saline taste. To prepare the \emptyset , dissolve one part by weight of pure bromide of potassium in ninety-nine

of distilled water. Drug power 1/100. Prepare dilutions as directed under class VII.

Kali hydriodicum.—*Iodide of potassium.* Prepared by adding iodine to potassium hydrate until the solution is slightly tinged; on evaporation add charcoal in proportion to one-third of the hydrate, heat, evaporate, crystallize. To prepare the \emptyset , dissolve one part by weight of the pure iodide in ninety-nine parts of alcohol. Drug power 1/100. Prepare dilutions as directed under class V-b. Triturations as directed under class VII.

Kali muriaticum.—*Chloride of potassium.* Neutralize an aqueous solution of hydrochloric acid with pure liquor potassa and evaporate to crystallization. Triturate the pure chloride as directed under class VII.

Kali phosphoricum.—*Phosphate of potash.* Prepare by mixing an aqueous solution of phosphoric acid with potassium carbonate until the reaction is slightly alkaline and evaporating. Prepare as directed under class VII.

Kali permanganicum.—*Permanganate of potash.* A combination of five ounces potassium hydrate, four ounces black oxide of manganese, three and one-half ounces chlorate of potassium, dilute sulphuric acid to excess, and two and one-half pints distilled water; prepare by crystallization. To prepare the \emptyset , dissolve one part by weight of the pure permanganate in ninety-nine parts of distilled water. Drug power 1/100. Prepare dilutions as directed under class V-b as required.

KALI CAUSTICUM.

Ordinary Liquor Potassa.

Toxicology.—In the pure state it is the strongest of all known caustics, presenting the following characteristics;

1.—When brought into contact with living tissues it neutralizes the free acids.

2.—Decomposes whatever ammonia may be present, favoring the formation of gas.

3.—Combines with fibrin and albumin, forming soluble compounds.

Symptoms if taken.—An acrid urinous caustic taste, with burning sensation in the throat; nausea, alkaline bloody vomit, severe pain in the stomach, colic, delirium, convulsions, cold clammy skin and death.

If larynx is involved, have death by suffocation.

External application causes leathery black sloughs, which are not necessarily fatal, unless covering large areas.

Antidotes.—Vinegar, lemon juice, mucilaginous drinks.

Dynamic.—Coffee, *nux vomica*, *phosphoric acid* and *phosphorus* increases its action.

The toxic effects of the kali group will vary according to their chemical composition, exhibiting a combined effect of all chemicals entering their combination.

Pathogenetic.

The following centers are altered:

- 1.—Motor tract of the spinal cord.
- 2.—The medulla oblongata and its contained centers.
- 3.—Inferior recurrent branch of the pneumogastric.
- 4.—Mucous membranes.
- 5.—Kidneys, bladder, urinary solids.
- 6.—Blood.

Pathology of the altered centers:

Motor tract of the spinal cord.—*Primarily* the functional activity of the motors is irregularly stimulated, causing starting, twitching in the part af-

fected, with unsteadiness of the limbs, staggering as though intoxicated, affecting the right side, ending in chorea without vertigo. *Secondary*, the irregular stimulation is lost, paralysis resulting.

The medulla and the inferior recurrent branch of the pneumogastric are alike depressed without *primary* stimulation, thus causing a paresis of the vocal organs and an innervation of the mucous membrane of the larynx, trachea and bronchi.

Symptoms.—No power to expectorate, marked hoarseness, dry hoarse cough, burning and roughness in the throat, with loss of voice. There is an absence of *true inflammation*, all conditions being due to innervation and depression of the respiratory centers and nerves.

Mucous membranes.—The change in the membrane centers in the nerve control, which is depressed, finally losing its identity, causing degeneration of the rectum, in the form of painful varices, fistula and hemorrhoidal tumors.

Symptoms.—Bitter, greasy, foul taste, an aversion to sweets of which they were fond, a sensation of lime being burnt in the stomach, pain in the abdomen, tympanitic distention and obstinate constipation.

Kidneys, bladder and urinary solids.—The *primary* action is on the urinary solids, increasing the urea, lithates and lithic acid, the deposits abundant with red stain. Through exhaustion of the motors the bladder loses its ability to control evacuation, enuresis resulting. Other symptoms are debility, tremor and weakness.

Characteristics.—Anxious, solicitous, apprehensive mood; despondent, dissatisfied; a tendency to be easily vexed; loss of memory, with vertigo. Does not at any time cause a true inflammation of any of the structures of the body; that is, they do not present the characteristic redness, swelling and heat of sthenic inflammatory invasion.

Universal symptoms.—Paralytic tendencies and hoarseness.

Therapeutic Characteristics.

Adapted to scrofulous, weak constitutions and organisms debilitated in consequence of innervation of the motor tract, as result of grief, exposure, strain or suppression of an eruption.

In the aphonia and hoarseness of singers and lecturers. Dry, hoarse coughs, worse at night, with tickling in the throat; may or may not be accompanied by involuntary emissions of urine. Enuresis in the aged and children, due to paralysis of the sphincter vesicæ.

In functional diseases of the generative system, occurring *secondary* to epilepsy.

KALI BICHROMICUM.

Bichromate of Potash.

Toxicology.—Toxic action is two-fold; begins as an organic irritant and ends as a neurotic.

Symptoms.—Metallic taste, vomiting, diarrhoea, dilated pupils, slow stertorous respiration, unconsciousness, muscular cramps, prostration, collapse and death.

Fatal dose.—Three drachms to one ounce.

Fatal period.—Forty minutes to sixteen days.

Antidotal.—Neutralize with chalk, *magnesia* or *sodium bicarbonate*; wash out the stomach with diluted milk or albuminous substances. It is said that brown sugar dissolved in water at temperature of 102 degrees reduces the chromic acid to the oxide of chrome. Chemical antidotes are of little value unless administered within a few minutes after the poison has been taken.

Dynamic antidotes.—*Lachesis, arsenicum, pulsatilla.*

Pathogenetic.

Provings were made from the trituration containing one grain of the salt to 100 of sugar of milk, the first and second dilutions, and by inhalation of the vapor and dust of chrome ore.

The following centers are altered:

- 1.—Nasal cartilage and septum.
- 2.—Mucous membranes.
- 3.—Fibrous tissues.
- 4.—Cardiac inhibitory center.
- 5.—Cerebral vaso-motor center.
- 6.—Supra-orbital branch of the fifth.
- 7.—Cervical and dorsal.

Pathology of the altered centers:

Nasal cartilage and septum.—Presents on either surface a vivid redness and vascular injection, with numerous erosions, covered with minute gray points, which ulcerate and contain brownish gray bloody serum; as the erosion enlarges it gradually destroys the septum, to the articulation with the vomer, and the perpendicular plate of the ethmoid, while the antero-inferior portion remains intact and prevents the nose from falling in.

Symptoms.—That of rhino-necrosis: Sneezing, headache, swelling of the nose, with sharp needle pains; discharge is at first a clear mucus, later epistaxis and thick grayish or black plugs, or membranous shreds; the voice has a nasal sound, and the nose an odor of old cheese. After perforation of the septum, the membrane becomes dry, with loss of sensibility. The perforation of the septum is as characteristic of the chrome as is the necrosis of the maxillary bones under administration of phosphorus.

Mucous membranes.—Selects the regions supplied by columnar epithelium; the nose, throat, gastro-

intestinal and respiratory tract. Action ranges from congestion to inflammation, ulceration, gangrene in patches and formation of pseudo-membranes with fibrino-purulent exudations. The inflammation is characterized by a tendency to degeneration, with increased action of the mucous glands, the secretion becoming tough, ropy and muco-purulent.

Throat.—Here the inflammation is phlegmonous in character, the pseudo-membrane of firm texture, dark red, extending into the nares and larynx; resembles diphtheria, membranous croup and tonsillitis.

Causes a chronic form of sore throat, in which the tonsils and fauces are covered with a pultaceous, ash-colored membrane; the surrounding tissues are brown, livid and tumified, the tongue dry, clean and red, with sensation of a hair on the posterior tongue and velum. Other symptoms are violent thirst, difficult deglutition, stinging pains, and as the absorbent system becomes involved, have anaemia, emaciation and exhaustion.

Stomach.—Affects the greater curvature. The emetic action depends on the amount of peripheral irritation of the afferent nerves of the stomach, ranging from a slight nausea, pyrosis and bitter taste to severe vomiting, with sensation of heat, intense thirst and rigors which mark the invasion of the ulcer. The morbid state from the *duodenum to the rectum* is that of enteritis, ranging in all degrees from slight to violent, with tenderness of the abdomen and incessant bloody stools to exhaustion.

Less intense effects.—Cause colic, flatulence, and constipation.

Respiratory tract.—Affects the larynx, trachea and bronchi, causing inflammation and formation of pseudo-membranes, with secretion of tough viscid mucus.

Symptoms.—Marked hoarseness, short, dry cough,

dyspnoea with whistling metallic sound, or a humid asthma, restless, hot and sleepless, with muscular soreness. The sputum is scant, gray, black or yellowish, which can only be drawn out in long strings.

Vaso-motor center is *primarily* stimulated, followed by depression; this causes the vessels to dilate to their full capacity as the center loses its power to regulate the flow, and is one of the causes of the inflammation.

The spinal cardio-inhibitor is irregularly stimulated and depressed, causing irregular weak pulse and exhaustion.

The supra-orbital branch of the fifth, the cervical and dorsal spinal and sciatic are stimulated to such a degree that intercurrent neuralgias in the parts supplied by these nerves is a common and frequent occurrence.

Fibrous tissues.—Selects the tendinous expansions, muscle sheaths and periosteum of small joints, causing sub-acute inflammation with gouty deposit.

Symptoms.—Pain ranges from a heavy numbness to a bruised, stretched, tearing sensation; is more neuralgic than inflammatory, is shifting and relieved by motion.

Kidneys.—Causes a degeneration, first of the tubules, which are softened, hemorrhagic and undistinguishable from other portions of the gland, with final involvement of all of its structures; the morbid state may be defined as a parenchymatous, desquamative nephritis, with scanty albuminous urine, containing epithelium casts; where the kidney has failed to secrete, the bladder contains pus, and the vesical mucous membrane ecchymotic spots.

The liver is affected in the same way as the kidneys; its structure degenerated, friable, with loss of function, action going on to hypertrophy and multiple abscess. The symptoms depend on the amount of degeneration present; rigor, temperature rise, all de-

degrees of debility and emaciation, clay-colored stools, without jaundice.

Characteristics of the chrome ulcer.—Appears with sharp, piercing pain, spot red and swollen, with a central eschar which spreads in depth, instead of circumference, penetrating to the bone; fully formed, there appears at the bottom and middle a reddish, fleshy body, soft, spongy, isolated and attached to its inferior surface by a narrow fibrous band, discharging from its fistulous openings a sero-fibrous purulent fluid. The ulcer cicatrizes from periphery to center, with central depression and brown stain.

The action of the chrome on the **blood** is not definitely known; although causing a cachexia similar to that of syphilis, mesenteric degeneration, multiple abscess, rheumatism, the skin lesions resemble measles, lupus, moist eczema, and are *secondary* to constitutional involvement.

Therapeutic Characteristics.

Adapted to individuals of light complexion, inclined to be fleshy and of leucophlegmatic habit.

To scrofulous constitutions favoring chronic catarrhal complaints, as diseases of the bones and cartilages of the nose, chronic sore throat and affections of the navicular ligament.

Secondary syphilitic affections, as ulcers, mucous tubercles, condylomata, chancre and rheumatism, and where the disease is modified by scrofula.

Diphtheria of plegmonous form, upon the free respiratory and uterine surfaces.

Atonic dyspepsias of beer drinkers, with loss of appetite, uneasiness and weight in the stomach, a dislike and inability to digest meat.

In all conditions have debility, weariness and depression.

KALI BROMATUM.

Bromide of Potassium.

Is the neurotic of the kali group.

Toxicology.—Its action is that of a nervo-muscular poison, and affects the organism in one of two ways:

Acute.—Lethal doses cause extreme pallor, dilated pupils, mental confusion, slow pulse, a progressive sense of coldness, difficult swallowing, dyspnoea, sometimes delirium, death.

Chronic.—Termed *bromism*; administered daily in quantities gradually increased from thirty to ninety grains, it causes a peculiar odor of bromine upon the breath, headache, with appearance of intoxication, impaired sight and hearing; the appetite is gradually lost, and an acne eruption appears on the skin, and which later assumes a bronzed aspect. As the drug gains ground, have tremor, tottering gait, emaciation, a general cachectic state with yellow complexion, hollow eyes, a strange fixed look, melancholic hallucinations, or a lethargic condition of mind, complete loss of memory, dullness of apprehension, all ending in the various forms of dementia.

Antidotal.—Vegetable acids, as dilute vinegar, lemon juice, limes; demulcients, *camphor*, *nux vomica*, *strychnia*, *hepar sulph.*

Pathogenetic.

The following centers are altered:

- 1.—Vaso-motor nerves.
- 2.—Arterioles, temperature center.
- 3.—Motor and sensory peripherals.
- 4.—Centers of co-ordination.
- 5.—Receptive centers of cord.
- 6.—Muscles.
- 7.—Mucous membranes.
- 8.—Skin.

Pathology of the altered centers:

Vaso-motors, artericles, muscular fibre and temperature.—*Primarily* it causes spasm of the arterioles, which gradually spreads to the arteries and capillaries, the contraction being so great as to close the lumen of the vessels; this is soon followed by the *secondary* effect, in which the motors and muscular fibres become exhausted from the undue contraction, relaxing the vessels, dilation resulting, the heart dying in diastole with momentary fibrillary contraction after arrest. The lowering of the *temperature* is directly due to the spasm of the circulation in the medulla.

Symptoms of disturbed circulation.—Pallor, dilated pupils, coldness, confusion and drowsiness; the anaemia is directly due to the shrinkage of the brain, occurring as the result of lessened circulation in the skull.

Motor and sensory peripheral nerves, receptive and co-ordinate centers, muscles.—Action on these centers is *secondary* to the relaxation of the vessels; beginning in the spinal receptive centers, the reflex excitability is lowered, causing the motor and sensory peripherals to become progressively paralyzed, affecting the sensory before the motor. When injected into healthy muscle, anesthesia and paralysis of motion marks the point of attack, and the anaemia the loss of co-ordination.

Symptoms.—Tottering, uncertain gait, universal trembling, ending in heaviness and general paralysis; the cutaneous anesthesia is always present, the prover submitting to burning, pinching, etc., without moving.

Mucous membranes.—Selects the velum palati, uvula and pharynx, destroying sensibility to tactile impressions, and is so complete as to allow these parts to be examined or irritated without causing nausea or involuntary movements of deglutition. Large doses sometimes cause slight diarrhoea, but without changes in the membrane.

Skin.—The chronic effects center in the skin, and marks the relief of the nervous system and circulation; the eruption appears in the form of an acne, in size from a millet seed to a small pea, on the face, shoulders and scalp, with occasional patches on the body; maturing, they leave a brown stain.

On the **sexual system** it causes a condition of antiphrudisia and relaxation of the genitals.

Elimination.—The peculiar fœtid odor of the breath is caused by the decomposition of the bromine in the system, and its elimination through the mucous membranes of the fauces and bronchi. The product is also found in the urine and perspiration.

Therapeutic Characteristics.

Adapted to *functional diseases of the nervous system of reflex origin*, as epilepsy, due to ovarian tumor and fibroids of the uterus, puerperal convulsions and chorea during the pregnant state, not at the time of labor nor after.

Infantile convulsions, due to dentition, cholera infantum, scarletina and whooping cough.

Nervous erethism, as a consequence of suspension of liquor in whisky toppers, or ungratified sexual desires.

Insomnia, caused by the cares and anxieties of business or the death of a relative; with flushed face, throbbing carotids, sensation of fullness in the cranium, and relief from motion. Relieves by diminishing the amount of circulation in the brain. Epilepsy, due to organic lesions of the brain and circulation. Cures the epilepsy, but does not suspend the growth of the neoplasm; arresting the spasm by suspending the reflex excitability of the cord.

Mentality.—Loss of memory, amnesic aphasia, caused by anaemia of the frontal lobe of the brain, melancholia, despondent, depression, illusions of drowning; the delirium is active, erotic and ferocious.

The melancholic form of *insanity*, attended with obstinate wakefulness.

Eruptions, due to innervation; clears the skin by correcting the nervous lesions.

Diseases of the throat, characterized by anesthesia.

Is an antidote to strychnia poisoning; repeat until you have complete relaxation of the nervous centers.

KALI CHLORICUM.

Chlorate of Potassium.

Toxicology.—Has a two-fold action, that of corrosive irritant and hæmatic degenerant.

Acute.—A lethal dose, one-half ounce or over, causes severe vomiting and purging, dyspnoea, cyanosis, profound cardiac depression, death in from four to thirty-four hours.

Sub-acute.—Administered in twelve-grain doses or over at regular intervals; in addition to the vomiting and purging, have headache, anorexia, pain in the hepatic and lumbar region, numbness of the limbs, rapid emaciation, cyanosis, suppression of the urine, uraemic convulsions, dyspnoea, coma, death in from three to seven days.

Toxic characteristics. — Prostration, dyspnoea, cyanosis.

Antidotal.—The ordinary antidotes for the caustic alkalies, brandy, *digitalis*, *belladonna* and *strophanthus*.

Pathogenetic.

The following centers are altered:

- 1.—Blood.
- 2.—Mucous membranes.
- 3.—Motor ganglia of the heart.
- 4.—Salivary glands.

Pathology of the altered centers:

Blood. — The haemoglobin is converted into methaemoglobin and haematin, the oxidation product of the former, and is the result of its oxidizing effect on the red corpuscles. Is chocolate in color, and does not alter on exposure to air; if the proportion of salt be above normal it assumes a syrupy or gelatinous consistence, the red corpuscles arranging themselves in glutinous masses, accumulating in the renal cortex, the spleen, the osseous marrow and the liver.

Symptoms.—Accompanying this change are cyanosis, prostration and dyspnoea; the urine is reddish brown, contains albumen and urea, is scant, and may be entirely suppressed for days before death.

Mucous membranes.—Are *primarily* swollen and ecymosed in spots, with formation of gray pseudo-membranes and ulceration. *Secondary*, the membrane becomes disorganized, as though it had been macerated in a strong alkaline solution, causing it to hang in shreds and patches.

Symptoms.—Vary according to the location; if gastro-intestinal, have cramps, vomiting of greenish black matter, purging, which rapidly goes on to the choleric form, with its cold collapse and cyanosis. As the blood becomes involved, the membrane of the mouth is red and studded with small gray-based ulcers, or is covered with a superficial stomatitis, ranging all the way from a simple to gangrenous form.

In the throat the pseudo-membranes predominate, extending into the bronchi; the membrane has a tanned appearance, with pale face and marked anaemia.

The **motor ganglia of the heart** are progressively paralyzed, the symptoms of cardiac depression beginning early, going on unabated to the end.

The **salivary glands** are swollen, tender and stimulated to ptyalism.

Indicated in the asthenic forms of disease, whether they arise from an original depravation of the blood, or, *secondarily*, from the absorption of the products of decomposition of the tissues.

In diphtheria, where the deposit covers the velum, tonsils and fauces, has a marked tendency to gangrene and disorganization, with much swelling of the sub-maxillary glands.

In membranous croup, the membrane extends into the larynx and bronchi, and where tracheotomy seems the last resort; here, by virtue of its power to soften and absorb the membrane, it will cure when all else fails.

Useful in disease of the placenta, causing habitual miscarriage; effects a cure by oxygenation of the blood.

In the choleric form of gastro-intestinal diseases the stools are offensive, profuse and may contain membrane.

Symptoms.—Exhaustion, chilliness, restlessness, lethargy, quiet dreams of death, prophesies the events of the day; the color of the skin is not good, ranges from waxy paleness to cyanosis, showing the need of oxygen.

KALI HYDRIODICUM.

Iodide of Potassium.

Toxicology.—The toxic action varies according to the dose and the structures affected; like arsenicum and mercury, its toxic and pathogenetic effects must be studied together. A large dose of the crude drug, ten grains and over, causes congestion of the head, vertigo, constriction and dryness of the mouth and throat, anxiety, oppression of the chest, trembling of the limbs and staggering as though intoxicated. One to thirty grains causes nausea, sinking at the pit of

the stomach, loss of appetite, watery diarrhoea, colicky pains, frequent pulse, salivation, exhaustion and scrofulous ulcerations.

Antidotes.—Emetics, vegetable acids, demulcents, astringents, washes for the pyalism, *hepar sulph.* for dynamic effects.

Pathogenetic.

The following centers are altered:

- 1.—Lymphatics.
- 2.—Blood.
- 3.—Glands.
- 4.—Mucous membranes.
- 5.—Periosteum.
- 6.—Skin.

Pathology of the altered centers:

Blood and skin.—Dose to cause change, two and one-half to twenty grains of the pure iodide, and from one to twenty grains of the first three potencies.

The *primary* action on the blood is to increase its fibrin, and is due to the iodine contained in its preparation. As the vital fluid becomes charged, the clot elements increase to such an extent that coagulation in the vessels may result, and be so great as to cause death, unless the *secondary* action, or that of the potassium, asserts itself and digests the fibrin. The blood now becomes fluid, dark colored and loses its power of coagulation, resulting fatal unless the scorbitis of the system manifests itself in eruptions and lymphatic involvement.

Symptoms of iodism.—*Primary:* Swollen, congested face, puffed red eyelids, livid lips and tongue, and suffocative respiration; as the *secondary* stage creeps on the breathing becomes easier, nausea and vomiting, sore throat, and at the end of twenty-four hours there appears an eruption ranging from a simple erythema to a pustular acne, which may be indurated, hemorrhagic or contain bloody serum. The

eruption usually reaches its height in from two to three days, and lasts at most two to three weeks. The eruptions may be divisible into six forms:

- 1.—Erythematous.
- 2.—Urticaria.
- 3.—Nodula-pustular.
- 4.—Eczematous.
- 5.—Hemorrhagic or petechial.
- 6.—Purpura.

The *erythematous*, or blush, appears on the fore-arms and face; is a diffused redness in circumscribed spots, and either disappears in a few hours or passes into the *urticaria* form, in which the general redness isolates itself in groups of intense red wheals, slightly elevated and surrounded by an areola, which is lost on pressure.

In the *nodula-pustular* form there appears a deep red spot, which soon becomes a bluish red nodule, with or without an areola, maturing with a clear liquid pustule. On desquamation leaves a bluish red marbled pigmentation of the skin.

The *eczematous* is a form of dry eczema appearing on the scalp and scrotum.

The *hemorrhagic or petechial* appears on the extensor surfaces of the limbs, ankles and wrists, in patches varying in size from a pinhead to a split pea; contains serum and blood.

Purpura.—A fatal variety which marks the height of the toxin; appears in large, hard, hemorrhagic spots on the extremities, gradually becoming general. Death in four days.

Lymphatics.—Alters the chemical properties of the digestive secretions in general, neutralizing the acids in particular; this in turn disorders the assimilative process; the lymph circulation is at first increased, but as the change becomes apparent it becomes sluggish, resulting in hypertrophy and induration of the glands, with its attendant emaciation,

the change in the lymph causing a peculiar constitutional taint resembling scrofula and syphilis.

Symptoms of lymphatic involvement.—*Primarily* acts as a slight irritant, followed by a sense of malaise in the stomach, which is worse at night; constipation, trembling, grayish complexion, vertigo, unreasonable insomnia, easily led to tears. The appetite remains unimpaired, and in most cases is increased to bulimia, the prover going on to emaciation and exhaustion.

The *salivary glands* are stimulated to ptyalism; the mouth, tongue, tonsils and soft parts become so swollen that the mouth can hardly be opened. The saliva has a salt taste, is not viscid, and the glands are not swollen.

Thyroid.—Causes goiter with characteristics midway between iodine and spongia, the enlargement being due to hypertrophy of its stroma, and not to cystic formation.

The *generative glands* of both sexes are swollen and indurated with loss of function.

Mucous membranes.—Selects the respiratory, conjunctiva, antrum of highmore, gastro-intestinal and kidneys; stimulating the mucous glands and the general structure of the membrane, a catarrhal inflammation with sero-mucous discharges resulting.

Symptoms vary according to the region affected:

Schneiderian. — Violent sneezing, red, swollen nose, frontal headache, watery mucous discharges, the symptoms becoming more marked as the conjunctiva congests; the injection of the conjunctiva causes severe chemosis without suppuration.

Bronchial.—The symptoms are those of a simple bronchitis, with hoarseness, roughness, short, dry, hacking cough, and green, serous or hemorrhagic sputum. Should the larynx and trachea become involved there is danger of suffocation.

Gastro-intestinal.—The force of the drug seems to be spent on the mouth in particular, and the canal in

general; in the mouth it acts in conjunction with the ptyalism, causing broad, irregular, superficial ulcerations, bluish-white and indurated; the teeth become loose, gums spongy and yellowish gray, with intense pain and insomnia. Causes nausea ranging from a sinking to a deathly faintness, sensitiveness, and colicky pain in the cardiac end of the stomach.

The function of the *kidneys* is increased, the urine is not changed, except that the iodide is present, with an abundant amount of mucus; as the urethral membrane becomes involved there is established a mucopurulent discharge, resembling specific invasion.

Serous membranes.—Causes plastic inflammation, sub-acute in character.

Changes in the *periosteum* range from a congestion in spots to inflammation and thickening.

Brain.—Action is functional, causes an excitement like that caused by liquor, and may be termed iodic intoxication; this is followed by depression of mind, irritability, listlessness, dejection, wretchedness, a tendency to fainting, and insomnia.

Therapeutic Characteristics.

Adapted to scrofulous, psoric constitutions, with lymphatic temperaments.

Where the system has been shattered with mercury, plumbum, syphilis and specific rheumatism.

Eruptive diseases due to scorbutic causes.

Becomes the remedy in syphilis, where the eruptions assume the tubercular form, the disease invading the soft tissues, with much swelling, pain and infiltration.

In hydrargyrosis the mercurial salts are deposited from the blood in an insoluble form in the animal structures; the *iodide of potassium* redissolves the mercury back into the blood again, eliminating it through the glandular system, especially the kidneys. (Burt.)

KALI MURIATICUM.

Chloride of Potassium.

Is a normal constituent of the body, existing in the blood corpuscles, muscles, nerve cells and inter-cellular fluids in the form of the twelfth potency.

A diminution or loss of the muriate from the organism disturbs the normal reaction between the hydrochloric acid and fibrin in the nascent state, causing fibrinous exudations and glandular swellings, corresponding to the second stage of inflammation.

Therapeutically, it restores the altered or lost muriate, thus restoring the tissues to normal.

For farther study we refer the reader to "Schuessler's Twelve Tissue Remedies," from which the above deductions were made.

Deductions of the Kali Group.

1.—Destroys tissue by combining with their fluids, dissolving the albumins and saponifying the fats.

2.—All increase the saliva, even to ptyalism; differs from mercury in that it is not so extreme, lacks the fetor and the blue lines.

3.—They neutralize the free acids of the stomach.

4.—The carbonate enters the blood unchanged, unites with the *sodium phos.*, forming an acid phosphate.

5.—The chlorate decomposes the red corpuscle and paralyzes the motor ganglia of the heart.

6.—All paralyze muscular tissues.

7.—Either lower or destroy the ozonizing powers of the blood.

MERCURIUS AND ITS COMPOUNDS

Pharmacy:

Mercurius vivus.—*Argentum vivum, quicksilver, hydrargyrum.* Not abundant in the free state. Occurs native in cinnabar ore found in Spain, Peru and California. Is obtained from the ore by a process of roasting, sublimation and crystallization.

The pure mercury is triturated with sugar of milk, according to class VII. Drug power 1/100.

Mercurius corrosives.—*Bichloride of mercury, corrosive sublimate.* Prepared by boiling four parts of mercury with six parts of sulphuric acid over sand bath until dry, when add three parts of sodium chloride and sublime over heat. The \emptyset is prepared by dissolving one part by weight of the pure chloride in ninety-nine parts by weight of alcohol. Drug power 1/100. Prepare dilutions as directed under class VI-b. Triturations, class VII.

Mercurius dulcis.—*Chloride of mercury, calomel.* A combination of 48 parts of mercury, 36 parts of sulphuric acid and 18 of sodium chloride; prepare by sublimation and crystallization. The pure calomel is triturated with sugar of milk, as directed under class VII.

Mercurius cyanatus.—*Cyanide of mercury.* The result of the distillation of five troy ounces of potassium ferro-cyanide, twenty ounces of water, four ounces of sulphuric acid, with three ounces of the red oxide of mercury. The crystals are to be dried and protected from light, to prevent decomposition.

Prepare the \emptyset by dissolving one part of the pure

cyanide of mercury in 99 parts by weight of distilled water. Drug power $1/100$. Prepare dilutions as directed under class V-b. Triturations as under class VII.

Mercurius iodatus flavus.—*Protoiodide or yellow iodide of mer.* A preparation of 48 parts of mercury and 30 parts of resublimed iodine, with loss by evaporation to equal parts. Triturate the pure iodide of mercury as directed under class VII.

Mercurius iodatus ruber.—*Biniiodide or red iodide of mercury.* Prepared by adding to a filtered solution of 20 parts of mercuric chloride, 400 parts of distilled water and 25 parts of potassium iodide diluted with 100 of distilled water, washing the resulting precipitate with cold water; dry at a gentle heat. Triturate the pure red iodide of mercury with sugar of milk according to class VII.

Mercurius solubilis Hahnemann. — The *black oxide*, or the soluble mercury of Hahnemann. Prepared by repeated trituration of a saturated solution of mercurius vivus and nitric acid, evaporated to dryness, on addition of alcohol, with a final precipitation on adding ammonium hydrate. Triturate with sugar of milk according to class VII.

MERCURIUS VIVUS.

Hydrargyrum. Quicksilver.

History.—Named mercury in honor of *Mercurius*, the messenger of the gods, a mythical symbol of fleetness and volatility. The ancient *magicians of Egypt* were wont to imitate the miracles of Moses by exposing to the sun rays, wands and ropes containing mercury, which, under the influence of the heat, would resemble the motion of serpents.

Daedalus, 1,300 years before Christ, endowed a wooden Venus with the power of motion by pouring into it a solution of mercury.

Following the *Crusades*, the *Arabians* employed it for the itch. A century later *Barbarossa* discovered its use in syphilis, using pills triturated with flour and turpentine.

Paracelsus inaugurated the internal use of the drug for a variety of diseases, and *Bertini* as a remedy for smallpox and inflammatory diseases.

Proven by *Hahnemann* early in the eighteenth century.

Toxicology.—The toxic action of the mercurial compounds will vary according to the chemicals entering into their combination, and the product formed by their union.

Mercury in its pure and uncombined state, administered in all forms and doses, from the crude drug to the various potencies, presents the following *toxic and pathogenetic effects*, which, for the convenience of study, have been arranged in twelve divisions, with the symptoms, centers affected and action:

1.—Fever of two kinds: the adynamic and that of salivation.

2.—Ptyalism, or salivation.

3.—Sloughing.

4.—Purging.

5.—Hydrosis.

6.—Periostitis.

7.—Skin.

8.—Inflammatory conditions.

9.—Ulceration.

10.—Hypertrophies.

11.—Nervous derangements.

12.—Mercurial cachexia.

Centers altered in the above effects:

1.—Lymphatics.

2.—Blood.

3.—Salivary glands.

4.—Pancreas.

5.—Perspiratory centers.

- 6.—Motor centers and nerves.
- 7.—Sensory nerves.
- 8.—Mucous and serous membranes.
- 9.—Fibrous tissues and bones.
- 10.—Glands.

Symptoms and pathology of the altered centers:

Fever of salivation.—An erethistic temperature rise, which simulates a sthenic congestion, is characterized by a hot, dry skin, headache, restlessness, increasing redness and swelling of the gums and mouth; may continue for days, weeks or months, and is only ended by salivation.

The *salivary glands* are swollen, tender and stimulated to increased action, discharging from one to three pints of saliva in twenty-four hours. Is of alkaline reaction, foul odor and taste; the *mouth* is rose color, the *tongue* may be so swollen as to hang from the mouth, is sodden in appearance, the gums slough, causing the teeth to fall out; with necrosis of the alveolar process. The action on the *glands* is due to the loss of nervous control.

The *sloughing* may be so great as to extend to the inner walls of the cheeks and throat, the ulcers advancing from within out, coated with pseudo membrane.

A frequent result is a contraction of the mucous membrane of the anterior arch of the palate, which prevents opening the mouth fully.

The adynamic type of fever is characterized by periodical attacks of temperature rise, with small, quick pulse, progressive loss of strength, partial or universal trembling, pinched, cadaverous countenance, chilliness, and may prove fatal suddenly.

Precedes the miliary rash, periostitis, and hydropsis.

Purging, or pancreatic ptyalism.—*Primarily* the pancreas is swollen, tender, its ducts dilated, and the secretion stimulated to such a degree that there is

received into the intestinal canal an excessive amount of pancreatic juice, causing exhaustive diarrhœa, pain in the abdomen, heat and thirst.

Secondarily, the glandular structure loses its firmness, becomes atrophied, sugar appears in the urine, diabetes resulting.

Mercurius Dulcis acts on the liver and gall ducts, the same as mercury on the pancreas.

Lymphatic glands and circulation.—Commencing in the lymphatic capillaries, the entire system is prostrated, with loss of irritability and the retention of fats in the absorbent system; the engorgement of the lymph stream, in turn, reacts upon the venous radicles. Causing congestion, hypertrophy and induration of glands, effusions, suppurations and ulcerations, ending in decay of all tissues.

Blood.—The retained fats in the lymph are finally deposited in the vital fluid; this product of decomposition deprives the blood of one-third of its fibrine and globules, and one-seventh of its albumen.

The combined degeneration of the lymphatics and blood centers in the *skin*, causing five distinct lesions; and in the *nervous system*, causing the mercurial cachexia.

Skin manifestations.—*Miliary rash*: The invasion is marked by the adynamic type of fever, which declines as soon as the rash makes its appearance; the rash appears first on the chest, gradually invading the entire surface, each patch preceded by the febrile paroxysm. Is of light color, attended by sleeplessness, small, soft, compressible pulse, drenching sweat, slight convulsions and delirium, the fever gradually increases, the rash recedes, the patient dies comatose.

Erythema—Also called lepra: Occurs on the under surface of the knees, the inner surface of the thigh, axilla, groin, gradually spreading over the body; consists of small, minute vesicles, which gradually enlarge, with swelling, tenderness, and itch-

ing, the epidermas scales in small flakes, with a foul and tenacious discharge, which stiffens the linen.

Mercurial itch.—Pustules size of a millet seed to a pea; never occur in groups, but in isolated pustules over the extremities. On the fifth day the pustule fills with pus, which, on discharging, dries and scales in a light brown scurf.

The impetigo consists of dark red spots of various sizes, discharging a brownish yellow pus, with exfoliation of the cuticle, hair and nails. The complexion becomes sallow and earthy, olive green appearance about the eyes, the appetite is poor, patients are exhausted, and exhibit signs of the constitutional involvement.

Mercurial eczema.—Caused by the use of ointments; the effects ranging from redness and tenderness to erysipelas and gangrene.

Fibrous tissues and bones.—*Periostitis:* Selects the bones covered by integument and cellular tissue; the tibia, ulnar, sternum, radius, clavicle, frontal and the maxillary. Causing nodes, ulceration and destruction of tissue from without inward.

Symptoms.—The first symptom is a slight tension or pain occurring after sunset each night for four or five days, gradually becomes worse, localizing itself in spots, painful under pressure, and which deprives the patient from sleep and rest, and marks the end of the first stage.

Second stage: The periosteum becomes spongy, the congested spot is filled with an albuminous exudate, increasing in size until it produces adhesions between the periosteum and cellular tissue, converting both into a grayish white, doughy, hard substance, size from a hazel nut to a hen's egg, the gummata of the older writers. The pain is continuous, of sticking, gnawing character, with loss of appetite, paroxysms of the adynamic type of fever, the nervous system becomes involved, with a gradual sinking

of the forces, and death, globules of mercury being shaken from the bones on *post mortem*.

Mucous membranes.—*Secondary* to lymphatic engorgement, the membranes are degenerated, effects ranging from inflammation to destructive ulceration.

Gastro-intestinal.—Here it affects the pyloric end of the stomach, with but slight influence upon the small intestines, increasing as the large intestines are invaded; the membrane in general is inflamed, wrinkled, and covered with a white film, which is soon converted into isolated dark eschars; the ulcerated spots are covered with a dry crust, which separates, as do the layers of mucous membrane, perforation resulting. As a result of large doses, the mercury adheres to the membrane, marking the ulcerated spots which appear later.

Ulceration.—The simple mercurial ulcer is bluish red in appearance, spongy and irregular in outline, shaggy, flat, with sharply indented edges; is superficial, spreading over large areas, its base presenting numerous depressions and elevations.

The ulcer is at first covered with a whitish gray substance; later changes to a foul ichor, discharges profusely, the whole mass traversed by small points, which bleed soon as touched.

The mixed mercurial ulcer has all of the characteristics of the simple; has a more sloughing disposition, is of dirty gray color, spreads rapidly in depth and circumference, destroying all the tissue in its path. Fatal regions are fauces, trachea and glands, causing death by hemorrhage.

Symptoms vary according to the membrane affected.

Gastro-intestinal.—Sharp metallic taste, nausea and vomiting, purging of thin, green hemorrhagic stools, and jaundice; stimulates the severest form of gastro-enteritis (*merc. corr.*).

Respiratory tract.—Here have congestion, inflam-

mation and pseudo-membrane formation, with mucopurulent discharges; solidifies lung tissue, and causes a bronchitis which extends to the smaller bronchi. The symptoms are those of constitutional involvement, a condition of marked debility, with irregular, quick pulse, profuse perspiration, extreme impatience, insomnia and restlessness.

Conjunctiva.—The inflammation usually precedes salivation, and is characterized by a lilac tint about the cornea, lachrymation and mucopurulent secretion.

Throat.—The color ranges from a rose to bluish red, the mucous glands swollen, the whole surface of the throat and palate traversed by a swollen network of venous capillary vessels, vesicles and ulcers; there is constant pain as though something was sticking in the throat, with sensation of hot vapor.

Serous membranes.—Selects the peritoneum, arachnoid and synovial sacs of the joints, causing congestion, inflammation and effusion.

Motor centers and nerves.—The inhalation of the vapor and fine dust, inunctions and administration of large doses of the crude drug causes a progressive degeneration of the motor system, ending in tremor, palsy, St. Vitus dance and stammering.

The *symptoms* begin with unsteadiness, which soon becomes a tremor, affecting either single muscles or groups. The tremor may be so violent as to render the patient unable to help himself, and may precede the palsy; the arms are generally attacked first, with final involvement of the lower limbs and muscles of the face and tongue. The motor changes end in stammering, on account of involvement of the speech center; other symptoms are a peculiar brown tint of the body, dry skin, constipation, slow pulse. As the degeneration advances, the tremor is replaced by paralysis.

Mentality.—Effects are centered in the ideational

and emotional sphere, causing a fretful, peevish, irritable state of mind. Slight causes producing a disturbance of the mental equanimity, and an increased susceptibility to impressions; usually have weak memory, are anxious and depressed, may have depraved tastes, in which they eat the excretions of animals. Apathy.

A mercurial neurosis may attack the sensory nerves, causing severe neuralgia in various parts of the body; typical of this action is the irritation of the facial nerve; here the pain extends to all of its branches.

Inflammation.—Caused by the engorgement of the lymphatics and subsequent weakness of the venous network; may be centered in any of the tissues of the body, and may constitute the only lesion present. Especially affects the *iris*, the inflammation locating in the membrane of Descemet, with burning, aching pain in the sockets, lachrymation and fiery sparks before the eyes, the cornea assuming a lilac or violet tint at its circumference.

Glands.—Here it selects the inguinal, axillary, mesenteric, parotid, pancreas, liver and generative, causing enlargement and induration. The symptoms and form varying according to the preparation used, whether the pure mercury or its combinations.

Summary of the inflammation:

Enlargement and induration of glandular structure.

Effusions into the cellular tissue.

Suppurations and ulcerations.

Decay of all organic structures.

The mercury saturation results in establishing a constitutional *cachexia*, in which the individual becomes emaciated and debilitated from non-assimilation; the skin is relaxed and withered, the teeth lose their enamel, recede from the gums and fall out, hair is as burnt and falls, the face is sunken and

sallow, the nose pinched, motor changes, gradual mental loss, ending in insanity and death.

General summary.—*Primary*, there is chill followed by heat and dryness, thirst, coated tongue, dizziness, headache, restlessness, rise of temperature, urine the odor of burnt sugar and ammonia, and constipation. The *above effect is due to the depression of the lymphatic system*, which in turn engorges the venous, and depresses the arterial stream, changing its elements as it passes into the *secondary* state, with apparent change of all the tissues. The pathogenetic effects will now be manifest in the part or parts most susceptible to the drug, the symptoms varying according to the part affected, salivation, purging and ulcerations being the most common and frequent result of *primary* action.

Inflammatory conditions, such as iritis, conjunctivitis, chronic sore throat, periostitis, hypertrophies of glands, may constitute the only lesion present, appearing separately, making a combined whole, or any one lesion to the exclusion of all others.

As the blood becomes charged with the fatty granules from the lymph, and loses one-third of its fibrine, and one-seventh of its albumin, thus losing the vitality of its corpuscles, the effects center in the skin, the degeneration coming to the surface in a variety of rashes, such as erythema, lepra, miliary and the itch.

As the vitiated vital fluid is supplied to the nervous structures, degenerative changes make their appearance, such as tremor, palsy, stammering and neuralgia; all ending in the constitutional neurosis or hydrargyrosis of the older writers.

Constant and persistent conditions in the course of the pathogenesis:

Profuse perspiration, which marks the degenerative invasion of the nerves controlling the perspiratory system.

The adynamic type of fever, occurring periodically, with progressive loss of strength, marking the invasion of the unassimilated albumins in the blood.

The fever of salivation, marking the loss of control of the salivary glands.

Is found deposited in all textures.

Interferes with all normal nutritive processes.

Is found in all secretions and excretions of the body.

MERCURIUS SOLUBILIS.

Besides the mercury change in the vital fluids, have in addition that of nitric acid, the combined action resulting in the constant manufacture of a virus, identical with that of syphilis, in its various stages. The mercurial forcing an alternate continued and degenerate action.

Aside from its manifestation on the genitalia, it causes inflammation of the mouth and throat, subacute inflammation of the fibrous tissues, iritis, snuffles, marasmus, moist eruptions, epipheseal periostitis and stomatitis.

Special effects.—*Hepatic system:* Its lymphatic supply is engorged, causing the parenchyma of the liver to imprison the bile, with consequent enlargement of the organ, which becomes soft and of a dark brown color; the ducts are at first stimulated to action, causing violent purging, later the bile is absorbed, with jaundice, the lymphatics become disorganized, all power to secrete is lost, gangrenopsis resulting.

Symptoms.—Depends on the amount taken; either causes diarrhoea or constipation, with burning distress over the region of the liver and cutting pains in the gastro-intestinal tract. The discharges are of mucus, bile and blood, accompanied by headache, foul taste, heaviness of the lower extremities,

rising of an acid sweetish fluid from the stomach, causing nausea and shivering, all ending in jaundice, with deep yellow urine, whitish gray stools, and anal excoriations.

The kidneys are degenerated much the same as the liver, the secreting structure gradually losing its regular form, and power to secrete and excrete; finally becoming a granular mass. The urine contains albumin, sugar and blood, and on microscopic examination casts. There may be either suppression or excessive amount of urine; the suppression, if kidney is *primarily* congested; excessive, if it has lost its nervous control, provers dying of uraemic poisoning as often as from diabetes or albuminuria. The ureters are painfully contracted, causing painful urination, with swelling, ulceration and gangrenous sloughing of the genitals.

MERCURIUS CORROSIVUS.

Is a specific irritant to living tissue, acting with more fatal force on the animal economy than any of the mercury compounds, comparing favorably with that of arsenic, which is its greatest rival.

The average dose to cause death is from three to five grains; death may occur in from one-half hour to six to twelve days, with average time of from two to six days.

Symptoms commence immediately with acrid, coppery taste, sense of constriction about the throat, burning heat in the throat and stomach, which gradually extends over the abdomen, nausea, vomiting of stringy mucus and blood, flushed, swollen or pallid face, white, shriveled lips and tongue, dyspnoea, small, frequent, wiry pulse, collapse, coma or convulsions, and death.

If recovery takes place from the immediate effects, the action of the sublimate goes on to the

secondary, with attendant changes in the tissues, principally affecting the mucous membrane of the gastrointestinal tract, and the kidneys with more force than any of the mercury salts.

The action on the mucous membrane ranges from softening to gangrenous disorganization, with hemorrhage and swollen abdomen. Like carbolic acid, pain may be entirely absent, the shock of the poison being directly referred to the nervous structures, tactile sensibility being instantly destroyed, the destruction of the membrane going on progressively until it hangs in shreds.

The above effect may be had from the use of the sublimate locally, as a douche or ointment, in persons susceptible to its influence; acts here by absorption.

Continued administration of the 3x causes a remittent neuralgia of the frontal branch of the ophthalmic, and the superior and inferior branch of the fifth nerve, with intense darting pains and nocturnal aggravations.

Deductions from Its Pathogenesis.

More corrosion than any of the group.

The destruction of the mucous membrane begins in the nervous control, is without pain, and continues unabated until it hangs in shreds.

Marked kidney involvement, due to loss of nerve control, and disorganization of its structure.

Is the hemorrhagic mercury.

MERCURIUS CYANATUS.

Is the neurotic of the mercury group. The product formed by the union of the cyanide and mercury presents the most formidable array of symptoms of any of the group, differing in that it does

not *corrode* chemically, but begins its action in the nervous system, center to periphery.

Symptoms.—Lethal doses cause prostration, feebleness of circulation and respiration, low febrile state, hiccough, fainting, difficult deglutition and death.

Autopsy reveals white fibrous clot in the right ventricle of the heart, and the larynx filled with tough grayish mucus and pseudo-membrane.

Pathogenetic.

Most important center of action is on the mucous membranes, selecting the mouth, throat and rectum.

Here it causes inflammation, dry putrid ulceration and pseudo-formation of gray, tough, leathery membrane, simulating diphtheria and malignant ulcerations.

Throat.—Membrane may be so swollen as to cause closure of the larynx and pharynx, bringing into close proximity the lumen of these tubes, with whistling, suffocation and rattling in the bronchi.

Rectum.—A dysentery of putrid, bloody stools, diphtheretic patches at the anus, collapse and death.

Complications in either case: croupous nephritis and albuminuria.

Characteristic Symptoms.—Marked adynamia, prostrated from the beginning; high pulse 130 to 150. with loss of volume. As the membrane degenerates, it becomes dark and gangrenous, always retaining the *shade of gray*.

Surface of the body is blue and cold, and is due to the invasion of the toxins into the vital fluid.

Concomitant symptoms are epistaxis, contracted pupils and syncope.

MERCURIUS DULCIS. CALOMEL.

Causes functional and organic change of the structure of the liver; analogous to the mercury action on the pancreas, with all of the attendant *primary* purging, and *secondary* constipation. Overdose causes swollen, engorged liver; green liquid stools, and vomiting of bile. *Secondary*, it arrests the secretion of bile, the stools become pale, resembling potter's clay.

THE IODIDES.

First consideration should be the glandular involvement and constitutional dyscrasias.

Distinguish between them, according to the amount of iodine contained in each preparation.

Either iodide causes glandular swellings and ulceration of the mucous membrane of the throat.

The *bin-iodide*, selecting the mesenteric ganglionic system, tonsils, thyroid and inguinal; with swelling, induration and emaciation. The *proto-iodide*, in addition to the above, has marked action on the liver; the difference between the two is of degree only. Both iodides cause changes in the constitution resembling the combined miasm of psora and syphilis, with its attendant swellings and chancroid suppurations.

Dyscrasias produced by mercury and its salts:

Mercurius Vivus: Scorbutus.

Murcurius Sol., the iodatus rubar, and mercurius corr., by reason of their combination with nitric acid, sulphuric acid and iodine, produces a miasm identical with that of syphilis, syccosis and mesenteric scorbutus.

Antidotal treatment.—*Salivation:* kali mur, hepar sulph., strong infusion of alum and sage, kali iodide.

Eczema.—Almond oil, lime and acetate of lead baths, aconite and hepar sulph., internally.

Nervous conditions.—Zinc sulphate, nux vomica, hyoscyamous, belladonna, electricity.

Caries.—Silesia, kali iodide; of nose, phosphorus and phosphoric acid, and of periosteum aurum muriate.

Gangrene.—Carbo-vegetabilis, arsenicum.

Purging.—Plumbum acetate.

Hemorrhages.—Arnica, ferrum.

Debility.—China, veratrum, arsenicum, iodine.

The mercurial preparations antidote each other.

Mercurius corrosivus.—Raw egg albumen, or egg broken in milk. Promote vomiting with fluids of albumen or gluten, wash bag of flour under stream of water, and give plentifully of the resulting paste. Farinaceous diet, tannin, kali iodide for the *secondary* effect; destroys the compound, eliminating the poison through the kidneys.

Mercurius cyanatus.—Baptisa, belladonna, lachesis, rhus tox., carbo veg., mucilaginous drinks, carbonic acid not only antidotes but is inimical.

Therapeutic Characteristics.

Useful in diseases having their origin in *choked lymphatics*.

Profuse perspiration which does not relieve.

Intolerable *restlessness after sundown*.

Fevers of various kinds: *adhesive*, of the serous membranes with impending suppuration and ulceration.

Anginose form of scarletina, relieves the swelling, ulceration and tendency to gangrene; (cyanide and iodide).

Typhoid fever as an intercurrent, where hemorrhage occurs suddenly, stop all other medication, give few doses of merc. corr.

Bilious fever, with slimy mouth, foul taste, nausea, vomiting and constipation; (iodide, vivus).

Idiopathic salivation of the pregnant.

Adapted to cough passing to the moist stage of catarrhal inflammatory organic nature, extending to the finest bronchi; acts as a resolvent and restorative.

Useful in inflammations originating in the lymphatic capillaries, with full soft pulse, heat and dryness of the skin, coated tongue, dizziness and headache.

Degenerate mentality; ordinary weak memory.

Keynote of merc. corr., loss of nervous control of organs and tissues.

(Study Breyfogle's Epitome and Farrington for finer symptomatology, and Hempel and Arndt for diseases.)

NUX VOMICA

Poison Nut. Quaker Buttons.

Nat. Ord., Loganiaceæ.

Native of Cochin China, Burmah, Siam and northern Australia. Is a *tree* of moderate size, with short, thick, crooked trunk, and irregular branches.

Leaves occur opposite, are ovate, entire, and three to five veined.

Flowers are greenish white, tubular form, and occur in terminal paniculate cymes.

Yields a *fruit* the size and shape of a small orange; filled with a white gelatinous bitter pulp, containing from one to five seeds placed vertically, and in an irregular manner.

The *seeds* are disk-shaped, not quite an inch in diameter, and one-fourth of an inch thick; is concave on the dorsal side, convex on the other, with a broad, thick, rigid and keeled margin. The seed is encased in a thin, hard shell, of light gray color, and covered with a fine silky down, which gives it a peculiarly beautiful satiny luster.

The shell encloses a *yellowish gray, translucent, hard albumen*, which, upon softening with water, splits into two parts by a fissure in which lies the *embryo*, or nux vomica proper; is three-tenths of an inch long, and provided with two heart-shaped cotyledons and a club-shaped radicle. The seed contains strychnia and brucia.

Pharmacy.—To prepare the \emptyset , cover one part by weight of finely pulverized seed with five times its weight of alcohol; set aside eight days, shake twice a day, decant and filter. Drug power 1/10. Prepare

dilutions according to class IV, and triturations as directed under class VII.

Strychnia is prepared from the seed by macerating for twenty-four hours in 43 parts of 1/200 strength of hydrochloric acid, after which boil two hours, filter, repeat twice, washing the filtrate repeatedly with alcohol until all traces of brucia have been removed, which can be proven on testing with nitric acid. Add to the residue three parts water, heat, add sulphuric acid until the reaction is neutral and alkaloid is dissolved; add charcoal, boil, set aside to crystallize, reprecipitate with ammonia, dry and preserve in well-stoppered bottle.

Prepare for homeopathic use according to class VII.

History.—Known and used by the ancients as early as the 17th century as an emetic and purgative. Samuel Hahnemann wrote a short pathogenesis in 1796 which he enlarged in 1805, 1811 and 1830. Strychnia was discovered in 1818 by Pelletier and Caventou, and proven the active constituent of the seed.

Toxicology.—As the action of nux vomica is similar to that of strychnia, differing only in degree, their effects may be considered together and may be studied in several degrees of action—lethal and pathogenic. Is classed as a neurotic convulsant.

Lethal doses, one to thirty grains of the nux vomica, or one dram of its \emptyset , 1/16th to one-half grain of the strychnia, cause shuddering, constriction of the fauces and jaws, pain like electric shocks through the limbs, with spasmodic jerking of the voluntary muscles, dilated pupils, a meaningless smile, pale face followed by flushing, increased warmth of surface and perspiration. Action may end here; if not, then the head and extremities jerk and twitch and a sudden general tonic convulsion racks the body, in which the limbs are extended, the hands clenched and feet

curved, the body bent backward, arched and rigid; the abdominal and respiratory muscles hard, tense and fixed, placing the body in the form of a bow. The face assumes a peculiar grin, the "risus sardonius" the surface of the body becomes cyanosed, death following.

Pathogenetic.

Small doses excite the salivary secretion, appetite, special senses and sensibility; causes repulsive smells to have a sweet odor, with marked restlessness and increasing anxiety.

Continued, or in larger doses, the irritability is still on the increase, with confusion of vision, ringing in the ears, vertigo, unsteadiness, a sense of tightness and stiffness of the muscles of the throat, jaws and trunk; electric-like shocks, and formication. The mental condition at this time is attended by anxiety, agitation, fright and palpitation of the heart, all conditions being relieved by perspiration.

Circumstances affecting the convulsion:

Touch, a deep inspiration, draft, noise and slight movement brings them on and shortens the interval between.

Darkness, quiet and observation of the *intended* aggravation retard and prevent the return.

Death rarely occurs during the first convulsion; it usually relaxes and returns, increasing in severity and duration until carbonic acid poisoning intervenes and closes the terrible scene.

The mind remains unaffected, except toward the end, when carbonic acid poisoning dulls the intellect.

The tendency to attacks may continue for several days.

Symptoms may occur in a few minutes, be delayed an hour, or repeated doses may accumulate and act at the same time.

Sequella of attacks.—Extreme feebleness, sensa-

tion of being shattered, great physical and moral lassitude, muscular stiffness or complete relaxation, due to spinal exhaustion or the dangerous employment of antidotes, as tobacco and nicotine.

Absorption of the poison depends on the state of the stomach, whether empty or the presence of tannic acid or fats in the food if after a meal; the power of the vessels to resist, and the amount of oxygen in the atmosphere.

Acts more readily when administered by the rectum than otherwise, and more quickly by stomach than subcutaneous injection.

Elimination.—By the saliva and urine.

Antidotal.—The action of the antidote must be to antagonize its effect on the spinal cord and paralyze for a time the nerve centers which are the seat of the poison, and must be held so until all danger is past; this procedure is not without its own hazard; it must be limited to the degree which reduces the irritability of the reflex centers and so modify the tetanus which threatens suffocation. Such an antidote is found in the inhalations of chloroform, and from thirty to fifty grains of chloral dissolved in water.

Clear the stomach of its contents with stomach pump or an emetic before the tetanism develops; strong tea, Tr. of tannin after, to absorb the remaining poison.

Other antidotes are veratrum viride, camphor.

Dangerous antidotes are morphia, nicotine, calabar bean, curare and aconite.

Causes death by fixation of the muscles of respiration and by exhaustion.

Pathogenetic.

The following centers are altered:

- 1.—Gray matter of the brain and spinal cord.

- 2.—Motor system—centers, nerves, arterial vasomotors.
- 3.—Reflex ganglions.
- 4.—Sensory nerves.
- 5.—Special senses—optic, olfactory and auditory.
- 6.—Trophic nerves.
- 7.—Inhibitors of the heart.
- 8.—Ganglia of the ductus venosus.
- 9.—The infra-orbital and middle branch of the trigeminus.
- 10.—Filiments of the sympathetic.
- 11.—Mucous membranes.
- 12.—Muscular rings of the inguinal region.

Pathology of the altered centers:

Gray matter of the brain and spinal cord.—

Affects all gray matter; selects the axial tract in particular, centering upon the tubular portion of the pons, medulla and cervical portion of the cord. Here it increases the irritability and, by overstimulation, causes tetanus.

Motor system.—*Primarily* the centers are stimulated to increased action, the stimulation going on until the center is exhausted.

At the period of exhaustion the afferent ends of the peripheral nerves to muscle are stimulated, fixing muscular fibre in tonic contraction. The approaching tetanus is preceded by a sense of tightness and stiffness, electric-like shocks, shivering and convulsive shaking, and sometimes formication.

Secondarily, the *primary* stimulation of the vasomotor system is followed by palsy and manifests this change by fall of arterial pressure, which, as the palsy progresses, exhausts the faculty of the reflex motor cells, causing anæmia of the spinal centers and loss of trophic control.

Exhaustion then arises from two sources: overstimulation of centers and nerves, and bloodlessness of the spinal cord.

Reflex ganglions.—Both nux vomica and strychnia increase the irritability of the reflex ganglions controlling sensibility, motility and impressions; they do not *heighten* the reflex activity of the cord, but so affect it that impressions are not confined within their limits, but are diffused throughout the cord and medulla oblongata. This *lessens* the resistance of the cord, and *increases* the diffusibility of impressions, and is directly responsible for the tetanus, which succeeds itself to exhaustion. The collapse, which is now apparent, must be traced to *over-stimulation* and not to paresis; weariness, stiffness and weight are its most prominent symptoms.

Special senses.—The activity and sensibility of vision, smell and hearing are notably increased, the stimulation originating in their ganglions, extending to their peripheral limits, increasing their functional power to exhaustion. It dilates the pupils of the eye by tetanizing the longitudinal fibres of the iris, and by depression of the fibres of the sympathetic; at the same time the eyelids are widely opened, the eyes protrude and staring as if they would protrude from their sockets.

As the *secondary* action creeps on, and exhaustion obtains, the pupils are contracted, the hearing is gone and they are insensible to the strongest odors.

Sensory nerves.—*Primarily*, the irritability is increased, causing hypersthesia, painful spots on the skin, a sensation as of creeping insects or the passage of an electric shock; the tongue may have a bitter taste on one side which is not perceptible on the other.

Secondary there is complete loss of tone with numbness.

The **inhibitors of the heart** and the **ganglia of the sinus venosis** are affected reflexly through spinal influence, causing slow pulse with long pauses, or a

rapid, feeble pulse, aggravated by the slightest motion (not reliable).

The **filiments of the sympathetic** to the unstriated muscular fibre of the hollow viscera are progressively stimulated to exhaustion, contributing their share to the lesions of the eye, bladder and intestinal canal.

The **branches of the trigeminus** are irritated, with tearing pain, congestion and all the conditions attending an attack of that dread and painful disease known as "tic douleureux," followed by numbness.

Mucous membranes are *secondarily* affected through sympathetic and vaso-motor influence, in which the membrane is either congested or presents a dry atonic surface.

The *symptoms* vary according to the membrane affected:

Gastro-intestinal.—Here, in addition to the effect on the membrane, the digestive fluids are vitiated and degenerated, their reaction becomes acid and at times alkaline; this results in deranged digestion, gastralgia and acid vomiting, with bitter sour taste, sensation of hunger, burning, throbbing and sensitiveness to pressure; aversion to foods of which the prover was fond, greasy rising to the throat.

Most of the authors record *vomiting* as an *uncommon and rare symptom*, intestinal indigestion usually ending in constipation, attended by flatulence and colicky pains and frequent fruitless urging of stool.

The *colic* is the evident result of the tetany of the muscular fibre. Causes hemorrhoids by paralyzing the vaso-motors of the hemorrhoidal veins.

Respiratory tract.—The membrane is dry, with hard cough and constriction about the chest; other symptoms are shortness of breath, a sense of suffocation, cold sweat, and worse at night.

The asthma is the dry, spasmodic form, its extent depending on the amount of reflex excitability of the

vagi. Dyspnoea is an early and marked symptom and is due to the influence of the inability of the blood to absorb oxygen, the respiratory center being directly responsible for the asphyxia.

In the nose it causes an obstructive catarrh, with dry coryza. Through motor action the **muscular fibres of the inguinal rings** are paralyzed, giving rise to the sensation as though a hernia were protruding.

Deductions.

Has no direct action upon living muscular fibre except through reflex stimulation.

The dilation of the pupils and the prominence of the eyeballs depend on the amount of tetanizing influence affecting the longitudinal fibres and the respiratory muscles.

Asphyxia occurs as a consequence of carbonic acid poisoning. The weariness, stiffness and weight are the results of the collapse, due to over-stimulation. The irritability and spasmodic phenomena are due to reflex spinal influences.

Characteristic symptoms as developed in the proving.

Sensibility.—To external impressions, especially of the organs of touch, sight and hearing. Intolerable itching, creeping as of ants, sensation of sudden loss of power, and burning.

Motility.—Increased irritability, as manifested in restlessness, jerkings, twitchings, trembling and stiffness; an indefinable weakness, and bruised sensation.

Mentality.—Intelligence remains intact until overcome by carbonic acid poisoning.

Great anxiety, involuntary crying out, imploring assistance.

Music and singing affect to tears.

Mental exertion and business affairs are irksome.

Irritability, inclined to find fault, irresolution.

Develops a hypochondriacal disposition, with sullen temperament and an irascible mood.

Sleep.—Unquiet, wakens readily, cannot sleep after 2 or 3 a. m., but sleeps late in the morning; dislikes to get up, weariness wears off several hours after rising.

Oppressive dreams, either of maimed objects, vermin, business or full of events of the preceding day.

Head.—Confusion, giddiness, vertigo, an intoxication like that of drunkenness; heaviness, aching, tearing and drawing pains in any region of the head.

Therapeutic Characteristics.

Adapted to individuals of nervo-bilious, irritable, sullen, malicious and quarrelsome temperaments.

To those who make mental exertions, and live in a state of excitement.

In the opposite condition where the patient is quiet and peaceful, with a desire to be let alone; due to spinal exhaustion in the course of pneumonia, typhoid and malaria fevers; strychnia of great value in the above condition, any potency; may be necessary to give 1/60 of a grain to regain control of the spinal centers.

Indicated when the nervous system is in an excessive irritable condition and the senses are in a state of hypersthesia. Not useful in congestive or inflammatory affections, but in inflammation pointing to irritation or disorganization of the nerve life of the part affected.

In constipation, due to an inharmonious and spasmodic irritability of the motor control of the intestinal tract, and is the reason for the ineffectual desire for stool. Irregularity of action then, and not *atony*, governs the constipation of the nux and strychnia.

Indicated in the broken sleep of dyspeptics, and that following alcohol.

Idiopathic and traumatic tetanus as a consequence of surgical operations in the genito-urinary region, and stepping on rusty nails; in paralysis, due to softening of the centers.

The student is referred to Hempel and Arndt for detailed study of the pathogenesis and therapeutic uses.

OPIUM

White Poppy, Mecon, *Papaver Somniferum*.

Nat. Ord., Papaveraceae.

Native of Levant, India, Persia and Smyrna.

Is an annual **herbaceous plant**, of an average height of three feet.

Its stems are round, smooth, erect and branchy; *leaves* are large, dentate, occur alternately, and have a tendency to closely invest the stem.

Flowers from May to August, according to its location; the blossoms are large, of silver-white color, with a tinge of violet at the base. As the petals mature and fall they are replaced by a capsule, two to four inches in diameter, containing minute white seeds.

The whole plant abounds in a milky juice, which exudes when it is wounded, and is most abundant in the capsules.

To gather the opium, incise the capsule three days after the fall of the petals; make a transverse incision, taking care not to penetrate its parieties, yet enough space to retain the exuded juice; the next day scrape the juice from its shelf with a knife, transfer to a poppy leaf, wrap carefully and dry in the shade. Thus prepared, it presents a shining surface, ranging in color from a light brown to black; its interior moist and granular, of bitter taste, and narcotic odor.

Pharmacy.—Finely pulverize the dried gum opium; cover with five times its weight of alcohol (dilute), set away in a cool, dark place for eight

days, shake twice a day, decant and filter. Drug power 1/10.

Prepare dilutions as directed under class IV, using dilute alcohol for the first two dilutions.

Alkaloids are many. The most important are: Morphia, Codeia, Apomorphia, etc.

Morphia is prepared from the opium by a process of distillation and crystallization on adding calcium hydrate, ammonium chloride and three volumes of water to ten of the substance. For homeopathic use, triturate the pure morphia as directed under class VII.

Toxicology.—Is a neurotic poison, acting on the brain, causing sleep; is the chief ingredient in the various proprietary anodynes and carminatives; laudanum contains five grains to the dram; paragoric, one-ninth of a grain.

Mrs. Winslow's soothing syrup contains one grain of morphia to the ounce; the opium itself contains from 2 to 10 per cent of the morphia.

Symptoms depend on the amount taken, the susceptibility of the individual, his power of resistance, or, if accustomed to the use of the drug, the effects ranging from a quiet stimulation to narcotism, and the cachexia of long use.

Lethal doses of opium and its alkaloid morphia cause giddiness, drowsiness and insensibility; as the poisoning progresses the respiration becomes slow and stertorous. the pulse from slow and full is weak and feeble, the pupils of the eyes are contracted to a pin point, with insensibility to light; the skin may be cold and livid, or bathed in a cold sweat. At this point vomiting may occur with slight reaction, but soon relapse back into their former state; towards the end the respirations are shallow, feeble, with half-minute pause, increasing to death. The coma is profound, deepening to the end.

The fatal period ranges from forty-five (45) min-

utes to twelve (12) hours, and may occur after the lapse of four days. If the breathing can be sustained for forty-eight hours, recovery usually follows.

Diagnostic points:

1.—Contraction of the pupils of the eyes; the greater the contraction the more grave the prognosis.

2.—Slow respiration, lessening to death.

3.—Lethargy; profound as death approaches.

The fatal dose ranges from five to ten grains of the opium, and from one to two grains of the morphia. The smallest dose for children is from the smallest fraction to one-nineteenth of a grain.

Antidotal.—Wash out the stomach with a solution of potassium permanganate, 20 grains to the ounce, or twice diluted to promote oxidation; give emetics of teaspoonful doses of mustard and 20 to 30 grains of zinc sulphate; administer hypodermically 5 to 10 minims of a 2 per cent solution of apomorphia or a permanganate solution of 0.5 per cent at various points in amount from 1 to 5 drachms. When the stomach has been emptied, use every effort to keep the patient aroused; do this by shouting in his ear, shaking or striking with a wet towel, or by walking him around; electric shocks to the spine, practice artificial respiration. The somnolency is not a dangerous condition if the breathing can be sustained until the poison is oxidized.

Dynamic antidotes are: *belladonna, nux vomica, strychnia, acids, black coffee, camphor, ipecac.*

Small doses cause a soothing, luxurious calm of mind and body, with disposition to sleep, which gradually wraps the mind in unconsciousness, or, if sleep does not take place, there is a repose of the body and a dreamy imagination, which may last from two to twenty-four hours. The after effects are like those following an alcoholic debauch, nausea, anorexia, headache, chilliness, insomnia and listlessness.

The habitual use of the drug is gradually increasing doses, causes defective nutrition, in which the victim becomes emaciated, his hunger replaced by an incessant gnawing pain in the stomach; the pleasant sensations of his first dreams are replaced by horrible phantasms of torture, animals and various unpleasant hallucinations.

The increasingly large doses are taken with the hope of again establishing the *primary* physiological effects and thus displace the torture; this, however, fails, as the cachexia is developed and nourished with each succeeding dose.

The appearance of premature age is soon apparent, the figure is stooped, the gait shuffling, the skin assumes a yellow copper-colored hue and the eyes lose their lustre, become dull with livid circles; the morality is gradually lost and is replaced by an aversion to the truth and an irresistible desire to tell falsehoods, thus characterizing the opium fiend as a chronic liar.

Pathogenetic.

The following centers are altered:

- 1.—Brain.
- 2.—Posterior columns of the cord.
- 3.—Respiratory center.
- 4.—Sympathetic ganglions.
- 5.—Voluntary and involuntary muscular fibre.
- 6.—Vaso-motor nerves and centers.
- 7.—Vagus peripherals and excito-motor ganglionic cells of the heart.
- 8.—Sensory filiments.
- 9.—Mucous glands.
- 10.—Perspiratory glands and skin.
- 11.—Nutrition.

Pathology of the altered centers:

Brain.—Causes a *primary exaltation* and a *second-*

ary lowering of sensation and ideation, selecting the imaginative and creative sphere.

The *primary* is a reawakening of the irritability of childhood, an imaginary painting to the mind's eye of phantasms, with a power to dismiss; followed by the *secondary*, inability to control, and is of variable degrees and forms.

1.—*The creative state of vision.*—Here arises a sympathy between the waking and dreamy state, a voluntary *transfer* of an imaginary occurrence to a visual representation, taking the form of architectural splendor of cities and palaces; brilliant ideas are unfolded with wonderful ease, like that of a scroll, while a sense of luxury and satisfaction seems to pervade the entire being.

2.—Following this exultation there appears a *melancholic state*, in which they review past events, descend into chasms and seemingly bottomless pits, and are beset with such gloom and hopelessness that they are not able to express their utter despair and frequently commit suicide at this time.

3.—Here the *sense of time and space* is amplified to an extent so vast as to not be received nor understood in the normal state; a hundred years passes within a few hours, small pools of water become oceans, landscapes spread out and out until they cover an immense area, and so on, taking one form and then another.

4.—A state of chronic delirium into which the victim ultimately falls; the storm which has been gathering on the horizon breaks forth in all its fury; upon the rocking waters of the ocean appear numerous faces upturned to the heavens, mocking, reviling, wrathful, beckoning onward; the most disgusting and horrible scenes are ever before him; he is haunted by spectral toads, obscene animals or embraces hideous monsters; he endures all the tortures of hell

and in vain seeks refuge from his misery, and from which comes no relief until the period comes for renewed indulgence in the gratification which led to it, and which again *infallibly* induces it.

The opium sleep is of two degrees:

1.—A *primary* contraction of the cerebral arteries, placing the brain in an exsanguineous state. This induces a quiet sleep; the circulation in the hemispheres is diminished, thereby holding its functions in abeyance.

2.—Reaction occurs, the vaso-motors become exhausted, causing the vessels to dilate and engorge to such a degree that compression of the brain follows, with the attendant stertorous breathing, turgid countenance and profound coma.

Posterior columns of the cord.—Here it *primarily* stimulates the spinal centers, increasing motility and sensibility, and is of short duration. *Secondary*, both systems are exhausted, and at the same time the reflex functions are abolished, causing a disturbed balance of voluntary will. The most important symptoms of this change are insomnia, listlessness, anesthesia and loss of power to control.

Respiratory center is progressively palsied to death; the breathing is slow, the pauses lengthening as full narcosis is developed, the center falling as the loss of oxygen is complete; acts simultaneously with the vaso-motor system.

Sympathetic ganglions.—The action of opium and morphia begins in the sympathetic, choosing for its point of attack the ganglions controlling the arterial plexuses. Its action is two-fold: a *primary* depression, causing an apparent congestion to the part, with an unbalanced activity of the circular muscular fibres; or a stimulation, which causes the vessels in the vicinity of the ganglions to contract, thus causing a minor supply of blood to the part, leaving it pale,

cold and shrunken, with passive dilation of the circular fibres. Typical of this action is the *contraction and subsequent dilation of the pupils of the eyes*, the *contraction* corresponding to the paresis of the ganglions, the *dilation* to the contraction of its vessels.

In other words, the contraction of the pupils of the eye is caused by a depression of the sympathetic, due to iridal congestion of its ganglia, and is the direct result of the transfer of the ganglionic congestion to some other part; in either case the extreme contraction and dilation is a forerunner of death.

Voluntary and involuntary muscular fibre.— Causes a diminished irritability of the involuntary fibre simultaneously with the irritation of the voluntary, selecting the muscles controlling the gastrointestinal tract and bladder, causing constipation and a paralytic retention of urine.

Beginning at the center the **vaso-motor system** is at first stimulated, causing strong contraction of the vessels; exhaustion, however, soon follows the stimulating influence, the vessels dilate, the blood pressure gradually falling as the ganglionic cells and peripherals to the heart become exhausted; large doses directly paralyze without the *primary* stimulation; pulsation is irregular in volume and rate, its fullness or loss depending on the amount of exhaustion or stimulus present.

The **sensory filiments** are progressively paralyzed, with partial or entire loss of sensibility.

The most important and immediate region affected is the stomach; here it masks the sensation of hunger by blunting or destroying the sentient nerve supply, thus creating not only a loss of appetite, but a disgust for food.

At the same time the *central vomit center* is irritated, thereby contributing its share to the deathly nausea and the subsequent precipitated vomit.

Taken during the first stage of digestion, its first action is to stop assimilation; on an empty stomach it destroys the cravings of hunger.

As the **mucous glands** lose their power to secrete there is established a dryness of the membranes, causing intense thirst, which is but momentarily relieved on drinking water.

Secondarily, the stomach becomes tolerant of the drug, and learns to perform its function with considerable regularity, only failing as the drug's influence is diminished.

The horrible craving cannot be pacified with food, but with an increased dose of the opium.

The same effect is observed in the intestinal canal, the constipation and diarrhoea oscillating periodically, and depending on the amount of muscular fibre involvement as a primary cause. The insensibility of the stomach as caused by opium explains why it is so difficult to induce vomiting by other stimuli in persons under its narcotic influence.

Skin.—Opium stimulates the sudoriferous glands, causing profuse perspiration and an intolerable itching of the skin following the first twenty-four hours after administration. The copper-colored hue is a marked effect of the continued use of the drug.

Nutrition.—Causes defective nutrition by diminishing the absorption of food, in consequence of the paralytic condition of the vessels, nerves and absorbents; the most prominent symptom of this change is *emaciation*, with its attending stoop, loss of appetite and sensation of hunger, and is replaced by an incessant *gnawing sensation* in the stomach, which does *not* yield to food, but a new supply of the necessary stimulus.

Elimination.—The major portion of *morphia* is eliminated by the kidneys, and is found in the urine for days following a moderate dose. The retention of

urine in the bladder is due to the motor change and loss of sentient control. Difficult urination may arise from loss of mucus control of the urinary tract.

Therapeutic Characteristics.

In all conditions for the use of opium, the central derangement will be found in the brain.

Becomes the remedy in eruptive diseases, where the miasm migrates to the brain and motor centers, with symptoms of coma, itching and redness of the skin. Or, at the period of organic reaction, with coldness of the surface, shrunken countenance, and a sinking of the vital forces.

Useful in spasms due to irritation of either cerebral or spinal fibre, with general tremor, and a sensation as of a torn nerve.

Mania of demons, tormenting masks, fancies and strange imaginings of wild animals and vermin.

For acute fevers characterized by a sopor bordering on stupor and by absence of any complaint, snoring with the mouth open, half-jerking limbs, and burning heat of the body.

In apoplexy where extravasation has taken place, and the danger arises from oppression of the vital parts at the base of the brain.

Useful in lead colic and constipation, due to paralytic irritability of the muscular fibres of the intestines; the stools occur in small, round, black, hard balls.

Useful in all conditions arising from fright, alcoholic stimulants and unequal motion.

Depressing emotions of the mind, a nervous excitability, caused by anaemia, chlorosis or pregnancy.

Controls dysentery and diarrhoea by contracting the mucous points.

Profound coma, with puffed face of dark red or

cherry-brown appearance, stertorous breathing, and either widely dilated or contracted pupils.

Amenorrhoea from fright or loss of nutrition to the generative system.

The remedy in the deep sound sleep occasioned by freezing. Acts by relaxing the motors of the cerebral circulation. Always worse from fright, brandy, wine, on rising, during and after sleep, and from cold.

In retention of urine during the course of typhoid or typhus fever, or in old toppers, where it is associated with a depression of the cerebral functions, and constipation.

Of great value in asthmatic conditions, where the inspiration is short and noiseless, with whistling, rattling expiration, and strong contraction of the abdominal muscles.

Dosage is a difficult problem; Hahnemann recommends the 30x and up. The potency can only be chosen by forgetting its physiological effect and studying its finer symptomatology, not for a moment losing its mode of action in the organic tissues of life.

THE OPHIDIANS

Lachesis. Crotalus. Naja. Elaps.
Family of Serpents.

Commentary.—Is the venom of the snake capable of being used for medicinal purposes?—a question asked by many physicians. Judging by the experience, study and research of substances ordinarily used, we might be disposed to answer *no*. But if the *method* of studying the effects of drugs and the *principle* involved in its selection as a remedy, as taught by Samuel Hahnemann, is correct, we find that the serpent poisons have proven a valuable addition to the homeopathic materia medica, and a vindication of the law of *all laws*—*Similia similibus curantur*.

Natural History of the Family.

Crotalus Horridus and *Cascavella*. *Lachesis*.

Family.—Crotalidae (a rattle). The family characteristic, a large pit between the eye and nostril; head broad behind, with flattened crown. The tail terminates in a horny appendage, which in the crotalus has from ten to twenty loose, horny rings. The general aspect of the reptile is fierce, defiant and calmly self-possessed.

The Horridus is the rattlesnake of the Northern and Southern states of North America. Inhabits mountainous regions, forests and caves. Attains a length of from four to six feet, gradually enlarging towards the center, or middle, to from five to eight inches in diameter. Derives its name from the odor

of musk, which it emits on attack. Proven by Dr. Hering.

The Cascavella is the Brazilian rattlesnake, and is found in the Province of Ceara, Colombia and Mexico. Proven by Dr. Mure of Brazil.

Lachesis Mutus.—Inhabits the hot countries of South America. Is upward of seven feet long. Proven by Dr. Hering.

Elaps Corallinus.—The coral viper, of the family Elapidæ. A native of Brazil, Mexico and South America, so named from its red circular stripes. Is two and a half feet in length.

Naja Tripudians.—The cobra di capello of Hindoostan, India. The cobra of the snake charmers. Varies in length from two to four feet, is of the order *Squamata*, and of the same family as the elaps. The neck of this reptile is of loose areolar tissue, which dilates, giving the appearance of a hood covering the head. Proven by Dr. Stokes, England.

Part used is the venom, collected on milk sugar by compression on the sac of the living reptile, and prepared as directed under class VIII.

Convert to a solution by dissolving one grain of the 6x in 50 minims of distilled water, adding 50 minims of alcohol to preserve.

Characteristics of the Venom.

Color ranges from a pale emerald green to orange or straw.

Reaction.—The *crotalus acid*, *lachesis neutral*, *elaps* and *naja* range between; neither acid nor alkaline.

Its *virulence* cannot be destroyed by boiling, freezing or mixing with chemicals.

On *exposure to air* it dries in a yellow mass.

Extracted while shedding its skin, the venom loses its poisonous principle, becomes milky, thick,

viscid and alkaline in reaction. Returns to normal soon as the period of torpidity ceases.

General Rules to Be Observed in the Provings.

Be certain the virus is taken from the reptile during the *period of activity*.

There must have been no general absorption of bile. Use hypodermic needle to introduce the virus into the system, as it is identical with the fang of the reptile. If a number of provers, introduce virus into the same vein, same distance from the heart, and in the same quantity.

An interesting observation.—To bring the reptile from hiding, place a jar containing a decoction of the *tincture of flor de gallo* (cock's flower) in the center of the room or inclosure of garden where the presence of the reptile is suspected; the perfume from the jar entices him to the jar, where further curiosity leads him to inhale its delicious odor with delight, and in a short period of time causes him to become stupid and drunk. (Of value to rid oneself of an undesirable visitor.)

Modes of introduction of the virus into the organism:

Natural.—By the bite of the serpent.

Artificial.—By injection, as referred to in the rule for provings.

By absorption.—Through mucous and serous surfaces.

The object of the various *modes* of introduction into the organism is to determine the mode of death, the quantity and quality given, the length of time required, the *lesions* formed in the organs and tissues, and to bring out the *finer shades* of its pathogenesis.

The *rapidity and fatality* of action of the serpent venom not only depends on the manner of introduction, but upon the *mood* of the reptile; whether irritated or in a benign *mood*; during the state of *tor-*

pidity, at which time the venom loses its poisonous principle, or when the atmosphere is charged with electricity, as before and during a thunderstorm; the electrical changes inspire *fear* in the serpent, they are not apt to attack and is rarely fatal.

Toxicology.—The group has much in common in its toxic and pathogenetic action; their effects and circumstances have been carefully grided, and will be considered as a *whole*, and deducted *individually*.

Dose.—May be studied with reference to its toxicological, and the various degrees of power of pathogenetic action.

Toxic.—*If natural* (bite), the quantity may be unknown; depends on the amount stored, the time since striking last and the following circumstances favorable to its action: the season of the year, the size and variety of the serpent and the resistance of the victim.

If artificial.—The secured venom, either pure or diluted with glycerine or distilled water, taken into the system either by surface or deep injection, in amount ranging from two minims upward.

For the orderly and gradual production of tissue change and its symptoms, the *pathogenetic dose* in its varied degrees of power may be studied:

1.—The first division is the quantity just within the limit of the fatal dose, causing rapid production of the serious morbid effects and characteristic pathological lesions. Dose ranges from one-third to one drop of either the natural venom or in dilution with water or glycerine, and in one dose or divided quantities repeated at short intervals.

2.—The second division ranges from one-sixteenth to one-third of a drop, prepared as the first. The first decimal or centesimal dilution, either form given in one dose, or at repeated intervals. This division causes severe functional derangements and slight structural lesions.

3.—The third division may be deduced from the first and second; is *primarily* used by the administration of the various dilutions and potencies, in all manner of doses and repetition. Causes slight functional derangements and a subtle invasion of the various tissues.

The *effects* of serpent venom may be divided into three degrees, according to all of the circumstances controlling its action.

First degree resembles a stroke of lightning; person bitten starts up, with a sudden cry, as of terror or pain, and falls back dead. Here have *unmodified* action of the venom, death resulting from direct poisoning of the medulla oblongata and sensory nerves, due to *primary* shock. The tissues and fluids of the body remain unchanged, nerves healthy but paralyzed.

Second degree.—The part bitten swells rapidly, turns a dark purplish color, followed by difficult deglutition and respiration, nausea, vomiting of green bloody matter, hemorrhage from the orifices of the body, convulsions and death. The *primary* action of this degree is on the *blood*, the nerve centers being affected last. The symptoms and structural lesions will vary with the duration of life, whether hours, days or months.

Third degree may or may not be *secondary* to the second degree, locating in the most susceptible part. The *secondary* topical effects, as softening, blackness and gangrene, are now developed, along with general debility and failure of vital energy and the special senses. The sepsis may be entirely wanting, the entire pathogenesis locating in the nervous system. In consequence of these changes, the pulse becomes irregular and intermittent, syncopal attacks become frequent and the victim dies worn out with the constitutional effects as a result of the degeneration of the tissues of the body.

The following centers are altered:

- 1.—Medulla oblongata.
- 2.—Pneumogastric: glosso-pharyngeal, and the branches to the lungs and stomach.
- 3.—Sensory centers and nerves.
- 4.—Blood.
- 5.—Filiments of the sympathetic to the peritoneum, spleen, marrow, liver and hollow viscera.
- 6.—Motor system: vaso-motors and endings to muscles.
- 7.—Heart ganglia.
- 8.—Centers, ganglia and tracts of the nerves of special senses—the optic, auditory and olfactory.
- 9.—Muscular fibre.
- 10.—Skin.

Pathology of the altered centers:

Medulla oblongata.—The life of the medulla, with its contained centers, may be instantly or gradually destroyed; the immediate cause is shock, which ends innervation and reflex action and arrests the continued formation of nerve force in the centers and is immediately followed by sudden loss of motive power of the heart and circulation, ending in death.

Secondarily, the medulla rallies from its *primary* shock and for a time recovers its power to combat the increasing sepsis which progressively devitalizes from periphery to center, death ensuing from the same cause as the *primary*.

Symptoms.—Lethal operation of this poison may be so rapid as to not be able to observe the resulting phenomena; profound prostration and unconsciousness might be considered the most important symptoms of this condition. When action is delayed the symptoms are those of profound prostration and depression, twitching, vertigo, delirium, syncope and, as the battle wages hard, exhaustion to death.

Pneumogastric.—May be instantly paralyzed at their origin, without symptoms, unless it be suffoca-

tion, as in the first degree; or its origin, branches and peripherals are gradually destroyed.

Symptoms vary according to the branch affected.

Glosso-pharyngeal.—Affects this nerve as a spasmodic irritant, causing spasm and irritation of the structures it supplies; the most important symptom is that of *constriction* about the throat and a sensation of impending *suffocation*.

The peripheral endings to the lungs are degenerated as a consequence of the extension of the gangrene to the lungs, causing the cells to close and forcing the capillaries to break, filling the bronchi with bloody, frothy mucus.

Symptoms.—Oppression of the chest, dyspnoea, anguish and sharp, sudden pains through the chest.

Vagus endings to the stomach and hollow viscera.—*Crotalus* and *lachesis* are typical of this action, affecting the whole of the digestive tube from the mouth to the anus, involving the nerves, vessels and mucous membrane, causing at first hypersthesia and irritability, later softening and disorganization, hemorrhage and extravasation.

The symptoms are sinking at the epigastrium, thirst, pain, bloating, quivering sensation in the stomach, nausea and vomiting of green, bloody, viscid mucus; the abdomen is tender, with peculiar sensibility to pressure, diarrhoea and dysentery.

The *nausea* and *vomiting* are in a great part cerebral, from action on the medulla and *origin* of the pneumogastric nerve.

Sensory nerves are either *instantly* destroyed without blood changes, as in the first degree of toxic action, or are *gradually* paralyzed, the sepsis preceding as in the second degree. The centers, both in medulla and cord, lose their vitality before the involvement of the motor nerves, thus preventing the transmission of sensory impressions.

Blood.—*Crotalus*, *lachesis* and *naja* destroy the

fibrine and increase the size and number of the white corpuscles, changing the reaction to acid, resulting in decomposition and fluidity of the vital fluid.

The action on the blood is that of a *putrefactive poison*, and is the result of a continued fermentive change, wherein the fibrine existing in the fluid is gradually destroyed, involving in this catalytic change the vessels, muscles and organic structures.

The filiments of the sympathetic are gradually destroyed *secondary* to the blood; effects especially center in the blood-making organs,—the spleen and marrow, the peritoneum and the liver. At the same time the vaso-motor centers and nerves and the motor nerves are depressed to paralysis and are a factor in the breaking of the organism. Lesions of this action are the ecchymoses on the viscera, chest and abdomen; the peritoneum is as a membrane of blood; the cause then of the hemorrhage into the tissues is the breaking of the capillaries and the destruction of the vaso-motors and motor fibres.

The combined action on the terminals of the vagus and sympathetic causes a degeneration of the liver and kidneys, with loss of function, and extravasations of blood in the intestinal canal and bladder.

There may be hemorrhages from any and every organ and mucous surface of the body, with deep-seated accumulations of disorganized blood, resulting in vomiting, involuntary stools, urine and jaundice.

Heart is affected *indirectly* by acting on the vagi at their origin, or *directly* through influence of its ganglia. Its first influence is to cause the centers to discharge irregularly, the pulse rising suddenly to 140 to 160, lowers as suddenly to 75 or 80, only to rise again to 100 or 120; is soft, small, thread-like, trembling, and may be scarcely perceptible. The centers die gradually, ceasing after respiration.

Special senses.—Beginning in the centers, 'the entire tract of the optic, auditory and olfactory nerves

are paralyzed, while the organ of their function appears to be under the influence of the general disorganization.

The symptoms of *vision* are dilated pupils, insensibility to light, objective redness with zone around the cornea, dryness with burning heat, and blindness.

Hearing.—Sensitiveness to noise, vertigo, tingling, ending in deafness.

Entire loss of *smell* so that pungent salts are not noticed.

Muscular fibre.—The effect of serpent venom on muscular fibre is positive and immediate; the wounded muscle at once begins to tremble, quiver and twitch, and in a short time becomes soft and friable. Delayed, it assumes a jelly-like consistency of dark color, the fibres losing all regularity, are easily pulled apart and are dotted with minute granules; as the blood sepsis progresses the wound becomes saturated to a considerable depth with dark fluid blood; it sometimes extends to a considerable distance from the wound; the parts assume an œdematous condition, as in diffuse inflammation of the areolar tissue from other poisons.

Liver.—Through destruction of its nerve life, muscular fibre and blood sepsis the hepatic cells are gradually destroyed, converting its structure into a granular mass, the general sepsis giving the skin a jaundiced appearance.

On the skin there appear various forms of eruptions, as acne, pustules, furuncles, and every kind and degree of discoloration. The skin lesions are phlegmonous in character, itching, redness, swelling, all colors, and range from softening to gangrene, mortification and sloughing. Each year there appear on the skin dark yellow spots and blisters filled with serum, and a leaden color of the face, which lasts through life.

The **mentality** is that of depression without pre-

vious excitement, in which the intellectual powers are diminished and the emotions are depressed; and is due to the saturation of the cortical substance of the cerebrum with degenerated vital fluid.

The *symptoms* range from drowsiness, torpor and stupidity to despondency, moaning, anguish and muttering delirium, in which they complain of being held down, or that they are dead or going to die, and are arranging for the burial; they dream of snakes, have weakness of memory, a continued apprehension of evil, and awaken from sleep in terrible distress and anguish that cannot be allayed.

Summary.

Pain.—Always present; when immediate it results from the laceration of the structures of the part bitten and the contact of the venom with the lacerated nerve fibrillæ; the *secondary* pain results from the swelling and pressure exerted by the effused fluids and the disorganization of the tissues.

Swelling.—A constant result, and due to the escape of blood into the structures of the part; the amount varies, the more vascular the part wounded the more extensive the swelling; its continuation and extent depend on the disorganization, continual oozing, and the infiltration of these into the surrounding tissues.

Hemorrhage, extravasation and discoloration.—Varies in extent when immediate; is the result of the laceration of the vessels and does not exhibit blood changes; the continuance and increase of the hemorrhage is due to the progressive blood change and the disorganized vascular walls and structures of the part, which permit the vessels to break and the blood to escape to the tissues. It sometimes flows in drops, at other times in a continuous stream; the wound, and tissues *remote* from the wound, become

saturated to considerable depth and distance, adding to the discomfort and swelling.

The *discoloration* is the result of the breaking of the surface capillaries, its extent and intensity depending on the deeper extravasation; may extend over the entire limb and exhibits the various changes of the different degrees of green and yellow. The ecchymoses have been frequently described as resembling the color of the snake itself.

Quivering and twitching occur immediately on being pierced with the fang, the muscles receiving the envenomed wound and those in its immediate neighborhood tremble, quiver and twitch and continue to do so until muscular irritability is lost.

Structural changes are those of fermentation, destroying any or all structures of the body, death occurring as the result of the general decomposition.

ELAPS CORALLINUS.

Toxicology.—The toxic effects of the elaps are less virulent than those of the lachesis, crotalus or naja; aside from the generalities of the group, it causes recurrent, excruciating pains in the various organs and muscles; extreme sensibility to touch, hemorrhage in coagula from the orifices and envenomed wound, excessive thirst and syncopal attacks. Death is not usual.

Pathogenetic.

The following centers are altered:

- 1.—Eye.
- 2.—Auditory nerve.
- 3.—Trigeminus.
- 4.—Sensory and motor nerves.
- 5.—Pneumogastric to lungs.
- 6.—Mucous membranes.
- 7.—Brain.
- 8.—Blood.
- 9.—Skin.

Pathology of the altered parts:

Eye.—Selects the nervous control of the eye governing the function of *color*, causing a paralysis which results in a peculiar form of *color blindness*; that of blood spots or a lurid patch dotted with black spots.

Auditory nerve.—As the nerve of hearing becomes involved, sound comes to the tympanum in *successive shocks*, followed by perforation and complete deafness, at which time the **trigeminus** takes up the burden of irritation, causing hyperesthesia and neuralgia, ending in chronic headaches.

Sensory nerves are *primarily* stimulated, causing extreme irritability and sensitiveness to touch; *secondary* they are paralyzed, numbness resulting.

The motor nerves are spasmodically irritated, causing tremor; the action on the above system of nerves depends largely on the amount of softening of the brain substance and at no time is there a loss of irritability of the motor system.

Blood.—Increases the fibrin factors to the extent of clotting in the vessels.

Pneumogastric.—Destroys the peripheral endings to the lungs, causing a change resembling that of phthisis, the bronchi being engorged with clotted blood. The attacks of hemorrhage are preceded by taste of blood, blood spots before the eyes and a torn sensation in the region of the heart.

Causes hemiplegia of the right side with numbness, weakness and coldness, due to softening of the brain.

Mucous membranes. — Especially selects the naso-pharyngeal membrane and that of the ear and bronchi, causing catarrhal and suppurative inflammation, with greenish-yellow, hemorrhagic discharges.

Skin.—From the third to the sixth day it produces eruptions of a crusty furfuraceous character, with itching, soreness and excoriation.

NAJA TRIPUDIANS.

Toxicology.—Aside from the generalities of the group, the poison of the cobra acts *primarily* on the nervous system, causing staggering, moaning, tightness and tension in the cardiac region, and asphyxia.

Pathogenetic.

The following centers are altered:

- 1.—Pneumogastric.
- 2.—Heart.
- 3.—Motors to the cardiac muscle and circulatory vessels.
- 4.—Mucous membranes.

Pathology of the altered parts:

Pneumogastric.—Affects the peripherals to the nose, bronchi, lungs and stomach, causing spasmodic irritation, followed by depression.

Symptoms vary according to region affected; in the respiratory group have all the symptoms and conditions of hay fever, asthma and spasmodic croup, with short, hoarse cough, labored respiration, grasping at the throat and prostration.

The endings to the stomach and the vaso-motors of its capillary supply are irritated at the same time, resulting in hemorrhage into the stomach, causing a vomit of dark fluid blood.

Heart.—Selects the *mitral valve* and the *motor nerve supply of its muscle*; the valve becomes swollen, thickened and fails to close perfectly, causing mitral regurgitation, with sense of oppression; sudden, short, puffing cough, and a sharp, stabbing pain through the chest; as the motor supply of the muscle and the circulation become involved, contributing to the pain and anguish, the pulse becomes unequal in volume and rate, the pain gradually declines and is replaced by tension, dyspnoea, choking and fluttering, which is speedily fatal if relief be not at hand.

The action of the **mucous membranes** is *secondary* to the blood and nerve changes; selects the membrane of the throat, causing a deposit of diphtheretic form, thick, tenacious and of bad odor.

The symptoms are those of low grade of inflammation; prostration, suffocation, aggravated from lying down, and dyspnoea are among the most prominent symptoms.

Mentality.—Causes a melancholia bordering on insanity, with a tendency to suicidal mania.

Characteristics as a Group.

Blood.—Lachesis, crotalus and naja cause decomposition and fluidity of the blood.

Elaps by increasing the clot elements, causes firm coagula which extends to the vessels.

Motility.—Trembling; tremor may be of one muscle or all, and is due to the struggle of the nervous system to live.

Respiration.—Dyspnoea; due to action on the origin and the branches of the pneumogastric.

Heart.—Weakness of heart action; due to blood changes and degeneration of the cardiac centers.

Coldness.—Of extremities; due to lowered blood pressure and is traced to the sepsis.

Suffocation.—Choking and constriction about the throat; due to irritation of the glosso-pharyngeal and pneumogastric.

Suppression of the excretions and secretions; due to depression and destruction of organic life.

Antidotal.

An antidote will act in all cases where no organic lesion exists in the mucous membrane.

Chemical.—Cauterization, *bromine*, *iodine*, and *potassium permanganate*; incision.

Physiological.—*Alcohol*, *ether*, *ammonia* and the gall of the reptile; *ledum pal.*, *aristolochia milhomens*.

Medicinal.—*Arsenicum, arnica, rhus tox., hyd. ac., and apis.*

Other measures are tight ligature above the wound, the application of a recently killed chicken with its bile on the bitten point to absorb the venom.

Inoculate for immunity by incising the deltoid and applying the tincture on cotton; acts in twenty days.

Therapeutic Characteristics as a Group.

Lachesis and Crotalus.—Bearing in mind that the lachesis has *primary* action on the *nervous system*, and crotalus the *haematic*.

Useful in diseases characterized by *profound neurotic depression*, arising from zymotic disease, toxæmic states resulting from albuminuria, scurvy, leucocythaemia, alcoholism or other intoxications.

In *asthenic pyæmic inflammations* of gangrenous, phlegmonous character, associated with low vitality, hemorrhagic diathesis, and depravation of the blood; as in erysipelas, anthrax, felon, carbuncle, purpura, burns and scalds, dissection wounds, stings of insects, such as bees, wasps, spiders, scorpions, etc., and ulcerations. The most important symptoms are: fever of a low type, dark sanguineous accumulations of pus, and exhaustion.

In jaundice of *haæmetic* origin, occurring during the course of toxæmic diseases, as puerperal fever, hepatic atrophy and yellow fever.

Fever.—Not useful in the sthenic inflammatory type, but in low asthenic *secondary* fevers, arising from septic poisoning and *secondary* infection.

The *symptoms* depend on the amount of vital depression and the extent of the disorganizing processes, and as to whether the disease runs a rapid or indefinite course.

Prominent symptoms are: Torpor, drowsiness, tremulousness, general chills, coldness of the surface

of the body, high pulse, unequal in volume and rate.

The delirium may be termed the delirium of *sepsis*, in its confusion, intoxication and muttering lethargy of death, snakes and general apprehensiveness.

The countenance of *lachesis* is sunken and cadaverous; that of *crotalus* bloated, besotted and of drunken appearance.

The *crotalus* fever exhibits more depression and relaxation of the vital forces, higher temperature and more tremor than the *lachesis*; the discharges of either may be involuntary and of blood which resembles charred straw; the tongue is black, bleeding, slimy and catches on the teeth; when asked to protrude it, it comes forth trembling and points to the left.

Both remedies are useful in the malignant type of the eruptive diseases: scarletina, morbilli, variola and vaccinia; where on invasion there are symptoms of toxæmic intoxication, vomiting, general collapse, coldness, bleeding of the orifices; dark, scanty or confluent eruption, and dark, smoky, bloody or albuminous urine.

Useful in *vertigo*, dependent on:

- 1.—Lightning-stroke, sunstroke and fright.
- 2.—Venous congestion; dependent on septic intoxication.
- 3.—Anæmic; due to lack of cerebral nourishment on account of debilitated heart.
- 4.—Auditory; due to pressure on the semi-circular canals by tympanitic distention.

Most important symptoms are fainting, nausea, vomiting, yawning, palpitation and feeble pulse.

Peritoneal irritation or inflammation.—When occurring during the course of septic or zymotic diseases; with low temperature, debility, exhaustion, and hemorrhage.

Diphtheria.—The *lachesis* membrane begins on the left and goes to the right, with much swelling at the angles of the lower jaw, aggravated by swallowing fluids and a tendency to gangrene.

Crotalus is a degree more septic, with hemorrhages from the nose and throat.

In *naja* the larynx is invaded, causing the patient to grasp at the throat for room; short, choking, hoarse cough.

Elaps becomes the remedy in chronic throat conditions, with periodical attacks of ulceration, phlegmonous and hemorrhagic in character, mental depression and syncopal attacks.

Heart.—*Elaps* does not affect the heart.

Naja.—All organic diseases; mitral regurgitation, angina pectoris and neuralgia. Has sensation of a hot iron being thrust through the chest, with choking and anguish.

Lachesis.—Due to *innervation* of its ganglia; may be independent of sepsis, accompanies climatic changes.

Crotalus.—Heart affected *secondary* to blood sepsis, in which the degeneration of the nervous control and muscular structure causes a debility and softening of the vascular walls; with palpitation, and weak, trembling pulse.

Elaps is adapted to chronic diseases arising from constitutional dyscrasia; as chronic suppurative inflammation of the middle ear and throat, laryngeal and pulmonary phthisis.

Its most important symptoms are taste and vision of blood spots, black cerumen in the ear, and depression.

Modalities.—Sleeps into an aggravation, awakens choking; worse before and during a thunderstorm; the electrical changes act as a depressant, with a sensation of helplessness and fear; worse from 12 a. m. to 12 p. m.

From exposure to the extremes of temperature; either too hot or too cold.

From touch; no matter how slight. Why?

From wine, smoking or stooping; crave oysters, wine and milk.

Are constantly obliged to take a deep breath. Why?

Are easily exhausted on the slightest exertion.

Other symptoms are dimness, loss of or illusions of vision.

Where the *pain is out of all proportion* to the *visible mischief*.

Confusion and forgetfulness of letters rather than words.

All nervous conditions are marked by uneasiness, restlessness, fear, suspicion, depression, drowsiness, anguish and defective memory.

The dose varies and ranges with the intensity of the morbid condition calling for its use; is potent from the 6x to the *limit of its divisibility* as an organic compound.

PHYTOLACCA DECANDRA

Poke. American Nightshade. Pigeon Berry.

Nat. Ord., Phytolaccaceæ.

Habitat, North America; growing in light, rich soils. Is a common weed in the countries bordering upon the Mediterranean Sea, introduced from America.

Root is perennial, fleshy, fibrous, brown color, white center.

Stem.—Annual from the root; is from one to two inches in diameter, six to ten feet high; smooth, round, branched, and of purplish color.

Leaves.—Smooth, entire, oblong-ovate and pointed, occur on short petioles and are of a rich green color.

Flowers.—Small greenish-white blossoms in terminal racemes; flowers throughout the summer months.

Yields a *purple berry* containing a purplish juice.

Plant contains a large percentage of potassium and an acid with which it combines to form phyto-lactic acid.

Pharmacy.—The \emptyset is prepared from the fresh root gathered in autumn, according to class III.

Toxicology.—Action is that of a choleric irritant.

Lethal doses of the \emptyset and fresh root cause nausea, vomiting, purging, thirst, drowsiness, dimness of vision, vertigo, prostration, coldness, convulsions and death.

Antidotal.—*Coffee, milk, salt, ammonia, bell., merc. sol.*

Pathogenetic.

The following centers are altered:

- 1.—Medulla.
- 2.—Sero-fibrous tissue.
- 3.—Glands.
- 4.—Blood.
- 5.—Digestive tract.
- 6.—Kidneys.
- 7.—Skin.

Pathology of the altered centers:

Medulla.—Selects that portion controlling motion, causing a *primary* irritation, ending in convulsions, in which the extremities are stiff, the muscular rigidity extending to the masseters and muscles of the chest, forbidding the taking of nourishment or remedial agents. Other symptoms are dyspnoea, audible mucous rales, intermittent drawing down and relaxation of the chin, contracted pupils; soft, unresisting pulse, and retention of urine.

Secondary exhaustion follows the rigidity, commencing in the lower limbs, gradually extending upward, with lassitude, weakness, vertigo, and sensation of intoxication. Does not impair the motor nerves or muscular fibre; action is *central* from the medulla-spinalis to the furthest extent of its influence.

Sero-fibrous tissues.—Selects the fibrous coverings of muscles, sheaths of nerves in general, sciatic in particular, and periosteum, causing rheumatoid inflammation and hypertrophy.

The *symptoms* may be defined as: darting, shooting and aching, and favor the outer surface of part affected, followed by a paralytic weakness and a steady, dull ache.

Glands.—Has special action on the thyroid, par-

otids, tonsils, mammary and generative, causing inflammation, induration and abscess.

Symptoms vary according to the gland affected.

Tonsils.—In addition to the glandular change, the tonsils are covered with either a dirty-gray or ash-colored pseudo membrane, diphtheretic in character and of cadaverous odor; *other symptoms* are difficult deglutition, profuse ropy saliva, aching and faintness on rising.

Mammary.—Not only causes engorgement, but multiple abscess and nodosities; with fistulous pus tracts, degenerating to a hard, cancerous mass; the most *important symptoms* are sensitiveness, hardness and pain radiating from gland to other parts of the body and spinal cord.

Blood.—Increases the fibrin, causing weakness of cardiac action and is a factor in the rheumatic and glandular conditions.

Symptoms are alternate chilliness and sensation of warmth, cold perspiration and neuralgic pains.

The action upon the **digestive tract** is *secondary* to its action upon the origin of the pneumogastric and vomit center; action may be delayed several hours, being centric, vomiting occurs suddenly and with small effort, as in the choleras. Soon have tenderness in the bowels, burning in the rectum, tenesmus, mucous, bilious and bloody dysenteric discharges; the continued alternate vomiting and purging results in choleric coldness, slow pulse, muscular debility and exhaustion. *Other symptoms* are rumbling of flatus in the intestines, griping pains, scraping, excoriating sensation in the throat and an irresistible desire to bite the teeth together.

Kidneys.—Prevents rapid filtration, ending in fatty degeneration as the fibrous tissues become involved; the urine is albuminous, of acid reaction and high specific gravity, dark-red color, depositing either a deep-red stain or a chalk-like deposit.

On the **skin** continued dosage causes an eruption of reddish-pink, erythematous blotches; of irregular shape, elevated, terminating on desquamation in a dark-red or purple spot, requiring about thirty days to pass through its various stages. The most *prominent symptoms* are restlessness, soreness, itching and severe pain. Skin lesions may be accompanied by periosteal nodes, or be referred to the mucous membranes.

Mentality.—Depression, listlessness, sense of entire indifference to life, develops a loss of personal delicacy with a total disregard of appearances.

Characteristic symptoms.—Aching of the back and legs as though pounded, followed by prostration. Feeling as if a hot iron had lodged in the throat. Sweetish odor from the mouth and breath.

Boring, cutting, rumbling, griping pains in the abdomen, followed by the passage of offensive gas.

Easy vomiting with or without much nausea.

Skin lesions so sore that they cannot be touched.

Sensation as though the brain were bruised, on stepping down.

Deep-seated soreness in the right side of the head.

Therapeutic Characteristics.

Adapted to individuals of rheumatic diathesis, and those suffering from secondary or tertiary syphilis.

Chronic rheumatism of the small joints and scalp, affecting the periosteum, sheaths of muscles, nerves, and fasciæ.

Useful in diphtheritic inflammation and ulceration of the throat, marked by adynamia and partial post paralysis.

In choleric dysentery, caused by bad atmospheric conditions.

In albuminuria, due to scarletina and nephritis.

Useful in inflammation, swelling and suppuration of the mammæ; here it reduces the inflammation, increases the activity of the absorbents, reducing an apparently large abscess to its smallest dimensions.

The remedy in recurrent and neglected mammary abscesses, where they degenerate into fistulous ulcers.

In cracked and excoriated nipples—scirrhous cancer.

Useful in organic affections of the uterus, as tumors, scirrhous cancer, and ulcerations.

Skin lesions resulting from secondary syphilis, or rheumatism.

Aggravation.—At night; damp weather, and from motion.

The phytolacca patient is sensitive, depressed, listless, all conditions going on to adynamia and exhaustion.

The *symptoms* of most of the complaints partake of a rheumatic character, commencing with severe pain and soreness in the limbs, back, neck or head.

Paralytic weakness of the muscular system accompanying most diseases; due to motor nerve involvement.

PHOSPHORUS

An Element.

The name phosphorus is derived from the Greek *phos* (light) and *phoreo* (I carry).

First discovered by Brandt, a chemist of Hamburg, in 1669, in the urine.

Is a normal constituent of bones, urine and nervous tissue. Does not exist free in nature, but in combination with *ferrum calcium* and *magnesium*, to form phosphates.

Is obtained from the ashes of calcined bones burnt in the open air, by treating with *sulphuric acid*, evaporating and distilling the resulting residue with charcoal; the crude product is then purified and oxidized with *sulphuric acid* and *potassium dichromate*, after which the melted phosphorus, while under warm water, is run into tubes to form sticks.

To prepare the \emptyset .—Place strong 95% alcohol with an excess of phosphorus in an open bottle over a hot water bath until melted; shake until cold, decant. Drug power 1/1000. Equals 3x. Prepare *potencies* by adding to ten drops of this solution ninety drops of alcohol, which gives the 4x or 2x. Then proceed according to the usual manner.

A trituration may be made by cutting one grain of phosphorus stick into twelve pieces; add 100 grains of sugar of milk and 15 drops of water; knead to a paste and triturate to dryness. Prepare according to class VII.

Phosphorus is the principal ingredient in rat

poison, roach paste and match tips, in amount from 1 to 4 per cent.

Toxicology.—Is a *specific irritant* and *haematic* poison.

Action may be arranged in two groups—immediate or delayed. The *symptoms of the first group* are those of *irritant* poisoning; the nausea is immediate, and is soon followed by vomiting of bilious, bloody matter, *stained* with the color of the preparation taken, whether matches, roach paste, or the stick which resembles brown candy, and with odor of garlic. Soon have diarrhoea of bloody stools, perforation, exhaustion and death. Should they survive they apparently improve, when on the third or fifth day the *delayed* or *haematic* action asserts itself in the worst form of blood sepsis.

The skin assumes a dry, harsh texture, with a yellow tint, due to enlargement and degeneration of the liver, and is out of all proportion to the *time* of poisoning.

Hemorrhages from the orifices and ecchymotic spots over the surface of the body. The urine may be entirely suppressed or, if scant, is albuminous and phosphorescent, soon have delirium convulsions and death.

Diagnosis of phosphorus poisoning depends on the *odor* of garlic and the *luminosity* of the breath and vomited matters.

A form of *chronic* poisoning is observed in match factories, where the workmen exposed to its fumes are attacked with a peculiar disorganization of the teeth and maxillary bones, known as “lucifer disease” or “phosphorus necrosis,” ending in gradual decay of the vital functions.

The fatal dose varies from one-fifth to two grains. Two or more matches.

Fatal period.—One-half hour to twenty-four.

Chronic.—Four days to several months.

Antidotal.—*Never give oils or fats*, as it hastens absorption. Promote vomiting with *carbonate of magnesia, zinc sulphate, milk, lime water and albumen*. Wash out the stomach with a 1 per cent solution of *potassium permanganate*, allowing part to remain in the stomach, where it *oxidizes* the phosphorus; in the absence of a stomach tube, give four grains to the ounce of water.

Dynamic antidotes are *nux vomica, camphor, sulph., ferrum, terebinth, calc., magnesia*.

Pathogenetic.

The following centers are altered:

- 1.—Nervous tissue.
- 2.—Motor centers and nerves.
- 3.—Motor oculi and abducens.
- 4.—Sensory centers and nerves.
- 5.—Blood.
- 6.—Bones.
- 7.—Mucous membranes.
- 8.—Parenchyma of liver, spleen, kidneys, lungs and heart.
- 9.—Muscular tissue.
- 10.—Generative.

Pathology of the altered centers:

Nervous tissue.—Enters its normal composition in the form of "protagon," holding the same relation to nervous structure as iron to the blood and calcium to the bones.

Its *percentage* is variable: exists in the centers in from 1 to 2 per cent, gradually increasing from infancy to adult life, and decreasing to old age.

Function.—Is a nutrient to nerve tissue, and controls the element regulating the renovation of its structure.

Any *deviation* from the *normal supply*, whether by *loss* or *excess*, results in destruction to every tissue it nourishes and feeds. Administration of phosphorus

acts primarily as a stimulant, the amount and extent of the stimulation depending on the *percentage of normal phosphorus*; continued, and in excess, it impairs the vitality of the nervous centers, causing them to become pale, soft and bloodless.

Symptoms.—Trembling, weakness of the extremities, tottering gait, ending in progressive paralysis; the spine is not sensitive nor painful, but carries a *sensation of extreme weakness*, in which the sufferer sinks to the floor.

As the **motor endings** controlling voluntary motion become involved, their irritability is at first increased, causing an alternate twitching of the muscular bundles, painless and excited by contact. *Secondarily*, it destroys the irritability of the *motors*, and the contractility of *muscular fibre*, thereby diminishing and in the end paralyzing the power of movement.

The **sensory nerves** are progressively destroyed, causing loss of sensibility from periphery to center, with symptoms of formication and numbness.

Causes neuralgia of the *3rd, 6th, cranial and intercostal nerves*.

Symptoms and results of action on nervous tissue:

Progressive paralysis; depression to complete exhaustion.

Softening of the brain; embarrassed pronunciation, epilepsy.

Pseudo-hypertrophic paralysis; formication, numbness of the hands and feet.

Blood.—Dissolves the red corpuscle, separating the discs into haematin and globulin, the plasma floating a purple coagulum, which in turn destroys itself, leaving the blood dark, fluid, phosphorescent, and contained in the arteries after death.

Bones.—By osmosis the phosphorus is carried to the osteogenetic tissue, upon which it acts as a specific

plastic irritant, increasing the compact tissue in the long bones, even to complete closure of the medullary cavity, the irritant effect of the excess bone tissue ending in suppuration with fistulous openings; a necrosis added to the ossificatory process.

Continued inhalation of the vapor causes extensive necrosis of the maxillary bones, with loose teeth and fistulous openings.

Muscular tissue.—Selects the parenchyma of the viscera, both hollow and solid; muscles. By decomposing the albuminous substances in the tissues, and preventing oxidation, it causes a deposit of fatty granules in the sarcolemma: the muscular texture is lost, is of dark color, friable and easily torn.

Heart.—The entire heart muscle may be filled with the fatty deposit, the sounds varying according to the degree of degeneration present; are early characterized by a failure of difference between the first and second sounds, the pulse varying in frequency from forty to ninety beats, and extremely feeble.

The fatty deposit in the **arteries** favors and is the direct cause of the tearing of the capillaries as the circulation makes its circuit, thus favoring and inducing hemorrhage; the ecchymotic spots occurring on and in all parts of the body, with profuse bleeding from the orifices.

Kidneys.—The cortical substance is filled with the fatty deposits; the uriniferous tubuli with exudation of fatty drops, and the malpighian corpuscles appear as red points, representing hemorrhage into the tissues, resulting in structural degeneration and hypertrophy.

The *urine* presents the following changes: Greenish yellow color, scant, contains albumin, blood, fibrin casts and a substance resembling peptone.

Liver and biliary ducts.—Usually affected twenty-four hours after the gastric symptoms subside; the substance of the liver is brittle from fatty deposits,

of pale yellow color, and the *capsule* along the course of the vessel is marked by hemorrhagic spots. The symptoms marking the invasion are chilliness, temperature rise, continued bloody vomit, urticaria and jaundice.

As the *secondary* action creeps on, its *secreting structure* is replaced either by a proliferation of cells and an aggregation of nuclei, or a fatty degeneration of the cells, thus destroying its functional activity, causing atrophy and cirrhosis of three degrees, viz., smooth induration, contractive and granular atrophy.

At the same time the lumen of the *biliary ducts* is obliterated by reason of the swelling and inflammation of the mucous membrane; the occlusion of the biliary passages causes resorption of the bile, jaundice resulting.

Mucous membranes.—*Gastro-intestinal:* The membrane is swollen and thickened, while the epithelial cells are filled with fatty granules, which, as they degenerate, leave the membrane denuded and dotted with eccymotic spots, a condition of adenitic inflammation; action continued, the interstitial connective tissue becomes involved, causing an indurative cirrhosis, analogous to the change in the structure of the liver.

Symptoms.—*Vomiting;* occurs early; consists of food, mucus, bile and blood; is luminous in the dark; ceases second or third day, only to reappear with the jaundice; is now coffee-colored from decomposed blood. Other symptoms are pain and tenderness in the right hypochondrium and epigastric region, tenesmus, diarrhoea, hectic fever, marasmus and sensation of heat in the stomach.

Lungs.—Acts on the substance of the respiratory organs as a pure irritant, causing congestion and solidification of the lower lobes, ending in suppuration and purulent infiltration; the cough is at first dry with scanty sputum, later becomes harsh, with puru-

lent sputum, weakness, emaciation, hectic fever, hoarseness, tightness across the chest, and dyspnoea; as the suppuration progresses, cavities are formed, and all of the conditions of infiltration and ulceration of the intestinal canal are developed, ending in phthisis.

The generative organs of both sexes are *primarily* stimulated with increase of functional power to satyriasis, and is followed by long continued depression to paralysis, with loss of function.

Deductions.

Lesions.—Fatty degeneration of the parenchyma of the solid and hollow viscera.

Degeneration of the blood and nervous tissue.

Increased bone-cell formation.

Results of lesions.—Adenitic inflammation of the mucous membranes; induration and hypertrophy of the secreting organs, hemorrhagic effusions, pseudo-hypertrophic paralysis, osteogenetic necrosis, and pulmonary purulent irritations.

Mentality.—Apprehensiveness, apathy, sadness, depression, anxiety, bewilderment and melancholia.

Therapeutic Characteristics.

Adapted to tall, slender individuals with fair ivory skin, dark eyes and hair, of sensitive disposition, with quick and lively perceptions, easily out of courage and despondent.

Is the remedy in acute, subacute and chronic diseases of asthenic and adynamic form.

Where there is a *lack of nutrition* in the nervous system or vital fluids.

Diseases depending on *fatty degeneration*, as cirrhosis, ulcer, albuminuria, purpura, hemorrhagica, atheroma, hypertrophic paralysis, atrophy of the liver, and typhus.

Diseases of *haematic* origin, as pernicious anaemia of leucaemic, hydraemic, marasmic and phthisical in-

dividuals; haematura, hemorrhagic exanthema and fungus haematodes.

Where *jaundice* complicates *toxaemic* affections, as in yellow and typhus fever, pyaemia and cancer, is of hepatic origin and malignant in character, occurring *secondary* to blood infection.

Pneumonia, occurring in a subacute and lingering form in delicate, overgrown or phthisical individual, with sanguinous infiltration of the parenchyma, red hepatization, and brick-dust expectoration.

Relieves and prevents *croup*, by combating the paralysis and narcosis through the carbonized blood.

Its most important symptoms in diseases of the respiratory tract are dyspnoea, sense of suffocation, prostration, hacking, irritating cough, tightness, haemoptysis, and where it assumes a typhoid form.

Ruling characteristics.—Fine, sensitive, perceptive power, sensation of weakness and emptiness in the abdomen.

Vertigo and disposition to fall down; mornings.

Face pale, looks like *polished ivory*; icteric, earthy or sunken.

Vomits soon as the food touches the stomach; bile, blood and blackish substances.

Asthenia, complete exhaustion of the mind and body.

Worse evening to midnight, from cold and from motion.

All aggravations occur at twilight and before thunderstorms.

Craves wines and acids.

Prostration and paralysis traceable to sexual excesses.

Absence of pain in nervous affections.

Is relieved from lying on the right side, from cold food or water, and after sleep.

(Reader is referred to Burt's Pathogenesis for detailed symptomatology.)

PODOPHYLLUM PELTATUM

May-Apple, Mandrake, Ground Lemons, Duck's Foot, Indian Apple.

Nat. Ord.—Berberidaceae.

Habitat.—Middle and Western states of North America; growing in wet meadows and damp open woods.

Is a perennial herbaceous plant, growing from six to eighteen inches high.

The *root* is creeping, from one to three feet long, jointed, smooth, one-fourth to one-half inch in diameter, of brown color, and rootlets at the joints.

The *stem* is of two kinds: the flower and flowerless.

The *flowerless* are single, erect, round, twelve to eighteen inches high, surmounted by a single, seven to *nine-lobed leaf*, which is *round* in general outline, peltate in center, resembling an umbrella; each *lobe bifid* and *sharply dentate* towards its apex.

The *flowering stems* bifurcate at the summit, thus bearing two leaves, and between them a solitary, pedunculated flower; the leaves are one-sided and more deeply cleft than those of the flowerless stem.

The *flower* is white; is composed of a number of closely set fleshy lobes, resembling the half meat of a hickory nut. Blooms according to location from May to September. Its *fruit* is a lemon-colored plum-shaped, one-celled berry, maturing in August or October.

Whole plant has a strong narcotic odor and a nauseous bitter taste.

The dry root yields a grayish yellow powder.

Its most important *alkaloid* is podophyllin.

Pharmacy.—Prepare the \emptyset from the fresh root in fruiting season, according to class III.

The alkaloid in trituration according to class VII.

Toxicology.—Its action is that of a vegetable irritant, and takes rank with jalap, bryonia and croton oil.

Lethal doses of the \emptyset and ingestion of the ripe fruit causes in from six to ten hours tormina, tenesmus, vomiting, muco-bloody dysenteric discharges, exhaustion and death.

In compounding mandrake pills, the *dust* causes conjunctivitis with perforating ulcer of the cornea.

Antidotal.—*Lactic acid, nux vomica, colocynth, leptandra, hot towels and ipecac.* Salt increases its action.

Was used by the aborigines to expel worms, to commit suicide, as a cure for deafness, and as a means of determining their chief.

Pathogenetic.

The following centers are altered:

- 1.—Involuntary muscular fibre.
- 2.—Mucous membranes.
- 3.—Liver, gall-bladder and ducts.
- 4.—Salivary glands.

Pathology of the altered centers:

Involuntary muscular fibre.—Selects that of the capillary vessels, abdominal muscles, hepatic system, and sphincters, causing a *primary stimulation*, with its cramp, colic, tenesmus, and diarrhoea; a *secondary paresis*, resulting in passive congestion, in which the lattice-like tissue of the capillaries relaxes, with abundant deluge of serum into the tissues, which, in turn, irregularly stimulates the *epithelial* activity of the

mucous glands and gastric juice, causing nausea, vomiting, colic, prolapse of the sphincters and exhaustion.

Mucous membranes. — Gastro-intestinal tract; *secondary* to capillary involvement; the membrane in general is congested and inflamed, while ulcerations appear in the stomach, duodenum and rectum.

Symptoms.—Nausea, impaired appetite, bad taste, unusual thirst, white tongue, burning and pain, eructations, vomiting of bitter bilious fluid, headache, offensive breath, griping and dysenteric discharges, dizziness, vertigo and exhaustion.

Reflex symptoms are rolling of the head, moaning and grinding of the teeth.

As the *secondary* effect becomes apparent, the lax state of the intestines, with its soft, muco-bloody dysentery, is replaced by an inactivity, which induces constipation, hemorrhoids and prolapsis recti.

Liver, gall-bladder and ducts.—The *primary* action of the mandrake on the hepatic system is that of a stimulant, and occurs as the natural consequence of the pressure exerted upon the gall-bladder and liver by reason of the undue stimulation of its involuntary muscular supply, as well as those of the abdominal muscles and capillaries; as a result of this stimulation the gall-bladder is *forced* to contract from the fundus downwards, carrying the bile like a *storm* into the duodenum; and the hepatic cells are contracted and forced to yield their secretion in the same way, the combined precipitation causing vomiting, diarrhoea, and is a contributing factor in the ulceration of the mucous membranes.

Secondarily, the liver, which has been so active, reacts upon itself; the erstwhile contraction of its cells and capillaries goes steadily on, causing a gradual closing of their secretory structure, with consequent failure of secretion; the symptoms depend on the amount of depression present; the diarrhoea ceases, and is succeeded by intestinal torpor, with its clay-

colored stools, sallow complexion, dull headache, furred tongue, sensation of fullness, heaviness and soreness in the hepatic region, more or less jaundice, and foul bitter taste.

Salivary glands.—Are stimulated to salivation; is more active if the system has been shattered with mercury or heavy diet of salt.

Causes an alterative action *secondary* to the paresis of the capillary vessels, by an extension of the inflammation of the mucous membranes and liver to neighboring tissues and organs, selecting the serous membranes, kidneys, uterus and heart for its point of attack.

The action on the *heart* is *secondary* to the drain or purging; the impulse is feeble, the pulse weak, while the surface of the body is cold and clammy; all followed by collapse and death. Action is that of a choleric irritant.

Kidneys.—A nephritis, with its scant bilious urine.

Uterus.—Action is referred to the fundus, causing metritis and amenorrhoea.

Has no marked effect upon the sensorium; causes depression of spirits and vertigo, with a tendency to fall forward.

Deductions.—Action resembles *mercurius dulc.* in its action on the liver and glandular system, similarity ceasing at this point.

Its *direct* sphere of action is the portal system; *indirectly* all other systems connected with that by nervous and vascular ties.

Causes *nausea and vomiting* by combined capillary stasis and bile precipitation.

Causes *exhaustion* by depressing the muscular fibres of the heart, *secondary* to the purging.

By *referred action* causes irritative fever.

Therapeutic Characteristics.

Adapted to diseases having their origin in the hepatic system.

To ulcerative inflammations arising in the paresis of involuntary nerve fibre.

Is of value in the expulsion of gallstones; dose must be large enough to increase peristaltic action of the gall bladder to such an extent as to actually sweep the gallstones before it, as it contracts the fibres from above downward.

Indicated in periodical fevers of quotidian, tertian or quartan type; where the portal system is involved; relieves by regulating the irregular, inactive liver.

Its use should be restricted to liver constipation.

In the diarrhoeas of childhood; with colic, straining, watery, green or chalk-like, in the morning, and with prolapsus ani.

Is of value in gout to prevent a recurrence.

The mental state is that of depression; whining in sleep, forgetful and hypochondriacal.

All symptoms are worse in the morning, from cold, and from walking on uneven ground; misstep.

In bilious vomiting: tongue full and broad, pasty, showing the imprint of the teeth.

PULSATILLA NIGRICANS

Windflower, Meadow Anemone, Pasque-Flower.

Nat. Ord., Ranunculaceae.

Is native of central and southern Europe; growing in clear pine forests, on sunny, elevated places in sandy soil; is exposed alike to sunshine and storms, from which fact it derives its name.

Its leaves arise directly from the root, forming a crown upon the ground; are plume-shaped and of a dull green color.

The *flower-scape* arises from the crown of leaves, is round, smooth, leafless, and from three to six inches high. At its summit, from May to September appears a beautiful, campanulate or bell-shaped flower of dark violet color, its six petals narrowed and revolute at their points, and pendulous during full flower.

The whole plant is beset with soft, silky-like down, which gives it a lax woolly appearance; is odorless unless bruised, when it emits an acrid vapor, causing lachrymation. On distillation yields the alkaloid *anemonin*.

Pharmacy.—Is prepared from the fresh plant at flowering time; in proportion of two parts by weight of alcohol to one of pounded pulp, and gradually mixed. Drug power $1/6$.

Prepare dilutions according to class III.

The alkaloid as directed under class VII.

Toxicology.—Lethal doses cause nausea, vomiting, dysentery, lowered temperature, dilated pupils, stupor, coma, convulsions and death.

Antidotal.—The acids, *nux vomica*, *aconite*, *bell.*, *merc.*, *ignatia*.

Pathogenetic.

The following centers are altered:

- 1.—Venous circulation.
- 2.—Motor and sensory nerves.
- 3.—Mucous membranes.
- 4.—Pneumogastric.
- 5.—Synovial membranes.
- 6.—Skin.

Pathology of the altered centers:

Venous circulation.—Depresses and paralyzes the muscular coat of the vessels and right ventricle of the heart, causing a laxity of the vessels, resulting in retarded circulation, which in turn induces a tortulous fullness of the vessels of any part of the body: a passive venous congestion and dilation of the right ventricle.

Motor and sensory nerves.—Is an anterior and posterior spinant; stimulates the *motor nerves* to twitching and tremor; the *sensory* to hyperæsthesia, neuralgia and chilliness; the action of both systems is *referred reflexly* to the sympathetic, causing many reflex irritations: as nausea, vomiting and palpitation of the heart, in its effect on the uterus; toothache, vertigo or headache from causes *remote* from the *apparent* location of the disease.

Through action on both systems, it affects the muscular coat of the uterus, causing irregular spasmodic pains, chilliness and tremor.

Mucous membranes.—Causes a *primary* catarrhal inflammation of the mucus glands, with dryness of the membrane; *secondary*, the inflammation resolves itself into a profuse, mucous discharge, of greenish yellow color, bland, rarely going on to ulceration. If suddenly arrested, it is carried through sympathetic medium to the sero-fibrous tissues, or

to some other mucous surface, where it causes a *secondary* active inflammation.

The *symptoms* vary according to the membrane affected: In the *digestive tract*, nausea, vomiting and mucous diarrhoea, with white furred tongue, rising of bitter, sour fluid to the mouth, tightness about the stomach and absence of pain.

In the *respiratory tract*, it simulates sub-acute colds and catarrhs, with its salty expectoration, cough and greenish-yellow discharge from the nose.

Eye.—A profuse discharge from the membrane, with agglutinated lids in the morning, twitching of the eyelids and dazzling sight.

From the *ears* the discharge is thick and mucopurulent, with snapping noises and pain along the right eustachian tube, ending in deafness.

Pneumogastric.—Affects the supply to the bronchi and lungs; *secondary* to the mucous membranes, causing asthma and wheezing.

Synovial membranes.—Selects the knees, ankles and small joints of the feet and hands, causing sub-acute inflammation of gouty rheumatic character, followed by white swelling and shifting pains.

On the *skin* it causes a variety of eruptions of buish-red color, itching, and in size from a miliary point resembling measles to the raised blotches similar to urticaria.

Generative organs.—Action is marked, but not easy to define; in the female causes contractive pains in the uterus, various kinds of leucorrhoea, and scanty, delayed and painful menses; does not affect the ovaries. In the male, it causes acute orchitis, inflammation of the spermatic cord, and varicocele.

The **mentality** of pulsatilla is that of sunshine and rain, exhibiting its botanical characteristics; causes the prover to lose courage, to be despondent, to weep, and is returned to laughter with equal readiness.

Therapeutic Characteristics.

Adapted to individuals of blonde type and of lymphatic constitution; changeable, tearful disposition, fitful moods, and a tendency to inward depression and quiet grief.

Useful in gastric disorders, due to mucus derangements, resulting from fat foods, pastry and fruit ices, with white, furred tongue, nausea and absence of pain.

In fevers, where chilliness predominates, and there is passive venous congestion, with intolerable burning heat, thirst and throbbing headache.

In rheumatic gout and synovial rheumatism, due to suppression of catarrhal discharges, indigestion, and to menstrual irregularities.

In diseases following parturition; as phlegmasia, crural phlebitis, and acute mastitis.

It presides over the function of parturition; given for some time before, it facilitates the process in women whose labors are tedious and difficult.

In false presentations it favors spontaneous version, after labor promotes the secretion of milk and improves its quality.

In chlorosis, due to uterine irregularities, or a venous constitution.

For catarrhal coughs not depending upon an organic base, in the form where asthmatic disturbances arise from emphysema, with catarrhal irritation in the throat.

Symptoms are worse in the early evening, from warmth, lying on the left side, damp weather, and from rich foods.

Relieved in the open air, from midnight to noon, from exercise, from lying on the back, and from pressure.

Is the remedy for chronic intermittents, complicated with chlorosis and hydraemia, where the gas-

tric symptoms predominate. Bad effects from quinine and iron.

Characteristics.—Chilliness, trembling, restlessness, numbness and gentle tearfulness.

RHUS TOXICODENDRON

Mercury Vine. Poison Ash. Poison Oak.

Nat Ord., Anacardiaceae.

Habitat.—The poison oak grows in fields, woods and lowlands all over North America and Europe.

When growing in the *open*, the toxicodendron is a shrub from one to four feet high; when in the *shade*, and given proper support, it becomes *radicans* in its growth; it is not uncommon to find the shrub and climber growing from the same root.

Its *leaves* are trifoliate, the leaflets indented angularly, of deep green color above and pale green and pubescent underneath.

Flowers in May and June; occur in axillary spikes, are small, and of yellowish-green color.

The *fruit* is oval in shape, monospermous, grayish-white, and marked with five furrows.

When bruised or wounded, the plant emits a milky substance which turns black on exposure to air.

Darkness and atmospheric dampness favors the exhalation of a volatile principle contained in its leaves, a hydrocarbureted gas.

History.—This plant was first described by *Cornatus*, and used in the sixteenth century by *Dufresnoy*, a physician, in France.

Experiments were conducted by Orfila, Lavini and Fontana.

Was proven by Hahnemann and successfully used by him in the epidemic of war typhus in 1813.

Pharmacy.—The \emptyset is made from the fresh leaves collected after sunset on cloudy, sultry days, from shady places, in May and June, just before flowering time; chop, pound and weigh; cover with two parts by weight of alcohol, set away eight days, strain, decant and filter. Drug power 1/6.

Should be of dark brown color, bitter taste and acid reaction.

Prepare dilutions according to class III.

Toxicology.—Poisonous action of this plant may be had in one of three ways: By contact, by inhalation and topical.

By contact: Action is centered in the superficial layers of the skin, involving large areas; acts much as a corrosive caustic. The *symptoms* begin with redness, swelling, itching, burning, rise of temperature and pain; the inflamed surface is studded with vesicles, ranging from simple to the gravest form of erysipelas.

By inhalation: Action is due to the emanations of toxicodendric acid from the plant, at either close distance, or from one to two hundred paces, and especially affects individuals of sensitive constitution and irritable nerves, whenever they come in the remotest degree in contact with it.

The *symptoms* may be those following contact, or may be referred to the nervous system, without skin changes; then have stupor, fainting and convulsions, with dilated pupils and vertigo.

Topical: On applying the juice of the plant to the skin for several minutes, there appears in an hour dark colored spots, followed within twenty-one days by heat in the mouth and throat, rapid swelling of the face and arms, and a pustular eruption with limpid contents, which upon inoculation of the limbs caused a new crop of pustules. The original spots were transferred into tumors, the size of peas, disappearing as they came.

Antidotal.—*Grindelia robusta*, strong tansy tea, *veratrum vir.*, warm milk, *bryonia*, *aconite*, *ars.*, *merc. bin.*, alkaline lotions as carbolate of soda, alum curd, boro-pix cresol, pix-cresol; use larded sheets and towels if eruption is moist.

Pathogenetic.

The following centers are altered:

- 1.—Motor nerves of voluntary motion.
- 2.—Sero-fibrous tissue.
- 3.—Blood.
- 4.—Nerves of special senses.
- 5.—Mucous membranes.
- 6.—Glandular system.
- 7.—Skin.

Pathology of the altered centers:

Motor nerves controlling voluntary motion.—

Does not cause an organic change in the nerve structure, but a functional depression which ranges in all degrees to paralysis; the receptive centers remain unaltered, and are thus enabled to send and receive impulse to move for relief.

Sero-fibrous tissue.—Selects the tendon, sheaths of muscles and nerves, external ligaments to joints, fascia lata, and the lumbar fascia, causing congestion and inflammation of rheumatoid character, at the same time placing the motor supply of the part affected in a lame, stupid condition.

Symptoms.—Soreness, as if beaten, in the muscles and joints, heaviness in the head and extremities. The pains come on with severity during *repose*, increasing as long as the prover remains *quiet*, requiring him at length to *move*, which at first is exceedingly *painful*, yielding as movement continues; rest after movement is *grateful*, but is soon disturbed by a recurrence of the pain. *Other symptoms* are lameness, stiffness and numbness.

Differs from bryonia, in that bryonia causes inflammatory irritations of the *muscular fibre* and *synovial enclosures*, with *pain on movement*, increasing as long as it is continued.

Blood.—Through lowered vitality of the blood-making organs, the fibrine of the vital fluid is increased, and its reaction changed to neutral, causing a sepsis identical with that of typhoid, typhus, and the eruptive fevers.

Through blood and vaso-motor depression, the *capillary circulation* is depressed, causing *inflammation* with stasis and hemorrhage into the tissues and skin.

Special senses.—Perverts the function of the auditory, olfactory and optic nerves; its *primary* effect is that of a stimulant, causing sensitiveness to light, odors and noise. *Secondary*, they are depressed and insensible to external influences, with listlessness, helplessness and despondency.

Mucous membranes.—Cause inflammation and vesicular elevation of the mucous glands, ending in degeneration of the membrane.

Symptoms.—*Gastro-intestinal:* The condition of the membrane is such as to produce want of appetite or canine hunger, with soapy, slimy condition of the mouth. The *tongue* is coated brown with a triangular red tip, may be rough, dry, woody, or reddish brown; if cracked, due to admixture of blood; the lips and teeth may be covered with brown sordes; nausea, vomiting, diarrhoea without pain or colic.

The stools are of greenish-brown serum, of cadaverous odor, scant, and as they become frequent, involuntary and bloody.

Respiratory: A sensation of dryness in the trachea, with moderate and dry cough, followed by loose and violent, accompanied by tenacious blood-streaked sputum. The lower lobes of the lungs are congested, process ending in pneumonic infiltrations;

the respiration is short, hurried and loud, constriction about the chest and anxiety.

Glandular system: Selects the *lymphatics*, choosing for its point of attack the mesenteric, cervical and inguinal glands, causing congestion and inflammation, ending in induration of glandular structure, with emaciation and acidity of all the secretions.

Also acts upon the *sudoriferous* glands, causing acrid perspiration.

Skin.—Affects the superficial layers, spreading rapidly and with subtle force, involving large areas, at no time penetrating deeply; the process consists of, first, a congestion or blush, deepening to inflammation; soon have an eruption of small vesicles, with yellowish points, forming large patches with moist surface. After vesicles discharge their contents, a hard crust is formed, which, on separating, leaves a brown stain, and at times a pit.

The fever is at first sympathetic with the eruption, later on involvement of the blood the temperature rise increases and is continuous at 103° to 105° , is of low nervous type, with diarrhoea and prostration. The pulse rate ranges from 110 to 120, is weak, irregular and may be intermittent.

The mental state is the result of the combined effect upon the nerves of voluntary motion and the vital fluid; the *primary* over-excitability is soon followed by atony and depression, gradually going on until they become insensible to external influences; the capability of the mind for continuous thought is destroyed, while they begin a sentence correctly, they fail to finish it, the sentence being lost in an inarticulate murmur.

The delirium is of mild form, with the above characteristics, and in addition, that of digging and grubbing bushes and trees.

Keynotes are listlessness, powerlessness, and despondency.

The pathogenetic action of rhus is of two kinds, that of decomposition and dissolution of the tissues, and that which tends towards depression and paralysis.

Therapeutic Characteristics.

Adapted to patients of mild, quiet temperament, with light brown hair, hazel eyes and freckled skin.

Diseases of rheumatic nature, characterized by paralytic lameness, stiffness and numbness.

Sprains involving the sero-fibrous tissues.

From lifting and stretching.

Useful in extensive burns, involving the superficial layers of the skin.

Mental group.—Peevishness, fright, oppression, lethargy, is lonesome and weeps much, mild, hasty muttering delirium.

Fevers of adynamic type, where the temperature ranges high, the pulse high, weak and intermittent, as in typhoid, pneumonia, eruptive, and the ordinary rheumatic fever.

The most important *modality* of *rhus* is that the patients are *most aggravated* when they are in a *state of rest*, due to *motor lethargy*, requiring constant change of position to obtain relief, though it be but the movement of a finger.

Other aggravations are, after midnight, before storms and continued damp weather, in winter and from cold.

Is useful in hemorrhages due to injuries and sepsis.

In *paralysis* following spinal concussion, rheumatism and dampness.

Vesicular eruptions: With burning, redness and itching.

SANGUINARIA CANA- DENSIS

Bloodroot. Indian Paint.

Nat. Ord., Papaveraceæ.

Habitat.—United States and Canada, growing in rich, open woods and bottom lands along shaded streams.

Plant.—An indigenous, perennial, acaulescent tuber.

The root-stalk is horizontal, tuberous, abrupt, fleshy, three to five inches long, three-fourths of an inch thick, of reddish-brown color, and many fine rootlets.

Leaf.—*Arises* from the buds of the root-stalk; is kidney shaped, irregular in outline, of greenish-yellow color, marked with orange colored venation. *Growing* upon a channeled petiole, which, together with the folding of the approximate edges of the leaf, affords protection to the flower scape.

The flower scape is six inches high, smooth, from one to one and a half inches in diameter, rises from the buds of the root-stalk with the leaf, and during March and April is crowned by a single flower.

The flower.—Quadrangular in outline, consisting of eight to twelve petals; of short duration, without odor, of white color with orange colored anthers.

Fruits in June; is a two-valved oblong pod, with sharp endings containing an oily albumen and crested seeds.

When *wounded*, the plant exudes a red sap, shade becoming deeper as the root is reached.

Alkaloid.—Sanguinarinum (Nitrate).

Pharmacy.—The \emptyset is prepared from the fresh root, in proportion of one part of the fresh pulp, gradually mixed with two parts by weight of alcohol. Drug power 1/6.

Prepare dilutions according to class III.

Toxicology.—Is of two forms, *specific irritant and narcotic*.

Specific irritant: Large doses of the \emptyset , two drams, one ounce and over, cause severe retching, burning pain in the stomach and intestinal tract, intense thirst, and death within twenty-four hours.

The narcotic may blend into the first action, or occur independent without the irritant symptoms; begins with a peculiar nervous chill, which pervades the whole system, with coldness of the surface, faintness, vertigo, impaired vision, insensibility, small, slow, irregular pulse, convulsive rigidity of the limbs, prostration and collapse.

On *inhalation*, causes catarrhal inflammation of the respiratory tract, with aching in the eyes, stiffness of the muscles, incessant cough, and rawness and burning in the bronchi.

Antidotal.—*Rhus Tox.*, *camphor*, *opium*, *bryonia*.

Pathogenetic.

The following centers are altered:

- 1.—Nervous system.
 - a—Respiratory center.
 - b—Spinal ganglia.
 - c—Inhibitor of reflex movements.
 - d—Motor system.
 - e—Pneumogastric nerve.

2.—Muscular fibre.

3.—Mucous membranes.

Pathology of the altered centers:

Nervous system.—General effect is depression to paralysis.

Symptoms.—Vertigo, dilated pupils, anæsthesia, lowered temperature and prostration.

Respiratory center.—Action ranges from depression to paralysis; important symptoms are slow, sighing respiration, dyspnoea and dizziness.

Spinal ganglia and peripheral motor system.—Are *primarily* stimulated, causing clonic convulsions.

Secondarily, the irritation, together with the irritability of the **inhibitor of reflex movements is lost**, resulting in adynamia and prostration.

The vaso-motor center is primarily stimulated, which is soon followed by depression, of not only the center, but the entire vaso-motor system, lowering blood pressure, the cardiac muscle becomes involved, the heart dying in systole.

The effect produced by the combined action on ganglia, reflex center, vaso-motor and motor peripherals: Adynamia, prostration, collapse, with dilated pupils and lowered temperature.

Muscular fibre.—Affects all striped muscular fibre, causing a depression without previous stimulation, ending in loss of co-ordination, contractility and prostration; the prostration becomes apparent in the effort the WILL makes to control—with negative result.

Pneumogastric.—Selects the peripheral supply to the mucous membranes and the parenchyma of the lungs, stomach and liver, causing congestion and inflammation.

Symptoms vary according to the region affected:

Schneiderian.—Violent sneezing, scant, watery discharges and sensation of burning.

Gastro-intestinal.—Small doses excite a sensation of warmth in the stomach; large doses act as an active emetic, causing nausea and vomiting; as the liver becomes involved, the increased secretion of bile is poured into the intestines, at the same time the motor supply of the digestive organs is depressed, favoring

the accumulation of gas in the intestinal canal, with burning, sensation of weakness and emptiness and unquenchable thirst.

Has a special affinity for the *bronchi and lungs*; aside from the general irritation of the membrane, it causes gray hepatization, which may resolve itself into points of ulceration. The symptoms are continuous loose cough, difficult expectoration of mucus which smells and tastes badly, anxiety, narcosis and lowered vitality.

Symptoms which may be present in any or all conditions:

1.—Movements of right eye are upward and outward and painful.

b—Effort and rubbing the eye necessary to observe objects distinctly; snow blindness.

c—Dimness of sight in the evening, with sensation of hair or sand in the eye.

d—Pain, tenderness, burning with profuse lachrymation.

2.—Sense of constriction through the chest, worse during inspiration, with burning pain in right side.

3.—Fever recurrent each day, 2 to 3 p. m.

4.—Pulse rises 20 to 30 beats and is irregular.

5.—Inclination for deep breathing, weariness, paralytic, weariness and restlessness.

6.—Sleeplessness, anxiety, vertigo, awakens frightened, fear falling, dreams of sea voyages, frightful dreams.

7.—Cough short, hacking, dry or loose edge, with rawness and scraping in the throat.

8.—Nausea, vomiting, circumscribed redness of the cheeks.

Sanguinaria has a trifold effect: That of an emetic, a general irritant and a depressant of the circulation.

Deductions.

1.—Destroys life through paralysis of the respiratory center.

2.—Its clonic convulsions are of spinal origin.

3.—It has no effect on the sensory nerves.

4.—Its adynamia and prostration result from its depressing action on the spinal ganglia and the muscles.

5.—It depresses reflex excitability through irritation of Setschenoff's center, and by ultimate paralysis of the spinal ganglia.

6.—It produces in mammalia fall of pulse and blood pressure, with latter preceded by temporary rise if small doses are given, such fall being due to either depression or paralysis of the vaso-motor center and of the heart itself, probably of its muscular tissue.

7.—It slows respiration by prolonging pause after expiration, and this from loss of tonus of respiratory center.

8.—Dilates pupils and lowers temperature.

9.—Diminishes muscular contractility when introduced into circulation, and completely paralyzes striped muscular fibre when applied locally.

(London Med. Record, 1879, p. 11.)

Therapeutic Characteristics.

Becomes the remedy in sub-acute, chronic conditions occurring in phthisical, rheumatic subjects.

Diseases of the respiratory system which do not clear up; second and third stage of pneumonia where the gray hepatization ends in purulent infiltration.

Symptoms are dyspnoea, short breathing, purulent sputum, hectic temperature, burning, stitching pain, quick, small pulse, circumscribed redness and burning of the cheeks and extremities, short cough, worse in the evening and on lying down; with crawl-

ing sensation extending down beneath the sternum.

Must be given until the dyspnoea subsides, the bronchial breathing disappears, a return of crepitation, and the respiratory murmur becomes audible; sputum yellow and heavy.

In the various forms of hemorrhages: Hemoptysis, menorrhagia and epistaxis; acts as a styptic in these conditions by depressing the circulation.

In dyspepsia where the food undergoes chemical decomposition, evolving gas in large quantities, which is retained by spasmodic constriction or laxity of the muscular walls.

The above condition may reflect an irritation through vagus to the lungs, ending in cough.

The *symptoms* are loss of appetite, periodic nausea, headache, ending in vomit of bitter, greenish fluids, soreness in the abdomen, heat in the stomach, red scalded tongue, thirst, jaundice and weakness.

Sick headache due to innervation of the spinal ganglia; pain spreads from occiput to over the right eye, nausea, chilliness, vomiting, with dizziness, anxiety, irritability and a desire to be in the dark and quiet.

The mentality varies; ranges in all degrees of anxiety, irritability, restlessness and depression. The sleep is dreamy, awakens frightened as though falling.

In rheumatism of the joints with metastasis to the cardiac muscle, in consequence of local applications; the pains are throbbing, burning, spasmodic and worse on motion.

In amenorrhoea complicated by pulmonary tuberculosis.

Generalities.—Burning of the palms of the hands and soles of the feet, cannot keep them covered.

Burning heat flying from the head to the stomach.

Aggravation.—Morning, night, from noise, light, motion and the open air.

Amelioration.—During day, when quiet and in the dark.

STICTA PULMONARIA

Lungwort Lichen.

Nat. Ord.—*Lichenes*. A family of aerial thallo-gens, characterized by absence of stem, leaf and flower; growing on the trunks of large trees in the northern mountainous regions of England, Siberia and the northeastern portion of the United States.

The *sticta* is the lichen of the sugar maple.

Pharmacy.—Finely chop the fresh lichen; cover with five parts by weight of *dilute* alcohol, set away in cool, dark place eight days, shake twice a day. Decant, strain and filter. Drug power 1/10.

Prepare dilutions as directed under class IV.

Pathogenetic.

The following centers are altered:

- 1.—Mucous membranes.
- 2.—Brain.

Pathology of the altered centers:

Mucous membranes.—Selects the respiratory, Schneiderian and bronchi. Causing a *primary* stimulation of the mucous glands, with hot, watery discharge, followed by thick, bloody, and yellowish-green, which at times forms dry, leathery scabs; *secondary*, the membrane becomes indolent, the discharge is suppressed, dryness of the membrane resulting, while the inflammation is referred to the small joints.

The symptoms are those of catarrhal inflammation, commencing with violent sneezing, intense headache and severe coryza. Extending into the bronchi,

it causes severe racking cough with little or no expectoration.

Either condition may be preceded or followed by rheumatic pains and swelling of the small joints.

Brain.—Causes functional confusion; an inability to collect and concentrate thoughts. Sensation as though the scalp were too small and the left leg were floating in the air, feeling light and ethereal, without any sensation of resting on the bed.

Therapeutic Characteristics.

Adapted to severe catarrhal affections; influenza and hay fever, with either profuse hot, watery discharge or greenish-yellow and bloody, thick mucus or crusts.

The *symptoms* are dull, heavy pressure in forehead and root of nose, darting pain in the temples and burning in lids.

Excessive dryness of the mucous membrane.—*Boyce.*

In sub-acute and chronic catarrh, where the soft palate feels like dried leather, with painful deglutition.

Continuous dry cough at night, due to laryngeal and tracheal catarrh.

Insomnia following surgical operations.

Aggravated at night and in warm weather.

A pectoral in pulmonary affections, an astringent in hemorrhages, and a remedy in jaundice.—*Pereira*, Vol. II.

STRYCHNOS IGNATIA

Bean of St. Ignatius.

Nat. Ord., Loganiaceae.

Native of the Philippine Islands and Cochin China.

Named for the founder of the Jesuit Order who discovered the plant.

Is a *large shrub*, growing from one to five feet high.

Its leaves are opposite, ovate, entire and glaucous.

The *flowers* are white, tubular, fragrant and occur in short, nodding axillary racemes.

The *fruit* is an oblong, blackish gray capsule, resembling a berry; is filled with bitter pulp enclosing twenty to twenty-four seeds.

The *seeds* are one inch long, oblong, convex on one side, flat on the other, with hilum at one end; in fresh state is covered with a silky down, and filled with an albuminous mass.

Alkaloid.—*Strychnia*.

Pharmacy.—The \emptyset is prepared by covering one part by weight of the pulverized seed with five parts of alcohol, and allowed to remain eight days in a dark place; shake twice a day. Drug power of \emptyset 1/10.

Prepare dilutions as directed under class IV.

Triturations as directed under class VII.

Toxicology.—Action is much like that of nuxvomica and strychnia, causing tetanic convulsions,

dyspnoea, asphyxia and death. Differs from *nux vomica* in that it occupies the *neurotic* sphere of the family.

Antidotes.—Same as for *nux vomica* and *strychnia*.

Pathogenetic.

The following centers are altered:

- 1.—Cord: Motor and sensory centers and nerves.
- 2.—Medulla Oblongata: Respiratory center.
- 3.—Nerves governing the co-ordination of functions.
- 4.—Incident nerves.
- 5.—Organs affected through above centers: Stomach, esophagus and kidneys.

Pathology of the altered centers:

Cord.—The *sensory centers and nerves* are excessively irritated, causing hyperesthesia of the entire sensory system.

The *motor system* is stimulated, placing parts supplied in a state of stiffness or tetanic spasm; the change is functional—no organic lesion being observed in either system.

The **Medulla Oblongata** is in general stimulated, while its respiratory center is spasmodically stimulated to death. The respiration is short, followed by sighing, ending in difficult dyspnoea and asphyxia.

The **nerves governing the co-ordination of functions** are disturbed and finally destroyed, placing the harmony of action between the different portions of the organism in a state of antagonism towards each other. Thus, the heat of the body, instead of being relieved by cool applications, is relieved by *heat*; sensitiveness of the surface is relieved by *contact* and *pressure*, instead of the usual aggravation.

Incident nerves.—Dr. R. Hughes says: "*Ignatia* exalts the impressionability of the incident nerves all

over the body. Inducing emotional sensitiveness, increased action of the special senses, as reflex excitation follows in the path of motor involvement, have twitchings, constrictions and spasms; an alternating series of symptoms soon appear, which are in themselves as superficial as their predecessors, numbness, torpor and depression following each other in rapid succession, the prover finding himself as well as ever several hours after the height of the *secondary* action."

Causes the *globus hystericus* by stimulating the motor supply of the esophagus, causing contraction of the circular muscular fibres in the form of a ring; at the same time the *center* is pushed up, completely closing the lumen of the tube. There is constant effort to swallow the lump, the prover holding the head backward to give room to the throat; has sensation of hunger which is not relieved by eating, long-drawn sighs and mental terror.

Mind.—Brooding, sensitive organization, secretive or full of grief; provers become whimsical, not easy to please.

Stomach.—Is affected *secondarily* to the motor and sensory involvement; causes gastralgia, with sensation of emptiness and gone-ness as though the prover had been fasting too long.

On the **urinary organs** it acts as a stimulant, causing profuse, limpid, pale urination.

Therapeutic Characteristics.

Patient.—Usually gentle and *whimsical*, not easy to get on with, inclines to solitude, secretiveness, given to sadness and sighing; is delicate, bears trials meekly, fretful, timidity or spasmodic laughter from grief; mental condition due to anger, fright and sudden mental shocks.

Periodical headaches in highly nervous and sensitive temperaments begins in the region of the ear

and mastoid process, extending forward to the parietal bone and eye, and is referred back to the occiput, the pain increasing gradually, stopping suddenly with a profuse flow of urine.

Aggravation.—By contact, motion, open air and warmth, strong smells, coffee, tobacco and the emotions—as fright, silent grief and yawning.

Amelioration.—From changing position, lying on the back. (Study Symptomatology, Breyfogle's and Burt.)

SPIGELIA

Demerara Pinkroot. Worm-grass.

Nat. Ord.—Loganiæcææ.

Habitat.—Two varieties:

Anthelmia.—Native of the West India Islands, South America and British Guiana.

Marilandica.—An American variety growing along the boundary of the woodlands south of the Potomac.

Plant is a perennial herb.

Root is a short, rhizome, with many twisted, small, black rootlets.

Stem.—Several, channeled and winged, growing from one to two feet high and of purplish color.

Leaves are oviate and pointed, occur in opposite pairs, terminating the branches of stem in form of a cross.

Flowers arise in short, simple, one-sided racemes; *inflorescence* in June and July, in tubular funnel-shaped blossoms, of reddish-purple color without, and orange-yellow within.

When dried the plant exhibits grayish-green color, faint odor and bitter taste.

Pharmacy.—Gather at flowering time; cover the freshly dried, pulverized plant with five times its weight of alcohol; set away eight days in cool, dark place; shake twice a day. Decant, strain and filter. Drug power 1/10.

Prepare dilutions as directed under class IV.

History.—The *anthelmia* was in 1676 named

Brinwilliere, for the *Marchioness de Brinwilliers*, a celebrated poisoner in the reign of *Louis XIV.* In 1751 *Browne* discovered its anthelmintic properties, the natives of British Guiana using it for this purpose, in the form of an infusion, two to three fresh leaves to the dose.

The *Marilandica* was known to the *aborigines* in 1723. In 1754 *Drs. Lining* and *Garden* discovered its vermifuge properties, and *Wright* its narcotic tendency.

Proven by *Samuel Hahnemann*, who, according to the records, used both varieties. (Vol. V of original provings.)

Toxicology.—Lethal doses cause two forms of action.

1.—Narcosis.

2.—Gastro-intestinal irritant.

Narcosis.—Three drachms and upward give rise to vertigo, dimness of vision, dilated pupils, convulsions and death *without* irritant effect.

Gastro-intestinal irritant.—Same dose may cause severe vomiting and purging, with or without *slight* narcotic effect, and is not apt to cause death.

Pathogenetic.

The following centers are altered:

1.—Trigeminus.

2.—Sensory nerves.

3.—Motor oculi.

4.—Optic nerve.

5.—Brain.

6.—Digestive tract.

7.—Sclerotica.

Pathology of the altered centers:

Trigeminus.—Causes stimulation of this nerve and its branches; with jerking, tearing, burning pains and hyperesthesia; followed by swelling of the face, restlessness and dizziness.

Sensory nerves.—Affects the sentient centers and nerves of the head, chest and abdomen, causing twitching and fine, shooting, tearing pains along the course of the various branches, with great weakness, chilliness and irregular flashes of heat in the neck and shoulders.

The pain in the *cardiac region* extends down the left arm, with pressure on chest and palpitation; the normal heart sounds are replaced by a murmur, which is heard in the various parts of the organ, and at the same time is felt a digging-up, cutting pain in the abdomen.

Motor oculi. Optic nerve. Sclerotica.—Causes anæmia of the *optic nerve*, resulting in intolerable pressure and burning in both eyes, with fiery sparks obstructing sight and vanishing of sight when looking at anything.

As the motor oculi and sclerotic become involved, have dilation of the pupil of the eye, heaviness of the lids, distortion and irregular movements of the ball, severe pain and a wild, staring expression.

Brain.—Causes sudden drowsiness and sleep, alternating fits of crying and laughter, a swaying sensation in the brain or a sensation as though the brain were *loose*, with depression of spirits, incoherent talk and a desire to *run*.

Digestive tract.—A simple vegetable irritant. In large doses acts as a mild cathartic, with nausea, flatulence, crawling and itching sensation at the anus and in the rectum, and pinching pains. Does not alter the structure of the tract. May be accompanied by involuntary dribbling of the urine, followed by burning in the urethra.

Therapeutic Characteristics.

Adapted to anæmic and debilitated subjects.

Anæmia of the optic nerve from excessive tea drinking.—*Lilienthal*.

When headaches take the form of supra-orbital neuralgia, of the left side; when the pain recurs at regular intervals, tends to spread to the face or neck and to involve the eyes; is aggravated by the least concussion or motion, but especially by stooping; associated with pale face, restlessness and palpitation. It is no less effectual when the pain is situated in the infra-orbital and maxillary branches of the nerve. *Baehr* gives it in the first place for prosopalgia.—*Hughes*.

Stille writes: "There is a state of intestinal derangement presenting all the symptoms of lumbricoid ascarides, and which is most frequently observed among *strumous*, *feeble* and *precocious* children. They have fever; a dry, hot skin; furred tongue, tumid and confined bowels, capricious appetite and nervous irritability. These symptoms are often dissipated by the influence of spigelia, and without causing the discharge of any worms, to which they are most commonly attributed."

Its efficacy as a vermifuge is due to its *narcotic* influence on intestinal worms in general, and round worm in particular, following with a brisk cathartic to carry it off.

In neuralgia, where the pain centers on the eye, above or below, from cold, in damp, rainy weather, this remedy is one of the first to relieve.—*Burt*.

Does not dare to shake the head; it hurts into the brain and he becomes dizzy.—*Hah*.

Toothache caused by the customary smoke in the evening; of a throbbing, tearing nature, aggravated by cold water, disappearing on lying down.—*Hah*.

Sensitive to cold air and to touch, the slightest jar *causing intense pain*.—*Burt*.

In the various affections of the heart, with constriction, tearing and oppression in cardiac region and abdomen, especially occurring as sequella of abdominal operations.

Fine, burrowing, tearing pain in the brain, especially violent in the left parietal bone, on motion, walking, and on making false step.—*Herman*.

Mentality.—Despondent anxiety, aversion to mental anxiety and loss of memory.

(Study Hempel and Arndt, Breyfogle and Burt.)

STRAMONIUM

Thornapple. Jimson Weed.

Nat. Ord.—Solanaceæ.

Habitat.—A solanaceous plant whose origin is doubtful. Is found in the Old World in Asia and Greece. Abounds in this country near towns and villages on waste ground, and on dung-hills and rubbish.

Plant is annual.

Root is large, fibrous, white, with many small rootlets.

Stem.—Is smooth, one to three feet high, hollow and branched above.

Leaves.—Ovate, triangular form, with dentated sinuous edges, of dark green color with fine veinings.

Flowers.—From June to August; according to location. Blossoms are solitary, three inches high, axillary on peduncles; large funnel-shaped with pentangular border. Is succeeded by a two-celled four-valved capsule, the size and shape of an English walnut, covered with prickles, and filled with kidney-shaped seeds.

Seeds.—Of black color, without odor unless bruised or crushed; and of nauseous, bitter taste.

The whole plant exhales a rank narcotic odor.

Alkaloid.—*Daturia*.

Pharmacy.—Cover the pulverized ripe seed with five times its weight of alcohol; set away in dark cool place eight days; shake twice a day. Decant, strain, filter. Drug power 1/10.

Prepare dilutions as directed under class IV.

History.—Must have been known to the Greek botanists, as it was native of that country; though it is impossible to determine from the records of that time.

Its earliest mention is by *Fuchsius* in 1542, who writes of its introduction into Germany at that time. *Baron Storck*, of Vienna, made various experiments with it in mania and epilepsy, and published an account of them in 1762. It is a matter of history that the Hindoos used this agent to cause intoxication, for the contemplation of knavery and sorcery on susceptible victims; as did bands of thieves who offered it in the form of *snuff* to those they intended to rob.

Proven by Samuel Hahnemann, Vol. III of original provings.

Toxicology.—A narcotic poison. Lethal doses cause flushed countenance, maniacal delirium, dilation of pupils, loss of voice, difficult deglutition, convulsions, and in some cases palsy, coma and death.

Large doses approaching the toxic cause thirst, dryness of throat, nausea, giddiness, obscured vision, nervous agitation, perspiration, sometimes diarrhœa and diuresis, and good natured delirium.

Small doses gradually increased diminishes sensibility, with slight lowering of pulse and temperature, dilation of the pupils of the eye, and palsy.

Antidotes.—Most reliable is lemon juice; members of its own family, especially *hyoscyamous*; *rhus tox.*, *bryonia*, *camph.*, *capsicum*, *opium*, *morphia*.

Pathogenetic.

The following centers are altered:

- 1.—Cerebral structure combining and receiving impressions.
- 2.—Sensory centers.
- 3.—Filiments of the sympathetic to the iris.
- 4.—Vaso-motors.

5.—Filiments of the spinal nerves.

Pathology of the altered centers:

Brain: Cerebral structure combining and receiving impression.

Action is on the above centers *before* being conveyed to the *sensory centers*; the *primary* effect is that of stimulation without engorgement; and depends on the *quality of impressions in formation* at time of action; delirium may be foolish, in which they throw imaginary feathers in the air, or dart straws at them. Undress, and sit around naked. Sneer, laugh, and perform all degrees of droll antics.

At other times they are assailed and fight imaginary foes, spectres and furniture; view with calm trains of bedbugs, beetles and cockroaches.

Have paroxysms of rage, in which they choke and attempt to bite other persons.

Secondary.—The depression supplants the irritation, complete sopor resulting; with no recollection of what has occurred on awakening.

Filiments of the sympathetic to the iris.—Through irritation of the filiments it causes extreme dilation of the pupil of the eye, and injected conjunctiva; objects appearing green, black, or every object appears colored with rainbow tints. Dilates the pupil more readily than *atropia*; the effect, however, is not so lasting.

Vaso-motors.—The irritability of the arterial vaso-motors is *primarily* increased, with increase of pulse rate, but loss of fullness; and *secondarily* exhausted, with feeble soft pulse.

Filiments of the spinal nerves.—Selects those distributed to the skin, lungs, and abdominal organs; causing irritation ending in neuroses of the various functions. Does not affect the conducting power of the motor and sensory nerves.

Affecting the **skin** it causes a fiery redness of the

body, a rash resembling measles or erysipelas, and profuse perspiration.

In the **gastro-intestinal tract**, spasms in throat on attempting to swallow, and an accumulation of gas in stomach, and obstinate constipation.

In the **respiratory**, an asthmatic neurosis centering in the pulmonary tissue.

The action on the **sexual system** is that of stimulation followed by prostration of the functional power; accompanied by loss of modesty, and voluptuous excitement. Effect depends on the kind of impressions in formation at time of proving, and the degree of sympathetic involvement.

Stramonium differs from *belladonna* in that it occupies the neurotic sphere of the family, and *belladonna* the congestive.

Therapeutic Characteristics.

Is the neurotic of the *solanaceae*, just stopping short of inflammation.

Causes sleep by diminishing sensibility, and is therefore able to relieve pain.

Mania.—Either frenzied or good natured. The patient strikes, jumps, dances, sings, is furious, melancholy, happy; stubbornly silent or foolishly talkative; has odd hallucinations, sees bugs, spectres, ridiculous or frightful things. No active fever; imbecility, destructiveness, frightful fancies. Of great value in religious mania, or the ravings of delirium tremens.—*Hempel and Arndt*.

Excessive aversion to water, amounting to rage, when it was attempted to administer a liquid, appearing like hydrophobia; with spasmodic irritation of the pharyngeal muscle, so that everything taken choked and was regurgitated.—*Dr. Grienberg*.

Desires light and company; worse in the dark and solitude; sight of brilliant objects and contact renew the spasms.

Shortens the paroxysms of periodical insanity, and tempers the violence of the permanent forms.

Useful in asthma independent of structural lesions of the lungs, heart or great vessels.

Puerperal insanity; lewd talking; sings obscene songs; has smell of semen.—*Hg.*

In neurasthenia, with sensitiveness along the spine in the cervical region, the slightest pressure caused the most violent outcries and raving.—*Dr. Wittman.*

As an intercurrent in the course of typhoid and typhus fevers, with much erethism and hallucinations of the mind; extreme restlessness and convulsions.

Study Burt, Hempel and Arndt, Breyfogle's Epitome.

SULPHUR

Flowers of Sulphur.

An element of Europe, Asia, America.

Common names.—Brimstone, Washed Sublimed Sulphur.

Occurs native in Sicily and Mexico in transparent amber-colored crystals or opaque lemon-yellow masses.

In combination with the different metals as sulphides, in the mineral waters as an oxide, in many vegetables of the cruciferous and alliaceous type—as mustard and garlic.

In products of decomposition, and the ordinary product of the chemist.

Pharmacy.—Cover one part chemically pure washed sublimed sulphur with ten parts by weight of 95% alcohol; set away eight days, shaking twice each day; decant and filter. Drug power of \emptyset 1/100—equals the 1x.

Prepare potencies according to class VI-b.

Triturations as directed under class VII. Convert to a dilution in the usual way.

Toxicology.—*Large doses of the crude product* cause restlessness, chilliness, twitching of muscles, rise of temperature, recurrent convulsions, tympanitic abdomen, dark gray dysenteric discharges, feeble, intermittent pulse, relaxation of muscles and death.

Inhalation of the vapor or dust causes stiffness and bruise in the nape of the neck, cervical vertebra and pectoralis muscle; sudden appearance of

bluish-red spots on the fingers, vesicular eruptions on the limbs, which ulcerate, discharge their contents, the acrid secretion excoriating the parts over which it passes. Silver carried about the person becomes darkened by the sulphuretted hydrogen which escapes through the pores of the skin.

Antidotes.—*Mercurius, Rhus Tox., Sepia, Puls., Aconite, Camphor, Cinchona, Nux vom.*

Pathogenetic.

Administered in pathogenetic doses it causes changes in the following tissues, with record of 1,969 symptoms as deducted from the various pathogeneses:

- 1.—Venous system.
- 2.—Lymphatics.
- 3.—Sympathetic nervous system.
- 4.—Blood.
- 5.—Mucous membranes.
- 6.—Serous membranes.
- 7.—Temperature.

Pathology of the altered centers:

Venous system.—Its *primary* effect is to depress and finally paralyze the ganglionic plexuses interwoven with capillary tissue; this in turn induces laxity and stagnation in the vessels, thus producing engorgement and congestion of a chronic nature, with its long train of drawing, cramping, stitching pains and suppurations.

Its action on the *portal system* is in part referred to the large intestines and rectum, where it produces inactivity and obstinate hemorrhoids. The most important *symptoms* of the portal congestion are swelling and burning of the palms of the hands and the soles of the feet, restlessness, constipation, torpor, faintness and debility.

Lymphatics.—Changes the reaction of the lymph from alkaline to acid, causing the discharges from all the outlets of the body to excoriate the surround-

ing tissues. As the *entire glandular system* becomes involved, secretion and absorption is interfered with to such a degree that morbid products are formed in the organs and tissues.

The *combined action* on the venous system and lymphatics tend to form eruptions resembling herpes, psoriasis, scabies, variola, tinea capitis and crusta lacta.

Blood.—The fibrine and solid constituents of the vital fluid are increased.

Sympathetic nervous system.—Deranges the ganglions of all parts of the body, acting in conjunction with the lymphatic system and blood, causing constitutional dyscrasia, resembling that of psora, rhachitis and defective assimilation.

Temperature center.—Is depressed irregularly, causing sensations or waves of *cold*, followed by flashes of heat, accompanied by a paralytic sensation in the affected area.

Mucous membranes.—Causes a *primary* stimulation of the mucous glands, increasing the secretion and changing its reaction to alkaline; all parts touched by the secretion become raw and excoriated. *Secondary*, as the vitiated secretion gains in acidity it causes dyspepsia, catarrhal conditions in general, and is a factor in the constipation.

Serous membranes.—Are affected *secondary* to the venous and lymphatic involvement, causing a plastic inflammation, torpid in character without adhesions.

Bronchi and lungs.—Causes a torpid inflammation about the bifurcation of the bronchi; solidifies pulmonary tissue, ending in purulent dissolution of the *exudate*, with chronic loose cough, purulent expectoration and mal-nutrition.

Causes *intermittent and periodical neuralgia* of the various parts of the body, with an aggravation every twenty-four hours, either at 12 noon or 12

midnight, gradually increasing up to the hour and diminishing after.

The eruptions are superficial and mobile, of variable type, with much itching and burning, some varieties exhibiting contagion like that of scabies with loss of nails and hair.

The *principal factors* in the action of sulphur and which may be considered its greatest characteristics, are: *The engorgement of the venous system* of a part or parts of the body, and the *degeneration of the vegetative nervous system*, with its train of dyscrasia and vitiated secretions.

Therapeutic Characteristics.

Useful in lymphatic constitutions where there is marked sluggishness, due either to a venosity or a scrofulous, psoric or tubercular diathesis.

Sulphur increases the process of secretion and absorption, accelerates the interchange of elements, removing infiltrations and exudations, as during the course of pneumonia, asthma, pleurisy and gout.

Sulphur causes inflammation by paralyzing the network of ganglions forming the support of the venous capillaries *primarily*, and the vessels *secondarily*, the stagnant blood resisting the arterial current, which in vain seeks to drive it forward, the engorgement apparently giving rise to the same symptoms as *aconite*, with this difference: *Resolution* occurs with *aconite* at *rise of temperature*, while the action of sulphur is *continued* on to the lymphatic system.

Scrofulous chronic diseases as a consequence of repelling eruptive diseases from the surface by local applications.

The mental state is variable; quarrelsome, vexatious, anxious and irritable; may be happy, mistakes old rags for the beautiful; has happy dreams, awakens singing. Or has a religious tendency; is anxious

about the salvation of his soul, with indifference to others.

Removes the adhesions of iritis, the opacities of the vitreous, pterygium and strumous ophthalmia; glaucoma.

Becomes the remedy in chronic constitutional gout and rheumatism represented by various forms of cutaneous diseases; corrects by relieving the ganglionic system.

Among its *characteristics* we note the following:

Extreme sensitiveness of the skin.

Burning alternate waves of heat and cold.

Hunger at 11 a. m., or a faint, empty feeling in the epigastrium.

Great debility which cannot be accounted for.

Acridity of all secretions.

Redness and inflammation of all the orifices.

“During the action of sulphur all excretory organs are brought into increased activity, discharging carbon and nitrogen from the body.”—*Dr. H. N. Martin.*

Aggravation.—From warmth of bed; at night, during rest from standing, washing or bathing; in the damp, open air. From exertion.

Amelioration.—Dry warm weather; heat; during the day.

When carefully selected remedies have failed to produce a favorable effect, one dose of sulphur high will serve to arouse the reactive powers that the true remedy may have the desired effect.

A diet of sulphurous waters is of vast benefit in the treatment of latent skin diseases and portal congestion; must drink until the perspiration is profuse, and an odor of sulphuretted hydrogen is exhaled from the pores of the skin.

For detailed symptomatology study Burt, Hemple and Arndt, Allen and Breyfogle.

VERATRUM ALBUM

White Hellebore.

Nat. Ord., Liliaceae.

Native.—Mountainous regions of Asiatic Russia and the Alps.

Is a herbaceous, perennial **plant**, growing from two to four feet high, its *stem* erect, simple and covered with down.

Leaves are six inches long, oval, entire, striated, occur alternately on stem, sheathing at base.

Flowers are yellowish-white within, green without, forming large, racemose panicles.

Fruit is many seeded three-lobed capsule.

The root-stalk is cylindrical, one inch in diameter, two to four inches long, fleshy, with stout rootlets; in commerce it is found to be sub-conical, rough, wrinkled, grayish black in color, its top crowned by leaf-bases. Its taste is bitter and acrid. Transverse section exhibits a broad white ring with buff center.

Alkaloid.—*Veratrine*.

Pharmacy.—Prepare the \emptyset by covering the coarsely powdered dried root with five parts by weight of alcohol; set away eight days in dark cool place, shaking twice a day. Drug power of \emptyset 1/10.

Prepare potencies according to class IV.

Triturations as directed under class VII.

Alkaloid according to class VII. Drug power 1/100.

Toxicology.—Toxic action is of two degrees—

that of a vegetable irritant, and a neurotic depressant.

Symptoms of the first: Burning in the throat, esophagus and stomach; nausea, vomiting, colic and purging.

The second degree may blend into the first, follow it or occur independently of the irritant action.

Symptoms of the second: Cramps in the extremities, convulsive respiration, general coldness with pinched features, rapid, thready, irregular pulse, cold sweats, collapse, relaxed muscles, faintness and death.

Antidotes.—Large quantities of coffee, internally and enema; *camphor, arsenicum, cuprum.*

Pathogenetic.

The following centers are altered:

- 1.—Motor nervous system. Muscles.
- 2.—Pneumogastric.
- 3.—Automatic heart centers.
- 4.—Temperature center.
- 5.—Mucous membranes.

Pathology of the altered centers:

Motor tract and muscular system.—Affects the entire motor system—center, peripherals to muscles, and vaso-motors. Commencing in the center, the entire system is *primarily* stimulated, causing spasm, tetanus and convulsion. As muscular substance becomes involved, excitability is at first increased, its power to generate heat is increased, the muscle exhibiting more warmth than normal; *secondarily*, muscle reacts for a long time to galvanic irritation, as is proven by the twitching, and which almost becomes tetanoid in character, the action going on to paralysis.

The **vaso-motor center** receives the first impression of stimulation, with increase of blood pressure and pulsation; as the vessels become veratrinized blood pressure fails, the vessels dilate, and as the

paralysis progresses the pulse becomes rapid, imperceptible and extinct.

The *cardiac muscle* suffers the same changes as other muscles; the cardiac extremities of the vagus and the automatic centers are paralyzed, preceded by a short stimulation; thus all extrinsic nervous influence dies, together with that of the automatic centers and vessels, and cannot be restored by galvanic irritation.

Pneumogastric.—Selects the terminals to the mucous membranes of the gastro-intestinal tract, producing congestion and inflammation of the membrane in general, and villi in particular, denuding their points, paralyzing their resistance—or power to regulate efferent and afferent moisture—thereby precipitating into the intestinal canal the moisture contained and received into the organism.

Symptoms.—Copious watery vomiting, cramps, purging, prostration; as the temperature center becomes prostrated there is collapse with cold sweat, pinched bluish nose, and almost absent pulse; picture of Asiatic cholera and choleric diarrhoea.

Therapeutic Characteristics.

Adapted to individuals of impoverished rickety constitutions, who are habitually cold, deficient in vital reaction and subject to choleric diseases.

“Sudden sinking of innervation, causing loss of power to control one’s movements; staggers about; feels dizzy; vision becomes obscure, and complete extinction of nervous power is going on at a fearful rate.”—*Hemple*.

In the diarrhoea of autumn, due to atmospheric influences and partly ripe fruit; of choleric form, with vomiting, apathy and coldness, cramps in the extremities, preceded by colic, followed by prostration, reaching its height in from twelve to twenty-four hours.

Mentality.—That of the religious enthusiast, indulges in the wildest vagaries, infuriated passions, trying to conquer each other, wrestles with serpents; melancholia, despair, prostration of the mental forces. In puerperal mania characterized by wild shrieks alternating with mirthfulness; bluish bloated face, stertorous breathing, irregular haste in speech.

Vertigo in drunkards, opium eaters, those who use tobacco, miasmatic influences and exhausted cerebral energies in sexual abuse.

Fainting attacks, due to derangement of the abdominal nerve plexuses; especially the coeliac, with trembling, convulsions and collapse.

In colicodynia with sensation as though the intestines were tied in a knot.

Vomiting during pregnancy, from moving about; occurs in the morning, is profuse, with sinking of the vital forces.

In all diseases and conditions there will be present: Coldness of the body and breath, violent thirst, and craving for fruits or salty food; collapse of pulse; exhaustion and prostration; cold sweat, dizziness and hippocratic countenance.

Fever.—Intermittents, with coldness, thirst, nausea, vomiting, cold, clammy sweat, staining the linen yellow; (*China*) violent internal heat, thread-like pulse, and anxiety. Last stages of typhoid, with low temperature, suppression of urine, profuse vomiting, cyanosis, grinding of the teeth and collapse.

Fourth stage of pneumonia; spasmodic rattling of mucus; no power to expectorate, œdema of the lungs and fear of suffocation.

Peculiar symptoms.—Sensation as if a bunch of hair were electrified; crawling and bristling hair.

Sensation as if a lump of ice was on top of head.

Crawling in the hands, as if they had been asleep.

Aggravation.—After drinking, eating ice cream, on rising, morning and evening.

Amelioration.—Sitting, lying, in the open air and during the day.

VERATRUM VIRIDE

Green Hellebore. *Helonias Viridis*.

Nat. Ord., Liliaceæ.

Native.—Is found growing in wet meadows and swamps from Canada to Georgia.

Grows a *stem* from two to four feet high; striated and pubescent; stout and leafy to the top.

Leaves are from eight to twelve inches long, and from four to six wide, sheathing at base, broadly oval, decreasing in size upward to lanceolate bracts.

Flowers in the North in July and in the South in April or May; the *inflorescence* is a terminal pyramidal panicle, eight to eighteen inches long, of dense, loose racemes. Yellowish white to greenish in color.

The *root* is coarse, fleshy, occurs horizontal, and giving out slender rootlets from its ends. In commerce the dried product is pale brown in color, curled and shrunken in drying, and about an inch in diameter.

Yields numerous alkaloids; most important are *Jervia* and *Veratroidia*.

Pharmacy.—Gather the fresh root in autumn after the leaves have fallen; chop, pound, weigh; mix the pulp with two parts by weight of dilute alcohol, starting with one-sixth part of it, gradually adding the balance; set away eight days in the dark; decant, strain, filter. Drug power of \emptyset 1/6.

Prepare dilutions according to class III, using dilute alcohol until the 4x are reached.

Toxicology.—A cerebro-spinal and cardiac depressant.

Lethal doses cause nausea, vomiting, constant hiccough, prostration, rigidity of the jaws, dilated pupils, cyanosed face, coma; death from cardiac failure and asphyxia.

Where spasms intervene, differentiate from *strychnia* in that the paralysis of the motors and reflex centers *precedes the spasm*, instead of the *recurrent* stimulation as under *strychnia*.

Fatal dose ranges from one to two and one half drachms of the tincture; fatal period twenty hours.

Antidotes.—Inhalation of *ether*, *amyl nitrite*, *ammonia* and *camphor*. Coffee, *capsicum*, *opium*, *belladonna*.

Pathogenetic.

The following centers are altered:

- 1.—Spinal motor centers and vaso-motors of the arterial circulation.
- 2.—Spinal sensory centers.
- 3.—Convulsive center.
- 4.—Respiratory and temperature center.
- 5.—Pneumogastric, origin and branches to the gastro-intestines, diaphragm, lungs and liver,
- 6.—Motor oculi, optic and auditory nerves.
- 7.—Cardiac inhibitors and muscle.
- 8.—Skin.
- 9.—Mucous membranes.

Pathology of the altered centers

Convulsive center, motor centers and nerves.—Action commences in the pons Varolii, centering in the convulsive center, from whence it is referred to the antero-lateral portion of the cord. Selecting for its point of attack the motor centers, which in turn refers its effect to the peripheral system; the *pri-*

mary effect is that of *depression*, soon followed by paralysis.

Secondary, the system recovers in shocks, convulsive action referred out from center to periphery, muscular movements become twitching, and if continued have series of galvanic shocks of such violence as to throw the patient out of bed.

Vaso-motors.—Like all other motor nerves are *primarily* paralyzed, with a *secondary* recovery and rise of arterial pressure, causing intense *hyperaemia*, with pressure and rupture of the capillaries. At the same time the *inhibitors of the heart*, and the *origin of the vagus* are, at the time of *depression* of the vaso-motors, *stimulated*, causing slow, weak pulse; as the motors of the circulation *recover*, the inhibitory excitation is changed to paralysis, with a corresponding rise in the strength and rate of the pulse, which becomes hard, like shot, and in rate ranging from 120 to 160.

Associated with the *secondary* effect on the circulation and heart; have throbbing of the temporal arteries, drowsiness, rapid shot pulse, with or without vomiting.

Acts on the heart reverse to *digitalis*, which causes the heart to die in irregular ventricular systole and auricular diastole. *Veratum* in *smooth diastole*.

Deductions as to inflammation:

By depressing the functions of the *vagus* it causes inflammation of every tissue and organ to which it is distributed.

Results of *secondary action on the vaso-motors:*

1.—*Pulmonary tissue* is completely hepatized; the finer cells filled with mucus, intense hyperaemia and rupture of the capillaries and irritation of the respiratory center. Section of lung exhibits heaviness and sinks to the bottom of a vessel of water.

2.—*Brain:* Hyperaemia of the white fibrous structure and gray cineritious substance, there being

more invasion in the cerebellum than cerebrum, the rupture of the capillaries occurring in the region of the origin of the vagus, pons Varolli and medulla oblongata.

The *symptoms* of above action are: Sense of fullness and weight in the lower brain, giddiness, stupor, buzzing and roaring in the ears, sensitiveness to sound, mental confusion, loss of memory, either paralysis of motion or convulsions.

3.—*Muscular system*: Spasms, rigidity, contractures; the stimulus of central origin.

Nerves of special senses.—*Motor oculi*: Affects the middle nuclei at origin of nerve which supplies the iris, causing a paralysis of the circular fibres of the iris, inducing dilation of the pupil.

The *auditory* nerve at its origin is *primarily* depressed, with a *secondary* stimulation; at the same time the *optic nerve tracts* are irritated, causing amaurosis, the combined effect resembling the *anaemia of hemorrhages* and other vital fluids; the most important aural symptom of the above effect is *singing in the ears*.

Temperature center.—In from one-half to two hours after administering a dose inducing violent action the T° falls from two to five degrees, remaining at this point twenty-four hours, rising to normal and above as the hyperæmia gains the victory.

Muscular.—Aside from the motor involvement, the striped muscular fibres of animal life lose their power of contractility, causing prostration and relaxation of the whole muscular system.

Pneumogastric.—*Branch to the stomach* from origin to endings is engorged with blood, causing intense hyperæmia of the mucous membrane, the mucous glands secrete an immense amount of ropy mucus, which ends in nausea and long-continued vomiting, faintness and exhaustion. Two degrees of vomit are distinguished by the older writers:

If the *esophagus* be not affected the vomiting is *painless* without thirst.

If painful mucous irritation obtains, have burning, rising of scant bloody mucus, cramps and empty retching, the *engorged diaphragm* adding hiccough to the sufferings, which may continue until exhaustion and death relieve. *Other symptoms* are dilation of the pupils, muscular prostration and vertigo with green halo about the light.

As the *primary* motor exhaustion is replaced by the *secondary* stimulation, convulsions ranging from slight twitching to spasm occur; the face becomes cold, pinched, hippocratic, blue, coldness of the surface of the body, loss of pulse and death.

Through action of the branch and filiments to the *liver*, the parenchyma and intra-lobular veins are engorged with blood; the secretion of bile is increased, the whole being a repetition of its action on the lungs.

The *sensory nerves* are stimulated to smooth irritation, producing hyperesthesia and pain; does not cause anæsthesia nor depression.

Upon the *skin* it acts as a mild diaphoretic, increasing its functional activity, causing the skin to be moist, soft and cool; the perspiratory glands are not affected; applied externally, it causes eruptions similar to measles, smallpox, shingles and scabies; characterized by redness and burning.

Deductions.

1.—The *primary* slowing and weakening of the heart's action is due to *stimulation* of the inhibitors and origin of the pneumogastriacs, *reducing* pulse rate to as low as thirty, with coldness and prostration of the vital forces.

2.—The *seccondary* effect changes the excitation to one of paralysis, with pulse rate *rising* to 120 to 160.

3.—This, together with the pressure and rupture

of the capillaries, ends in hyperæmic congestion, or inflammation.

4.—Differs from *aconite* in its action on the heart, in that *veratum* paralyzes the heart center to peripheral of heart muscle through motors and vagus; *aconite* beginning in heart muscle travels through peripheral and ganglia to center.

5.—The primary action on the brain or other organs is that of venous stagnation, with lessened arterial pressure.

6.—Its convulsions are of *brain origin*, the motor centers and nerves being affected as the stimulus is sent out from the convulsive center.

7.—Only action on the *kidneys* is hyperæmia; a dangerous arterial pressure, with an increase of the solids.

8.—Its secondary action causes an acute *metritis*, with suppression of discharges, high temperature, rapid shotty pulse; complicated with pelvic cellulitis and convulsions.

9.—The halo of green appearing around candle or lamp is caused by an irritation of the *optic tracts* and depression of the *middle nuclei of the motor oculi*.

10.—Causes death by paralyzing either the muscular structures, the nerve supply to the heart, the cardiac ganglia, or by asphyxia, due to paralysis of the respiratory center.

Therapeutic Characteristics.

Fevers.—Remittent or bilious; when not dependent upon miasmatic influence, but due to hyperæmic liver, with nausea, bilious vomiting, high temperature, shotty pulse and streaked tongue; cyanosis and exhaustion.

Is not useful in the miasmatic intermittents, although the symptoms may call for it; will not antidote or prevent a recurrence; differs from *chinium purum* in that chinium has a specific miasm, the chill

recurring at regular intervals, followed by profuse perspiration which stains the linen yellow.

Irritative fever.—Caused by worms, with drowsiness, spasms, throbbing of the temporal arteries and hard, rapid pulse.

Pneumonia.—The sthenic hyperæmic form, indicated in the first stage, with rapid laborious respiration; short, dry cough, scant rust-colored expectoration.

In the asthenic form of pneumonia, where there is a passive stasis, the pulse rate is feeble and low.

Useful in *puerperal mania*, characterized by silence, suspicion and distrust of attendants; insists on the medicine as being poison; the mania here due to the increased activity of the nervous structures of the abdomen; if *before labor*, due to pressure of the gravid uterus on the nerve centers; *after labor*, to imprisoned lochia and placental fragments.

Puerperal convulsions, eclampsia.—Due to arterial hyperæmia of the kidneys, the latter part of gestation; scant urine, with an increase of solids. Find a history of headaches.

If after delivery, intense hyperæmia of the brain; convulsions follow each other rapidly, cyanosis and coma.

Threatened puerperal peritonitis, with high temperature and pulse.

Chorea.—The muscles of the face are contracted into horrible contortions, with jerking of the head; the body fairly writhes in its agony and torture; neither sleeps nor takes nourishment.

Never give *veratrum* to an anæmic individual; not only aggravates, but may precipitate dangerous conditions.

Useful in sudden loss of *sight*, with depression dimness of vision, dilated pupils, red and green halo about the light.

Cardiac disorders, marked by irritable weakness, causing intense hyperæmia to the brain.

Will restore permanent warmth to the feet in individuals who complain and are satisfied at the same time to have cold, clammy feet.

We present the following comparison of the veratrums by Dr. Paul M. Patterson, Kansas City Hahnemann '18, a careful perusal of which will repay the reader and enlighten on many points:

Veratrum Album is a native of the Alps, Russia and Asia, while the Viride is a native of America, growing from Canada to Georgia. The \emptyset of the Album is made from the powdered root and that of the Viride from the fresh root gathered in autumn.

Let us observe the patients in which these remedies are indicated:

As the door opened to the physician's waiting room, all its occupants turned to gaze at the newcomer, and to wonder what could possibly be the matter with her.

As she passed to a vacant seat near the radiator at the farther end of the room, she made a wide sweep of Mrs. Camphor's chair, as if there was a great enmity existing between them. The new arrival, Miss Veratrum Album, was cold, very cold, indeed; she complained of being *habitually* cold. She was thin and the very picture of anæmia. Her hippocratic countenance appeared even more so in her dark dress. And that nose! It had grown more pointed every day, while the blue circles around her eyes were so blue they had put on a greenish tint. In fact, her whole face had a bluish appearance.

Her mother's face had been quite similar until she had puerperal mania, when it had bloated considerably. And it was rumored that Miss Album took after both her father and mother in looks, but her

father acquired somewhat of a yellowish cast in his later life after he had "catarrh of the liver." Her neck seemed too weak to hold her head up, and she moved about in her chair and hugged the radiator as if to find relief in movement and warmth.

Across from her sat a heavy plethoric woman. She was very red, and the muscles of her face twitched considerably as she eyed Miss Album. She was Mrs. Veratrum Viride, and although related to the Albums, they had not spoken for years. Gossip had it for a fact that the Albums came from Europe and had never shown much like or similarity for their American relatives.

Indeed, one would never have thought them related to have seen them together. Why, the Viride family were not in the least anæmic. Mrs. Viride's brother *was*, but they laid the cause to the fact that he had used alcoholic beverages to excess.

As Miss Album smoothed out her black alapaca dress, it was too much for the quarrelsome nature of Mrs. Viride, and she spoke up in an irritable tone: "You need not be so stuck up."

For a moment Miss Album sat in a stupid manner as if she had had a lapse of memory. Beads of sweat stood out on her forehead, and she simply noticed nothing.

At this Mrs. Viride became very irritable as the blood congested her head and face. It seemed to bring on a delirium, but she gradually cooled down again and said in a pleasanter tone, "Miss Album, you are not looking well today."

"No," Miss Album answered; "dysmenorrhœa with cramps in the abdomen and a voracious appetite with vomiting of water as soon as it is swallowed would put anyone on the sick list, I guess. And to think of what we went through with in the late hot summer; the atmospheric influences and half-ripe fruits cause our family no end of long-drawn-out colics, diarrhœas,

dysenteries and prostrations. I am so glad fall weather has set in as we can stand the cold weather much better than this long train of suffering."

"That's nothin'," broke in Mrs. Viride. "Yesterday I was so depressed I could hardly move, my heart was so affected. A constant dull burning pain in the region of my heart, with shot-like pulse, which intermits and can be felt in the thighs, is a much graver condition."

Miss Album changed the subject. Whether she agreed with Mrs. Viride on the last point, or whether she deemed it advisable not to arouse her quarrelsome nature, we do not know.

Just then Mrs. Camphor whispered to Miss Belladonna (who had watched the delirium of Mrs. Viride with envy): "Do you know, I think Miss Album is losing her mind. At the card party yesterday she kissed everybody in the room but me, and her loud talk was very unladylike. When I refused to kiss her she cut and tore my clothes and talked lewdly and her mother explained her menstrual trouble and took her home.

"Her brother, however, is a lovely young man; is so religious and talks so much of religious things."

From the way Mrs. Camphor talked one could easily surmise that she was quite able to antidote any little ills Miss Album threw in her way. But as it had come her turn in the physician's private office, it put an end to her gossip.

At length Mrs. Viride asked, "How is your mother?" Miss Album gave an indifferent sigh as if she was used to many uncomfortable feelings, and replied: "Mother is having puerperal mania, and shrieks wildly, has stertorous breathing and convulsions, but one good thing for us is that her mania is periodic and not constant. Some mornings she has nausea and vomiting when she rises early and this

is accompanied by loss of all nerve power and purging.

"Oh, dear," she sighed, "our family is so given to purging with rice water stools——"

"We never have that," interrupted Mrs. Viride, "but my husband caught cold and is now in the first stage of hyperæmic pneumonia. Great heat and prostration, with hepatization of the lung. His breathing is difficult, the pulse slow, soft and irregular in spite of the congestion."

By this time the roomful of patients had decided they were not "in it" in comparison to the illness of the Veratrums, and one by one left quietly.

Just then Miss Album's little brother came running into the office to tell the physician that his father was having a heart spell, too. He fainted on moving, face deathly pale, but became red on lying down, with a weak thread-like pulse.

"Humph," mused the doctor to himself, "this is following that acute infectious disease he had some time ago," and, excusing himself, he hastened to the Album home.

Poor Miss Album and Mrs. Viride! Let us hope they didn't have to wait long for the physician's return and that they changed their conversation to some more agreeable topic.

REVIEW

The following review will enable the student to become familiar in the grouping of remedies for the purpose of comparison, and reducing to a minimum the vital points of the text:

Differential pathology of the blood, as deduced from the pathogeneses of the following drugs:

Aconite.—Exhibits no blood change; not indicated in diseases characterized by blood change.

Antimonium tartaricum.—Oxygenating powers lost; in turn destroys the fibrin factors. Corresponds to capillary bronchitis, smallpox and pneumonia.

Arsenicum album.—Alters the red and white corpuscles and destroys the fibrin factors. Corresponds to general tissue decomposition, anæmia, eruptions, cancer and gangrene.

Bryonia.—Degeneration of the red and white corpuscle. Corresponds to the infiltrations of typhoid, re- and intermittents, puerperal and eruptive fevers.

Baptisa.—Destroys the red corpuscles and fibrin. Corresponds to the toxæmia of typhoid and diphtheria.

Cinchona.—Destroys the white corpuscle; decreases the size and number of red corpuscles and increases the fibrin. Corresponds to the anæmia of malaria and hemorrhages.

Carbo vegetabilis.—Disorganizes the red corpuscle, causing sepsis identical with that of low grade ulcerations and inflammations.

Colchicum.—Degenerates both red and white corpuscles, the vital fluid becoming the medium for the non-elimination of the urates.

Lachesis, crotalus and naja.—Fibrin factors and red corpuscles destroyed; white corpuscles are swollen and increased in number; acid reaction. Corresponds to typhoid and yellow fevers, hemorrhagic diseases, malignant carbuncles and septic valvular vegetations.

Elaps.—Increases the action of the fibrin factors, *clot* extending to the vessels.

Iodine.—Increase of fibrin and unassimilated albumins. Corresponds to marasmus, tuberculosis, goitre and pernicious anæmia.

Kali iodide.—*Primary*, increases the fibrin to coagulation in the vessels, and is due to the contained iodine.

Secondary, a digestion of the fibrin by the potassium; result, fatal unless the scorbutus manifests itself in eruptions and lymphatic involvement.

Kali chlorum.—Converts the hæmoglobin into methæmoglobin and hæmatin, thereby lowering the oxygenating powers of the blood.

Mercury.—Altered by the deposit of the retained fats in the lymph, which in turn deprives the vital fluid of one-third of its fibrin and globules and one-seventh of its albumen. Results in—

- 1.—Enlargement and induration of glands.
- 2.—Effusions into the cellular tissue.
- 3.—Suppuration and ulcerations.
- 4.—Decay of every organic structure.

Phosphorus.—Dissolves the red corpuscle, the disks being separated into hæmatin and globulin, the plasma floating a purple coagulum, which in turn destroys itself, leaving the blood dark, fluid, phosphorescent and contained in the arteries after death. Corresponds to the various forms of anæmia, marasmus and hemorrhagic dyscrasias.

Nitric acid.—The red and white corpuscles are

degenerated, resulting in constitutional dyscrasia like that of the syphilitic and psoric miasm, the cryptogamic fevers and phthisis.

Muriatic acid.—Increase of fibrin factors; loss of moisture through lack of *normal* secretion; acid reaction.

Rhus Tox.—Increase of fibrine; septic degeneration of red and white corpuscles; neutral reaction. Corresponds to typhoid type of fevers, erysipelas and vesicular eruptions.

1.—From where do we obtain the drugs used in medicine?

Animal—Lachesis. Mineral—Arsenicum. Vegetable—Bryonia.

2.—Give points of difference between a chemical, physiological and medicinal antidote.

Chemical.—An agent which combines with the poison present, forming a third body, rendering the poison insoluble and unabsorbable.

Does this in one of three ways:

1.—Mixed with the poison before introduction, it enters the system as a third body, preventing absorption of the first.

2.—Introduced into the body immediately after the injection of a poison, in the same locality, it meets the first force, combines with it and renders it inert.

3.—Injected into the circulation, from a point remote from the seat of poisoning, it meets the first force, combines with it and renders it inert before it has time to travel to the center.

Physiological.—Has an affinity for the same structure as the poison and acts either directly on the structures or indirectly on or through the antagonizing nerve supply. (Belladonna to Opium.)

Medicinal.—An agent which will restore the al-

tered protoplasm to a normal standard. (Hepar Sulph. to Mercury.)

3.—What is the first principle involved in the preparation of drugs?

Cleanliness, no dust, no odors.

3a.—Name vehicles used in preparation.

Alcohol, sugar of milk, distilled water, glycerin.

4.—Define drug power, potency, potentiation.

Drug power.—Is the essential principle which constitutes the active force of the drug and which individualizes it from any other; is the power which effects cures by absorbing the morbid product to itself. It is the active principle which pervades the molecular atoms of the drug.

Potentiation—infinte divisability.—Is the division, separation and development of the hidden dormant power by a process of trituration and succession, until complete separation is effected; may be reached in any potency from the 6x up.

Potency refers to the extension and division of drug power by reason of separation of its atoms.

5.—Give proportion of drug power—1/100, 1/10, 1/2, 1/6.

1/100—1 to 99 distilled water or alcohol.

1/10—1 to 9 milk sugar.

1 to 5 alcohol.

1 to 9 distilled water.

1/2—Equal parts by weight of alcohol and substance.

1/6—2 to 1 of substance.

6.—Define drug pathology. Classify.

Is the science which treats of the alteration and destruction of physiological functions and organic tissues in the healthy; to form the (a) picture of drug pathogenesis which corresponds to disease; its deductions to form the characteristics of the remedy.

Is divided:

According to time—toxic and pathogenetic.

According to action—*primary* and *secondary*.

As to organs affected (and tissues).

7.—Define the effect of pathogenetic action.

Effect.—Is obtained by experimentation on the healthy human body with drugs in varying doses and strength, which action *disturbs the cells*, taking from or adding to the vital force, thus favoring tissue change.

Object.—To discover the mode in which a drug affects living tissues, with a view of ascertaining its therapeutic uses.

Primary and secondary action is the affecting of the organism in two opposite ways which antagonize each other; refers to conditions arising early and late in the proving.

Example.—The *primary* effect of *Aconite* is *chill*, followed by the reaction of the organism with fever.

8.—Classify drugs as to action and location.

LOCATION.	ACTION.
Deliriants.	Toxæmic.
Narcotics.	Neurotics.
Convulsants.	Corrosives.
Paralyzants.	Simple irritants.
Syncopants.	Specific irritants.
Anæsthetics.	

9.—Define a lethal, pathogenetic and therapeutic dose.

Lethal.—A dose large enough to either cause death or serious structural lesions, the fatality of the dose depending on the solubility of the poison; a fraction of a grain of HCN causing death as quickly as a dram of Aconite.

Pathogenetic.—The dose employed in the provings for orderly gradual tissue change.

Ranges in three degrees of power:

The *dose* to cause *pathological* lesions—1 to 10 minims the limit within the *toxic*.

To cause severe derangements—1/16 to 1/8 of a grain.

From the potencies—from 4 minims or grains upward.

Therapeutic.—One which can enter the cells of the body, absorb unto itself the product of disease, and will *at no time* aggravate the existing malady or injure healthy parts.

10.—Give the botanical characteristics of Aconite, Cinchona, Spongia, Gelsemium.

ACONITE.

European Monkshood.
3 to 4 feet high.
Violet blossom.
Root like turnip, with 8
rays or points.
Alkaloid—Aconitine.
Ø equal parts 1/2 d. p.

GELSEMIUM.

American Southern plant.
Vine 50 feet or more.
Yellow, fragrant flower.
Root like goosequill.
Alkaloid—Gelsemine.
Ø 2 to 1 of sub. 1/6 d. p.

CINCHONA.

Peruvian Bark.
South America, China.

SPONGIA.

Lowest form of animal life.
Mediterranean Sea.

Shrub tree, bark used. From broad attachments to
 Stripped to preserve the rocks.
 internal lichens. Contains Iodine and Calcium
 Alkaloid—Quinine. Ø from roasted sponge,
 Ø 1 to 5 alcohol 1/10 d. p. 1 to 5 alcohol d. p. 1/10.

11.—Classify the acids as to action and origin, with example of each.

Origin.—Mineral, vegetable, animal.

Action.—Corrosives—nitric, HCL, sulphuric.

Neurotics—HCN, carbolic, oxalic.

Corrosive and neurotic—Carbolic, oxalic, arsenious.

Corrosive, neurotic and specific irritant—Arsenious.

12.—Name acids having combined action.

Arsenious.

12a.—Give the toxic action of HCN and HCL.

HCN.

HCL.

Insensibility.

Conscious to death.

Loss of muscular power.

Violent burning pain.

Gasping, convulsive respiration.

Dyspnoea.

Cold, clammy skin.

Stain, tissues shriveled and corroded.

Fixed eyes.

Vomiting, retching.

Spasmodic closure of the jaws.

Anxiety, exhaustion.

Death.

Rapid pulse.

13.—What is the first principle to remember in the treatment of general acid poisoning and Arsenious in particular?

General.—Never use the stomach pump, because of the softened mucous membrane which favors perforation.

Arsenicum.—Never use a hot solution of any kind, as it hastens absorption.

Prepare *Arsenious acid*, *Phosphoric acid* for homeopathic use.

Arsenious.— \emptyset —1 part acid to 60 distilled water, increase filtrate to 90, and add 10 parts alcohol; drug power 1/100.

Phosphoric—1 to 90 distilled water, add alcohol 10 parts; drug power 1/100.

14.—Name the characteristics corresponding to the acids.

1.—Inflammation and destructive ulceration of the mucous membranes.

2.—Increase the alkaline, and decrease the acid secretions.

3.—Irritability of the nervous forces.

4.—Weakness and prostration.

5.—Pseudo membranes.

6.—Scorbutic state of the system.

7.—Debility identical with that of defective nutrition and sepsis.

8.—Disorganization of the blood corpuscle.

9.—Weak, irritable pulse.

15.—Name characteristics of the first and third degrees of toxic and pathogenetic effect of Arsenious acid.

FIRST DEGREE.

Vomit.—Ineffectual in first stage.

Profuse in second stage.

Ceases in third stage.

Abdomen—Retracted in first stage.

Hot and distended in third stage.

Respiration.—Spasmodic and hot first stage.
Stertorous third stage.

Mentality.—Ranges from anxiety and fright to hopeless despair and quiet.

Stools.—Suppressed in first stage.
Involuntary in second stage.

Circles about the eyes.—Blue to lead color.

Lips.—Livid to black; parched and tremble.

THIRD DEGREE.

Force of the poison is centered in the nervous system, ending in contractures, cramps and paralysis, chills, fever and rash marking the recurrent suppurating patches in the intestines.

16.—Mention deductions of Arsenicum in its action on the entire body.

Is that of organic decay:

Beginning as a corrosive.

Continuing as an hæmatic.

Ending as a neurotic.

Destroys the whole machinery of life, increasing in unabated fury to death.

17.—Give the deductions of the pathogenetic action of Digitalis on the heart with resulting symptoms.

Acts *directly* on the *muscular tissue* as a *tetazant*.

1.—Does this by stimulating the musculo-motor portion of the heart.

2.—Increases the action of the inhibitors.

3.—Contraction and spasm of the arterioles.

4.—Heart muscle is at first strengthened; second have irregular contraction; third, rigidity.

5.—Heart dies in ventricular systole, and auricular diastole.

Symptoms.—Slow, unequal pulse, intermittent at 6-8-15; tightness and oppression of the chest, vertigo, black spots before the eyes; pale, bloated face; coldness, numbness and dyspnoea.

18.—Mention two drugs centering their effect in the arterial system.

Aconite. Belladonna.

19.—How does Bryonia affect muscular fibre?

Acts as a specific irritant, causing inflammatory contraction of fibre.

20.—In what way do Gelsemium and Atropia dilate the pupil of the eye?

Gelsemium.—By paralyzing the peripheral fibres of the third and 6th cranial nerves supplying the circular fibres of the iris.

Atropia.—By paralyzing the peripheral fibres of the third, and stimulating those of the trigeminus and sympathetic.

21.—Name the altered centers of Cinchona.

1.—Nerves of special senses—Auditory, Optic, Olfactory.

2.—Supra-orbital branch of the fifth.

3.—Trunk and branches of the pneumogastric.

4.—Motor tract of the cord, vaso-motors, peripherals to muscles.

5.—Blood.

6.—Muscular fibre.

7.—Entire brain.

8.—Spleen, liver, kidneys (Semilunar ganglia).

22.—Give the deductions of Chinium Purum on the brain.

Blindness, deafness, vertigo.
 Feeble, slow respiration.
 Almost absent pulse. Coma.
 Is *without previous stimulation*.

23.—Define the effect of a toxic and pathogenetic dose of Cinchona on the circulation.

Toxic.—Acts directly on the vaso-motor centers, paralyzing them immediately, lowering arterial pressure, arresting the heart in diastole.

Pathogenetic.—Stimulates the vaso-motors. Is absorbed through the medium of the gastric juice; causes debility like that of the latent malaria germ and chlorosis.

24.—How do Aconite, Bryonia, and Belladonna cause inflammation?

Aconite.—By engorging arterial capillary circulation.

Bryonia.—Accelerates the peripheral nerve endings to vessels; inflammation ranges between engorgement and nervous irritation.

Belladonna.—Engorges the arterial circulation center to periphery.

25.—How does Arsenicum cause anasarca?

By depressing and paralyzing the vaso-motors of either circulation, thereby engorging cellular tissue.

26.—Define from a pathogenetic standpoint the confusion of Bryonia, the fear of Aconite, and the anguish of Arsenicum.

Bryonia.—Is representative of brain centers at variance with each other; without engorgement or inflammation.

Aconite.—The mania of fear is caused by the depression of the respiratory and intellectual centers by reason of the engorged sinuses.

Arsenicum.—Organic depression, to degeneration of the mental faculties.

27.—In the blood pathology of Cinchona, HCL, Nitric and Arsenicum, how is the fibrine altered?

Increased—Cinchona, HCL, Nitric.

Decreased—Arsenicum.

27a.—How do Cinchona, Arsenicum and Iodine cause anaemia?

Cinchona.—By destroying the white corpuscles and decreasing the size and number of the red.

Arsenicum.—By altering both red and white corpuscles and decreasing the fibrin factors.

Iodine.—Unassimilated albumins and increase of fibrin.

28.—What drug alters the auditory nerve to complete deafness?

Cinchona and alkaloid.

29.—Give the results of the action of HCL on the blood and glands as to T° and pulse.

Results.—Congestion, inflammation and ulceration.

Two extremes of T° pulse:

1.—Pulse 60, T° 103-105.

2.—Pulse 110 to 130, T° 96-97.

Symptoms.—Collapse, slides down in the bed; vacant, staring eyes; unconscious muttering, delirium, apathy; dropping of the lower jaw, tongue blue, dry, rattles in the mouth like wash leather.

30.—What tissues are affected in the lumbago of Bryonia?

Muscles.

31.—How does Aconite cause syncope?

By depressing the vaso-inhibitor *primarily*, and the cardio-inhibitor *secondary*; destroys the conducting power periphery to center.

Keynote symptom.—Swaying sensation to and fro in the brain, feeble pulse, numbness, dilated pupils, fear and death.

32.—How does Gelsemium affect the motor system?

Depresses and paralyzes *primarily*.

Secondary, recovery and spasm.

Resulting symptoms.—Loss of motility and voluntary movement.

33.—To what stage of pneumonia does the pathology of Aconite, Bryonia and Iodine correspond?

Aconite.—To the first stage of congestive pneumonia.

Bryonia.—To the second stage of congestive pneumonia.

Iodine.—To the third stage of malarial and phthisical.

34.—Why is Nitric acid only useful in ulcerative conditions of the stomach and large intestines?

Because the alkaline secretions neutralize the acid in the small intestines.

35.—What special form of fever is Cinchona curative in?

Malarial, inter- or remittent.

36.—Give the characteristics of the fever of Gelsemium.

1.—Where it develops under circumstances favoring a paresis of the motors of voluntary and involuntary motion.

2.—Blood vessels are full and dilated and lack the firmness and resistance of a sthenic inflammation.

3.—Languor, muscular weakness, drowsiness, desire for absolute rest; T° 100-102.

4.—Soft, compressible pulse, or weak, imperceptible.

37.—Describe the characteristic patient of Belladonna, Iodine, Aconite, Arsenicum, Digitalis.

Belladonna.—Strong sthenic patient, red bloated face, excitable and noisy.

Iodine.—Brunette, slight build, scrofulous constitution, easily debilitated.

Aconite.—Young, plethoric, usually strong and healthy, dark hair and lively complexion, not given to brooding or complaining.

Arsenicum.—Irritable lymphatic temperaments, with rapid sinking of the vital forces.

Digitalis.—Patient is hard to understand; is debilitated, melancholic and peaceful by turns. Marked involvement of the heart.

38.—Name the class of diseases for which Aconite and Arsenicum are useful.

Aconite.—Sthenic.

Arsenicum.—Adynamic; those of blood and nerve changes.

39.—What are the indications for Belladonna in colic?

Indicated in the *spasmodic form*; of twisting character; begins gradually with vomiting and retching, cold extremities, delirium; either gastro-intestinal or uterine.

Factors engaged.—*Primary*, paralysis of the motor nerves of non-striated muscle, with *secondary* recovery in unequal bundles.

40.—Why is the Bryonia patient aggravated by motion?

Because *Bryonia* causes inflammatory irritations of soft tissues and places the nerve centers and nerves at variance with each other.

41.—Give points of difference in the rheumatic conditions of Bryonia and Aconite.

Bryonia.—Has its beginning in the muscular bellies, synovial enclosures and bursa.

Symptoms.—Most important are those of irritability of fibre, soreness, extreme pain on motion, because of the *intensely congested fibres* which do not admit of stretching.

Aconite.—Affects both muscles and fibrous tissues with stiffness and contraction of fibre.

42.—Give indications for Arsenicum in the pneumonia of the aged.

Extreme dyspnoea, disturbed circulation, gangrenous disorganization of pulmonary tissue, exhaustion, collapse, anguish and desire to die.

43.—Define the plastic inflammation of Bryonia and Belladonna.

Bryonia.—A true plastic irritant; effusion is not great, is scant, adhesive in character, with aggravation on motion. Why?

Belladonna.—Indicated before effusion; severe pain caused by active arterial engorgement and irritation of the peripheral nervous supply.

44.—How does Digitalis cause inhibition?

By irregular tetanic contraction of the ventricular muscle and arterial walls, which forces the inhibitors to increased action, to death; pulse is slow, unequal, intermittent at 6-8-15th beat.

45.—Name a remedy causing toxæmia, and give its picture in disease.

Baptisa presents a picture of toxæmia, with its besotted face, drowsiness, debility, prostration, putridity and muttering delirium; the sepsis is due to loss of absorption.

46.—Mention the form of paralysis for which Arsenicum is useful, and the centers involved.

A *form* characterized by cramps and contractions.

Centers altered.—Motor endings to muscles are paralyzed, while the sensory endings are in a state of spasm.

47.—Give the general effect of the pathogenetic action of Belladonna on the brain with resulting symptoms.

Causes active congestion of the entire brain, in which the arterial vaso-motors are stimulated to exhaustion.

The *resulting mentality* is that of excitement: wild, rage, and if *secondary* effect obtains, that of *depression*, have *exalted visionary* mania.

48.—Describe the tongue of Bryonia, HCL, Baptisa, and Arsenicum.

Bryonia.—Yellowish dry coating; ranges to brown.

HCL.—Blue cast, dry, rattles in the mouth like wash leather, covered with sordes.

Arsenicum.—Angry red, cracked, dry and parched.

49.—How does HCN alter the respiratory system?

The *respiratory center and origin of the vagi* are directly stimulated to paralysis; three stages in process—asthma, convulsions, asphyxia.

Therapeutic uses.—In neurotic temperaments, where the symptoms come on with great severity and suddenness, and general blueness of the surface of the body.

Congestive headaches, characterized by dizziness, shivering, cardiac distress.

Vertigo with nervous wave from stomach to throat.

50.—Name the preparations of Ammonia and acids containing 1/10, 1/100 drug power.

1/10.

1/100.

Ammonias.—Causticum.....Chloride in tritura.
Carbonicum.....Carbonicum.
Chloride in dil.....Phosphoricum.

Acids.— Nitric.....Lactic.

Sulphuric.....Hydrocyanic.
 Acetic.....Flouric.
 Muriatic.....Phosphoric.
 Carbolic.....Arsenious.
 Benzoic.

51.—Compare the toxic action of the Ammonias with that of the corrosive acids.

AMMONIA.

ACIDS.

No stain.	Characteristic stain.
Volatility.	Tissues shriveled and corroded.
Pungent odor.	Conscious to death.
Softened, inflamed mucous membrane.	Exceptions—Carbolic.
Insensibility.	
Respiratory system affected <i>primarily</i> .	

52.—How does Ammonia cause death by shock? Chronic?

CHRONIC.

SHOCK.

Stricture of the esophagus.	Closure of the glottis.
Scurvy.	Closure of the lumen of the bronchi.
	Paralysis of the respiratory center.

53.—Compare the antidotal treatment of the Ammonias with that of the acids in general, Arsenious and Carbolic in particular, and Phosphorus.

The *principle* of using the stomach pump in either group is forbidden, on account of the softened mucous membrane, which *favors* perforation.

AMMONIA.

ACIDS.

Neutralize.—Dilute acids, as vinegar, lemon, wines.
Neutralize.—Alkalies, as calcines.
 Mucilaginous drinks.
 Oil to convert into soap.

Arsenious.—Never use a hot solution, as it favors absorption.

Give quantities of oil to invest the poison.

Use stomach pump if not yet vomiting.

Carbolic.—Neutralize the burns with oleaginous substances.

Prevent absorption with a soluble sulphate, preferably a soda, following with the dynamic preparation. Dilute vinegar. Alcohol.

Muriatic.—Calcines.

Phosphorus.—Never use oils or fats, as it hastens absorption. Promote vomiting with albumin, calcines. Wash out stomach with a 1 per cent solution of permanganate of potassium, or give solution, one grain to the ounce of water.

54.—Compare the pathology of the mucous membranes of Ammonia with that of Phosphorus and HCL.

Ammonia.—*Destruction and tumifaction. Anterior ulcer.*

Destruction: Softened, inflamed, portions detached.

Tumifaction: Swollen, without destruction, to closure of the lumen.

Phosphorus.—*Adenitic inflammation. Posterior ulcer.*

Membrane is swollen, thickened, opaque; the epithelial cells filled with fatty, degenerated granules,

and dotted with eccymotic spots, which soon degenerate with hemorrhage.

Muriatic.—*Phlegmonous inflammation, of aphthous character.*

Destructive ulceration.

Deposits of pseudo membrane.

Fungoid growths.

55.—Give the difference in symptoms of gastrointestinal tract, between Ammonia, Muriatic and Arsenicum.

Ammonia.—*Pituitotic inflammation.*

Nausea, vomiting, purging, tenderness of abdomen.

White furred tongue, repugnance to food.

Flabby tissues.

Muriatic.—*Atonic debility.*

Pyrosis, nausea, spoiled food eructations.

Tongue ranges from brown to bluish.

Depends on the amount of *normal HCL.*

Arsenicum.—*Choleric neurotic.*

Extreme nausea, vomiting may be scant, or profuse and sudden; vomits liquids soon as they become warm in the stomach. Weakness; discharges are acrid, corroding and cadaverous.

56.—Compare Ammonia with Muriatic Acid and Phosphorus as a normal constituent.

Ammonia.—Exists normally in the blood as a *chloride.*

Function: Is to preserve its fluidity.

When in *excess*, either from non-elimination or continued indigestion, it digests the red corpuscle and fibrin.

Loss of normal Ammonia results in an accumulation of the calcines of the body, in the form of calcareous incrustations and deposits in the tissues.

Muriatic.—Is an organic solvent, formed from the neutral chlorides in the blood, in the pariesal cells of the peptic glands; thence to the gastric juice in amounts of from 2 to 3%, regulated by its *brain center control*.

Its function is to coagulate the albumens and dissolve the limes which enter the stomach as food.

Its supply depends on the normal or abnormality of the cerebral control; *irregular control or excess*, whether normal or otherwise, stops digestion, food contents are spoiled, of alkaline reaction, and pyrosis.

Failure of control ends digestion, food is neither taken nor wanted, scorbutis resulting.

Phosphorus.—Is a nutrient to nerve tissue; enters its normal composition in the form of *protagon*, 1 to 2% holding the same relation to nervous tissue as iron to the blood and calcium to the bone.

Deviation from the normal supply, either *loss or excess*, results in destruction; if *loss*, the nervous structures are soft and bloodless.

Excess results in necrosis and fatty degeneration.

57.—Compare Ammonia with Muriatic Acid as to action on the respiratory system.

Ammonia.—Affects the respiratory center and tracts. A short *primary* depression, which loses itself in the *secondary* action; the respiration, which was slow, is now rapid, becoming more so as the center and tracts exhaust, with aponia to death.

Hydrocyanic.—The respiratory center and origin of the vagi are *primarily* and directly stimulated to

paralysis, representing three stages in its progress:

- 1.—Asthma.
- 2.—Convulsions.
- 3.—Asphyxia.

Respirations are lessened in frequency to death, ceasing before the pulse.

Both remedies have:

- Difficult respiration, or dyspnoea.
- Constriction of the throat.
- Suffocation.

Difference lies.—HCN does not affect the glottis or the bronchial mucous membrane.

58.—How does Ammonia force the heart to death in diastole?

By stimulating the cerebral cardio-inhibitor, and spinal vaso-motor centers, the combined action serving to narrow the lumen of the peripheral arteries, thus *increasing* blood pressure, although slowing the cardiac movements.

59.—Compare the effect of continued dosage of Ammonia and Muriatic Acid.

Ammonia.—Degeneration of the absorbent system, resulting in hectic T°, hemorrhages, marasmus.

Muriatic.—Asthenic conditions or affections. Sepsis. Due to action on the blood, glands and normal supply.

60.—Compare the general therapeutic action of Ammonia with Muriatic Acid.

Ammonia.—Sub-acute chronic diseases of scorbutic, putrescent and gangrenous character.

Lax, lymphatic temperaments, without energy or

resistance, and who are compelled to have their smelling salts constantly at hand. Spanæmac diseases.

Muriatic.—Diseases of asthenic form, characterized by debility, nervous exhaustion, listlessness and malignant ulcerations.

61.—Compare the mentality of Mercury with Phosphorus.

Mercury.—Weak memory, anxiety, depression, want to run away, do not recognize their own family, depraved tastes, eat excretions of animals. Varies with preparation.

Phosphorus.—Sadness and anxiety at twilight, apathetic; creepy fearfulness; melancholic forebodings.

62.—Name Mercurial preparations having Nitric and Sulphuric Acid in their combination.

Nitric.

Sulphuric.

Mercurius Solubilis.

Mercurius Corrosivus, 6 pts.

Mercurius Dulcis, 36 pts.

Mercurius Cyanatus, 4 pts.

62a.—Mention Mercurial preparation having toxically corrosive and dynamic action.

Mercurious Corr.

62b.—Name the neurotic mercury.

Mercurius Cyanatus.

62c.—Name the effects and centers altered in the pathogenesis of Mercury.

EFFECTS.

Fever of adynamia and salivation.	Inflammatory cond.
Ptyalism, or salivation.	Ulcerations.
Sloughing.	Hypertrophies.
Purging.	Hydrosis.
Nervous derangements.	Periostitis.
Mercurial cachexia.	Skin.

CENTERS.

Lymphatics.	Motor centers and nerves.
Blood.	Sensory nerves.
Salivary glands.	Mucous membranes.
Pancreas.	Fibrous tissues and bones.
Perspiratory centers.	Glands.

63.—How does Mercury cause inflammation?

By engorgement of the lymphatic and venous network.

64.—What is the consequence of lymphatic weakness and obstruction?

- 1.—Enlargement and induration of glands.
- 2.—Effusions into the cellular tissue.
- 3.—Suppuration and ulcerations.
- 4.—Decay of every organic structure.

65.—Mention dyscrasias caused by Mercury and its salts and the constitutional taints they correspond to.

Mercury itself causes scorbutus.

Merc. sol., *Merc. corr.* and the *Iodatus rub.*, by reason of their combination with *Nitric* and *Sulphuric*

Acid, Iodine, causes a miasm identical with that of syphilis, sycosis, psora and mesenteric scorbutis.

66.—Compare the pathogenetic effect of *Merc. viv.* on the joints with that of *Bryonia* and *Rhus Tox.*

Merc. viv.—Affects the periosteum and bones; does not enter into the joints, except as to the extent of periosteal investment.

Bryonia.—Affects the synovial inclosures and bursa of the small joints, causing swelling, effusion, tenderness and pain on movement.

Rhus Tox.—Selects the fibrous tissues external to joints; at the same time placing the motors to muscles in a stupid condition. *Relief* is afforded by the impulse to the receptive centers to *stretch* or move the affected part. The most important symptoms are lameness, stiffness, numbness.

67.—Compare the pathogenesis of *Baptisa* on the mucous membranes with *Arsenicum*.

Baptisa.—Apthous inflammation.

Due to degeneration of the vegetative functions and blood.

Arsenicum.—Congestive, destructive, gangrenous ulceration.

1.—Beginning in the solar plexus of nerves, it destroys both nerve and circulatory supply of the membrane of the gastro-intestinal canal.

2.—Through the branches of the 5th nerve it affects the Schneiderian and petuitary membrane.

3.—*Secondary* to the finer ramifications of the terminals of the vagi, it affects the pulmonary membrane.

68.—Name the Ophidians.

Lachesis Mutus.
 Crotalus Horridus and Cascavella.
 Elaps Corallinus.
 Naja Tripudians.

69.—What are the facts in regard to the venom according to effect?

Effects depend on:

- 1.—Tissues affected.
- 2.—Climatic changes.
- 3.—Mood of the reptile.

70.—Give the deductions of the three modes of death.

1.—*Acute*: Tissues and fluids of the body unchanged; nerves healthy, but instantly paralyzed.

2.—*Sub-acute*: Sepsis, mortification of tissues, nerves last.

3.—*Chronic*: Partial disorganization with gradual decay of system; marked early action on special centers.

71.—Give the difference as to bloody pathology.

Lachesis, Crotalus and Naja. — Fermentive change.

The fibrin factors are destroyed, with an increase in number of the white corpuscles. Acid reaction.

Elaps.—Increases the fibrin elements to the extent of clotting in the vessels.

72.—Explain the result of the paresis of the filaments of the sympathetic as developed in the pathogenesis of Lachesis and Crotalus.

A general breaking and destruction of the blood-making organs, the spleen and spinal marrow; in addition, the destroyed vaso-motors cause hemorrhages into the solid viscera and serous surfaces; typical of this action is the peritoneum, which becomes as a membrane of blood.

73.—What important center is altered by Naja Tripudian?

Mitral valve.

74.—Alteration of what center causes constriction about the throat, with sensation of suffocation?
Glosso Pharyngeal.

75.—In the blood pathology of Cinchona, Rhus Tox, HCL and Elaps how is the fibrin altered?

Increased.

76.—What centers are altered in the general pathology of the Halogens?

1.—Mucous membrane of the bronchial tubes and larynx.

2.—Blood.

3.—Glandular system.

77.—Sum up the pathology of Iodine on the mesenteric glands and lacteals.

Glands lose their power to receive uninterrupted flow of lymph:

1.—Which prevents afferent and efferent flow.

2.—In turn prevents absorption of fats.

3.—Allowing the unassimilated albumens to remain in the blood,

4.—Which are deposited as tubercle in the tissues.

Result.—Impaired nutrition, ending in marasmus, ricketts, pernicious anaemia, with tremor, chronic diarrhoea, eruptions.

78.—Give points of difference between the Nitric Acid and Iodine ulcer.

Nitric.

- 1.—Dips deeply into the tissues.
- 2.—Is irregular in outline.
- 3.—Filled with granulations.
- 4.—Bleeds soon as touched.
- 5.—Burning, sticking pains.
- 6.—Covered with thin, yellowish pus.
- 7.—Excoriates the surrounding tissue.
- 8.—Offensiveness.

Iodine.

Is deep, painless, indolent, with tendency to gangrene and ricketts.

79.—Explain how Antimonium Tart. causes capillary bronchitis, nausea and vomiting.

Capillary bronchitis.—Two factors engaged:

- 1.—A catarrhal inflammation of the mucous membrane of the bronchi, with hypersecretion of mucus.
- 2.—The membrane and product are *indolent*, because of the depression and paralysis of its supply of vagi terminals, forbidding the expulsion of the product, which in turn causes retarded circulation and an accumulation of carbonic gas.

Nausea and vomiting.—In entering the stomach it is referred through the coeliac plexus, mucous surfaces, to the vomit center, vagi, cardiac plexus and ganglionic system, with resultant vomit.

80.—In what way does Baptisa and HCL cause lymphatic degeneration?

Baptisa.—*Secondary* to blood involvement.

HCL.—By depressing and paralyzing the element of brain regulating the normal supply.

81.—How do Elaps, Cinchona and Digitalis alter the function of sight?

Elaps.—Blood spots and blotches; nervous control governing the function of color. Color blindness.

Cinchona.—Paralysis of optic nerve; mistiness to blindness.

Digitalis.—Nervous center controlling the function of colors; objects look green, yellow, red, black.

82.—Name the lesions of Phosphorus.

1.—Fatty degeneration of the parenchyma of the hollow and solid viscera.

2.—Degeneration of blood and nervous tissue.

3.—Increased bone cell formation.

83.—Give the cause of the hemorrhage of Phosphorus.

The fatty deposit in the walls of the arteries favors and is the direct cause of the tearing of the capillaries as the circulation makes its circuit, thus favoring and inducing hemorrhage.

84.—How does Phosphorus cause fatty degeneration?

By decomposing the albuminous substances in the tissues and preventing the oxidation of same.

85.—Compare the convulsions of Ammonia with that of Strychnia.

Ammonia.—The stimulation is immediate, and does not return upon new stimulus; ranges from tremor to convulsion.

Strychnia.—Over-stimulation of motor centers and nerves; at period of exhaustion of *center*, impulse travels to periphery, fixing muscle in tonic contraction, relaxing and recurring only to the restimulation of the sensory. No tremor, the over-stimulation ending in paralysis.

86.—How do Ammonia and Digitalis cause inhibition?

Ammonia stimulates the cardio-inhibitor and spinal vaso-motors.

Digitalis.—The irregular tetanic contraction of the ventricular muscle and arterial walls forces the inhibitors to increased action, slowing the heart to death.

87.—Compare the action of Antimonium Tart. on the lungs with that of Phosphorus; mention factors engaged and therapeutic uses.

Antimonium Tart. — A cyanotic depressant; bronchi filled with mucus, which cannot be expelled.

Factors engaged and action:

- 1.—Peripherals of vagi—paralyzed.
- 2.—Depression of the arterial vaso-motors, which
- 3.—Favor the accumulation of carbonic acid.
- 4.—Ending in congestion and hepatization of lungs in spots.

Phosphorus acts on the substance of the lungs as a pure irritant, causing congestion and solidification of the lower lobes in spots, ending in purulent sup-puration and infiltration.

88.—Factors engaged.—Loss of oxidation of the tissue albumins.

Therapeutic Uses.—Is the remedy in the sub-acute lingering form of pneumonia in delicate, phthisical subjects, with sanguinous infiltration of the paranchyma. Red hepatization, with brick dust expectoration.

Ant. Tart.—Is indicated in the fourth stage of pneumonia, where there is danger of oedema and atelectasis; poor expulsive power, where the cough has nearly stopped, or entirely; with cyanosis, rattling and dyspnoea.

89.—Give the general range of action of the Mercury group.

Merc. vivus.—

- 1.—Depression of the lymphatic system.
- 2.—Engorgement of the venous system.
- 3.—Consequent depression and change of the arterial stream.
- 4.—Interference with all nutritive processes.
- 5.—To final change of all tissues.

Merc. Sol.—Besides the *Mercury* change in the vital fluids, have the addition of that produced by *Nitric Acid*, the combined action resulting in the constant manufacture of a *virus*, identical with that of syphilis, the various stages of the disease corresponding to the age of the virus, as *primary*, *secondary* and *tertiary*.

Aside from its manifestations on the genitalia, it produces:

- 1.—Inflammation of the mouth and throat.
- 2.—Sub-acute inflammation of the fibrous tissues.
- 3.—Iritis, snuffles.
- 4.—Moist or weeping eruptions.
- 5.—Epipheseal periostitis.

6.—Marasmus.

7.—With combined characteristics of Hg. and HNO₃.

Merc. Cyanatus.—The neurotic of the group.

Does not corrode chemically; begins its action in the systemic system, sweeping to periphery. Its toxins are the combined effects of *Mercury* and *Cyanogen*.

Selects the mucous membrane of mouth, throat, larynx, pharynx and rectum, causing the formation of a gray, tough, pseudo membrane, characterized by dry putridity, without pus nor moisture.

May only be a swelling of the membrane, which closes the lumen of the tubes, causing whistling, rattling respiration.

Does not affect the glands.

The Iodides.—First consideration should be the glandular involvement and constitutional dyscrasias. Distinguish between them, according to the amount of *Iodine* in each preparation.

The biniodide selects the mesenteric ganglionic, tonsils, thyroid and inguinal.

The protoiodide, the liver and slight glandular.

Action between them is of degree only.

Both cause dyscrasia, resembling the combined miasm of psora and syphilis, with the attendant swellings and chancroid suppurations.

Merc. Corr.—More corrosion than any of the group. A *primary* corrosion of the mucous membrane, while its *destruction* begins in the *nervous control*, is without pain and continues unabated until the membrane hangs in shreds, a disorganized, gangrenous mass, with hemorrhage.

The kidney involvement is due to loss of nerve control, which favors an albuminous, saccharine urine.

Keynote.—The hemorrhagic mercury.

Loss of nervous control of tissues and organs.

Merc. Dulcis.—Functional and organic change in the liver. Analogous to the *Merc. Viv.* action on the pancreas, with all of the attendant *primary* purging and *secondary* constipation. Overdose causes engorged liver, green liquid stools, vomiting of bile. *Secondary*—arrested secretion of bile, the stools resembling potters' clay.

90.—Name the characteristics of the Ophidians.

Blood.—*Lachesis*, *Crotalus*, *Naja* cause fluidity and decomposition. *Elaps* firm coagula.

Motor.—Trembling; tremor may be of one muscle or all and is due to the struggle of the nervous system to live.

Respiration.—Dyspnoea; due to action on the vagi origin and peripherals.

Heart.—Weakness of heart's action; due to blood changes and degeneration of the cardiac centers.

Coldness of extremities; due to lowered blood pressure, which may be traced to sepsis.

Suffocation.—Choking and constriction about the throat; due to irritation of the glosso-pharyngeal.

Suppression of the secretions and excretions.—Due to depression and destruction of organic life.

91.—Describe the Phosphorus patient, with ruling keynotes.

Patient.—Brunettes; dark eyes, long sweeping silken lashes of fine sensitive, intuitive perceptive power; easily discouraged; melancholic timidity.

Keynotes.—

1.—Sensation of weakness and emptiness in abdomen.

2.—Lack of nutrition in nerve trunks or vital fluids.

3.—All aggravations recurring at twilight, and before electric storms.

4.—Asthenia.

92.—How do Iodine and Phosphorus cause marasmus?

Iodine.—Deposit of tubercle, as a result of unasimilated albumins.

Phosphorus. — Fatty degeneration and blood change.

93.—Give the indications for the Halogens in croup.

Spongia.—Sawing respiration, hoarseness and aphonia. Worse before midnight; blonde, blue eyes, fat short neck.

Bromine.—True croup; hoarse wheezing cough, *CROWING*, mucous rattling in larynx.

Iodine.—Loose, barking cough; wheezing, constriction about the throat, plastic accumulations.

94.—Give the indications for Lachesis, Crotalus and Baptisa in fevers.

Lachesis and Crotalus in fevers that are characterized by profound depression of vitality, and disorganizing processes of the blood and nervous system.

Baptisa.—Fevers of toxaemic origin; characterized by loss of absorption, putridity and depression.

95.—Give the mental condition of Digitalis.

Are difficult to understand; are not able to express their feelings; their depression and sadness may alternate with satisfaction and peacefulness.

96.—Mention five marked characteristics of Mercury.

- 1.—Diseases having their origin in choked lymphatics.
- 2.—Profuse perspiration, which does not relieve.
- 3.—Intolerable restlessness after sundown.
- 4.—Fevers, where the cause goes on to suppuration and ulceration.
- 5.—Degenerate mentality, or ordinary weak memory.

97.—What is the result of the action of Lachesis on the nervous system and blood?

Structural changes.

98.—Give the general range of the Kali group.

- 1.—Destroys tissue by combining with their fluids, dissolving the albumins and saponifying the fats.
- 2.—All increase the saliva to ptyalism; differs from *Mercury* in that it is not so extreme, lacks the fœtor and blue lines.
- 3.—They neutralize the free acids of the stomach.
- 4.—The carbonate enters the blood unchanged, unites with the *sodium phos.*, forming an acid phosphate.
- 5.—The chlorate decomposes the red corpuscle and paralyzes the motor ganglia of the heart.
- 6.—All paralyze muscular tissue.
- 7.—All either lower or destroy the oxidizing powers of the blood.

99.—Compare the brain action of Opium with that of Agaricus, Kali Bromatum and Stramonium.

Opium.—Has action on centers of sensation, idea-

tion and creative; effects ranging from quiet stimulation to narcosis and degeneracy.

Form.—Ranges from a dreamy, creative and imaginary exaltation, in which the sense of time, space and the beautiful are amplified, to a *secondary* loss of ecstasy, replaced by melancholia and hideous representations of the *primary* exaltation.

Agaricus.—A neurotic intoxicant.

Action is on the ganglionic cells and fibrils in the regions of vascular plexuses, at *junction* of capillary nets and arterioles; does not alter the structure, but abolishes functional power.

Effects depend on region attacked: takes the form of pleasing and commanding paranoia (systematized delus) or becomes destructive and noisy, breaking whatever may be in their path. *Secondary*, the functional power is depressed, apathy, fainting and coma succeeding each other, with loss of recollection of events on awakening.

Stramonium.—A sensorial narcotic causing acute mania, either frenzied or good natured.

Action is on that part of cerebral structure comprising the *receiving* and *combining* of *impressions*, before being conveyed to the special sensory centers:

Effects depend on the quality of impressions in formation at time of action.

Primary effect, that of stimulation without engorgement of vascular supply; *delirium* may take form of foolishness, in which they throw feathers in the air or dart straws at them. Undress and sit around naked; sneer, laugh and perform all degrees of droll antics.

At other times they are assailed and fight imaginary foes, spectres and furniture; view with calm trains of bedbugs, beetles and cockroaches.

Have paroxysms of rage, in which they choke and attempt to bite other persons.

Secondary, depression supplants the irritation, complete sopor resulting, with no recollection of what has occurred on awakening.

Kali Bromatum.—A nervo-sanguine sedative.

Action.—Diminishes the amount of circulation in the brain and co-ordinating centers, by reason of tetanic contraction of vaso-motor supply, with *secondary* exhaustion of the tetanized fibres.

Result.—Is anæmic melancholia, taking the form of religious and moral delusions, erotic delirium and epilepsy.

100.—Compare Kali Mur. with other normal constituents.

Kali Mur exists in blood corpuscles, muscles, nerve cell and intercellular fluids.

Function is to establish uniformity between Hydrochloric acid and fibrin in the nascent state, and is the important factor in cell formation.

HCL.—Is an organic solvent, coagulates the albumins and dissolves the limes which enter the stomach as food.

Ammonia Chloride.—Preserves the fluidity of the blood.

Phosphorus exists in the nervous tissues in the form of protagon; function is to renovate and hold nervous tissue firm.

101.—Of the Kali group, name the neurotic, the toxæmic, and the one having combined irritant and neurotic action.

Neurotic.—Kali Bromatum.

Toxæmic.—Chloricum.

Combined.—Bichromicum.

102.—Name the variety of eruptions for which Kali Bromatum is useful.

Acne, when due to innervation; appears *secondary* to epilepsy and other nervous disorders.

103.—Compare Iodism with Bromism.

Iodism begins with Iodic intoxication and bulimia; *continues* until the scorbutus of the system manifests itself in eruptions, and *ends* in emaciation and exhaustion.

Bromism exhibits impaired sight and hearing, loss of appetite, tremor, uncertain gait, coldness, anæsthesia, numbness and anæmia; is *periodically* relieved by acne patches leaving brown stain.

Ends in dementia.

104.—How does Kali Bichromicum cause rhinonecrosis and ulcer?

By *dilation* of the vascular points, which in the height of their *indolence* break down in numerous erosions, gradually enlarging until the septum as far back as the articulation with the vomer and ethmoid is destroyed.

The ulcer is the direct result of the *secondary* involvement of the blood; is tubular to the bone, destroying all tissues in its path.

105.—Define the inflammation of Kali Bich. Compare with Mercurius Cyanatus and Chloricum.

Kali Bich.—Stimulation and subsequent depression of the vaso-motor center, which causes a loss of power to regulate the peripheral vaso-motors regularly; this in turn induces indolence of the capillaries, ending in engorgement, phlegmonous and degenerate in character.

Murc. Cyn.—By paralyzing the nerves controlling the organic functions, it favors the development of toxins, which when carried to the tissues by the circulation cause inflammatory processes characterized by dry putridity, adynamia, coldness and blueness of the body.

Chloricum.—By a *primary* haemoglobinuria it devitalizes tissue, ending in low grade inflammation, with formation of pseudo membranes; *secondary*, there is an absorption of toxins from the *primary* decomposition of the tissues, which causes maceration of the part affected in shreds and patches.

Process is characterized by gangrene, cyanosis and dyspnoea.

106.—Give the chemical action of Kali Caust., with symptoms.

1.—When in contact with living tissues, it neutralizes the free acids.

2.—Decomposes ammonia present, favoring tissue c. and gas.

3.—Combines with fibrin and albumin, forming soluble compounds.

Symptoms.—Acrid urinous taste, with burning sensation in the throat; nausea, bloody and alkaline vomit, gastric colic, delirium, convulsions, cold, clammy skin, death.

107.—How does Kali Bromatum cause lowered reflex excitability?

By a *paralysis* of the spinal receptive centers, motors and sensory peripherals and co-ordinating centers.

Action is *secondary* to the relaxation of the vessels.

108.—Prepare Kali Iodide, Agaricus and Stramonium.

Kali Hydriodicum.

Add Iodine to Potassium Hydrate until tinged; evaporate; add 1/3 charcoal to 2/3 of solution; heat, evaporate, crystallize.

Ø—Dissolve one part by weight in 99 of alcohol.

Drug power 1/100. Dilutions, V-b. Trituration, VII.

Agaricus.

Select young growth, convex cap and solid stem; peel, bruise, weigh; add two parts alcohol; decant—eight days.

Drug power of Ø 1/6. Dilutions, class III.

Stramonium.

Pulverize ripe seeds, cover with five times their weight of alcohol; decant in eight days. Drug power 1/10. Class IV.

Give the diagnostic points of the toxic, intermediary and habitual use of Opium.

Toxic: 1.—Contraction of the pupils of the eyes; the finer point, the more grave the prognosis.

2.—Slow respiration lessening to death.

3.—Lethargy; gradual to coma.

Intermediary: 1.—Soothing, calm mentality.

2.—Bodily repose.

3.—After effects those of an alcoholic debauch.

Habitual: 1.—Incessant gnawing in the stomach.

2.—Torturous mentality; aversion to the truth.

3.—Appearance of premature age.

4.—Emaciation.

109.—How does Opium cause sleep, listlessness and defective nutrition?

Sleep.—Quiet, *primary* contraction of the cerebral arteries.

Result.—Diminished cerebral circulation, favoring abeyance of functions.

Stertorous coma.—Reaction exhausts the vasomotors, vessels dilate, engorge, causing *compression* of brain substance.

Listlessness.—*Secondary* exhaustion of the spinal motor and sensory centers, and reflex functions.

Defective nutrition.—Destroys absorption by an irregular paresis, and final paralysis of the vessels, sentient nerves and absorbents.

110.—Define the action of Opium and Morphia upon the sensory filiments and sympathetic ganglions.

Sensory filiments.—Are progressively paralyzed, destroying sentient control; important function affected is hunger, which is lost and replaced by the drug.

Sympathetic ganglions.—Affects those controlling arterial plexuses and circular muscular fibre in their regions; action is of two degrees.

1.—A *primary* depression of the ganglia, in which the region is congested, with contraction of the muscular fibres under its control.

2.—The ganglions are stimulated, the vessels contracted, leaving the region anæmic, with corresponding dilation of the muscular fibres.

A prominent result of this action is the effect on the pupil of the eye.

The *contraction* corresponding to the paresis of the ganglions and stimulation of the muscular fibres.

The *dilation* to stimulation of the ganglia, and paresis of the muscular fibres.

111.—How does Opium cause constipation and retention of urine?

Constipation.—By increasing the irritability of the voluntary muscular fibre, and at the same time diminishing that of the involuntary, with loss of co-ordination.

Retention of urine is not only due to the above causes, but has in addition loss of sentient control.

112.—Define the cause of the spinal irritation, abnormal sensations, fancies and rhythmical movements of Agaricus.

Loss of harmony of nervous equilibrium between the cord, motors and sensory nerves.

113.—How do Agaricus and Kali Bromatum cause inhibition?

Agaricus.—By stimulating the inhibitors to exhaustion.

Kali Bromatum.—Occurs *secondary* to the vaso-motor engorgement, the high blood pressure in turn stimulating and finally exhausting the inhibitors; follows lethal doses, and when *deprived* of its use in habitual users.

114.—Name the centers engaged in the rheumatism and glandular involvement of Phytolacca; compare with Rhus Tox.

Phytolacca.—Selects the fibrous coverings of muscles, sheaths of nerves and periosteum, glandular structure.

Center engaged in the change, increase of fibrine in the blood.

Rhus Tox.—Selects the fibrous tissues to joints (ext.), at the same time placing the motors to muscles in stupid condition, receptive centers are unaffected.

Center engaged.—Increase of fibrine in the blood.

115.—Differentiate the mentality of Phytolacca, Opium and Kali Bromatum.

Phytolacca.—Depression, indifference, loss of personal delicacy, without regard for appearances.

Opium.—Depression, stupefaction, irresistible desire to tell falsehoods; absence of complaint or nervous excitability.

Kali Bromatum.—Nervous erethism, loss of memory, amnesic aphasia, melancholia, illusions of drowning attended by obstinate insomnia.

115a.—Name the characteristics of Kali Chloricum.

Prostration, dyspnoea, cyanosis.

116.—How does Causticum affect the vocal organs and mucous membrane?

Causes paresis of the vocal organs by depression of the medulla, the inferior recurrent branch of the vagi, the innervation of the mucous membranes of their region.

Keynotes.—Hoarseness, aphonia and roughness of throat.

117.—How does Kali Chlor. alter the blood? Name therapeutic uses.

Alters the blood by converting the haemoglobin

into methaemoglobin and haematin; oxidation product.

Therapeutic uses.—Diseases of the placenta; cures by oxygenation of the blood.

Diphtheria.—Where the membrane extends into the bronchi and over tonsils, velum and fauces here it softens and absorbs the membrane.

Color of skin ranges from waxy paleness to cyanosis.

118.—How does Kali Chlor. affect the mucous membranes?

Causes formation of gray pseudo membranes, ending in ulceration and disorganization.

119.—How does Kali Iodide cause scrofulosis and miasm resembling syphilis?

1.—By altering the chemical properties of the digestive secretions in general and neutralization of the acids in particular.

2.—Which degenerates assimilation.

3.—And in turn deteriorates the lymph.

119a.—Define the action of Kali Iodide on the blood, with result of secondary action.

Primary.—Increases the fibrine to coagulation in the vessels, and is due to the contained Iodine.

Secondary.—A digestion of the fibrin by the Potassium.

Result.—Fatal unless the scorbutis manifests itself in eruptions and lymphatic involvement.

120.—Define the action of Kali Bromatum on the skin. The Iodide.

Kali Bromatum.—Marks the relief of the nervous system and circulation; is of acne form, and on scurfing leaves a brown stain. No blood involvement.

The Iodide.—Due to lymphatic involvement; ranges from erythema to pustular acne and hemorrhage purpura.

120a.—Explain how Kali Iodide antidotes Mercury.

In hydrargyrosis the mercurial salts are deposited from the blood in an insoluble form in the animal structures; the *Iodide of Potassium re-dissolves* the mercury back into the blood, and eliminates it through the glandular system and kidneys.

121.—Name the altered centers of Stramonium.

- 1.—Cerebral structure *combining* and receiving impressions; sensory centers.
- 2.—Sympathetic fibres to the iris.
- 3.—Vaso-motors.
- 4.—Filiments of the spinal nerves.

122.—Give four characteristics for the therapeutic use of Kali Bromatum and Opium.

Kali Bromatum.

- 1.—Functional diseases of the nervous system of reflex origin.
- 2.—Diseases of the throat characterized by anæsthesia.
- 3.—Insomnia, due to business cares and deaths.
- 4.—Erotic, ferocious delirium; melancholic mentality.

Opium.

1.—Migration of miasmatic influence to the brain and motor centers.

2.—Symptoms of coma, with itching and redness of the skin, or coldness of surface and sinking of the vital forces.

3.—Fever characterized by stupor, and absence of complaint.

4.—Depressing emotions of the mind, nervous excitability; mania of vermin.

123.—Mention remedy and indications corresponding to the 1st and 3d stages of pneumonia. (Congestive.)

First stage.—Aconite; picture of congestion; high T°, rapid, bounding pulse, mania of fear, restlessness; strong sthenic patient.

Before change of tissue and function.

Period of action 34 hours.

Third stage.—Phosphorus; sanguinous infiltration of the parenchyma; brick dust expectoration. Harsh cough, asthenia. Rapid, weak pulse, no thirst, cannot lie on the affected side.

123a.—In what form of pneumonia is Arsenicum indicated.

Necro-pneumonia.

124.—Mention remedy corresponding to the 1st, 2d, 3d and 4th week of typhoid fever with indications.

First.—Gelsemium: Where it develops under circumstances favoring a paresis of the motor nerves governing voluntary motion; the muscles refuse to

obey the will. Moderate T° rise, soft, full pulse. Sense of extreme prostration; corresponds to the *primary* intoxication of germ invasion.

Second.—Baptisa: Toxaemic development; delirious; falls asleep in the middle of a sentence; dark red, besotted face. Hunts around to get the pieces of his head together; tongue brown, dry, with red center, high T° , trembling, loss of absorption of the vegetative functions.

Third.—Rhus Tox: T° ranges high, pulse weak, high, intermittent, 110 to 140, either extremely restless or quiet and exhausted; lethargic mentality, mutters about roving the fields, and undertaking field work; the capability of the mind for continuous thought is destroyed, begins a sentence correctly, but loses it in an inarticulate murmur.

Fourth.—Lachesis: Symptoms depend on the amount of vital depression and the extent of disorganizing processes. Most prominent symptoms are torpor, drowsiness, tremulousness, chills, coldness, high T° , high pulse, unequal in volume and rate. The delirium is that of sepsis, in its confusion, intoxication, muttering lethargy of death, snakes and general apprehensiveness.

Crotalus.—Exhibits a degree more depression and relaxation of the vital forces.

125.—Name a remedy causing toxaemia, and therapeutic use.

Merc. Cyanide.—Paralyzes the nerves controlling the organic functions, favoring the development of toxins, which, when carried to the tissues *by the* circulation, causes inflammatory processes, characterized by dry putridity, adynamia, coldness and blueness of the body.

Diphtheria, of throat, rectum and vagina. Complicated by nephritis and albuminuria.

126.—Give the indications for Belladonna, Arsenicum, Apis and Rhus Tox. in scarletina.

Belladonna.—Smooth form of eruption, with vascular and nervous excitement; congestion of brain, delirium, violent thirst, but dreads the water.

Arsenicum.—Eruption delayed, or suddenly turns pale or livid, swollen limbs, rapid, weak pulse, waxy skin. Cold perspiration and extremities. Albuminuria.

Apis.—Skin unevenly scarlet and rough, rash hard, sharp and pointed, cerebral irritation, unconscious, the nervous system is depressed and paralyzed, scant urine owing to the swollen mucous membrane of the urinary tract.

Rhus Tox.—Eruption is dark and livid, with intense itching over the whole body, swelling of the generative organs; parotids and submaxillary glands swollen, nightly epistaxis, impatient, restless, must have cold drinks.

126a.—Give the mentality of Lachesis, Muriatic Acid, Rhus Tox., Bryonia, Arsenicum.

Lachesis.—That of depression without previous excitement, in which the *intellectual powers* are diminished, and the emotions are depressed.

Is due either to *saturation* of the *cortical substance* of the brain with *degenerated vital fluid*, or to loss of vitality of nervous structure, by reason of irregular circulation.

Ordinary state is that of *apprehensiveness*, weakness of memory, confusion, drowsiness and torpidity.

The delirium: A muttering lethargy of death.

Muriatic acid.—Irritability of fibre, peevishness,

quiet, apathetic moods, believe they are possessed of clairvoyant power.

Due to degeneration of the vital fluids, disturbance or loss of normal HCL.

Rhus Tox.—*Primary*, over-excitability, followed by atony, the depression going on until they are insensible to impressions and external influences. The capability of the mind for continuous thought is destroyed; they begin a sentence correctly, but lose it in an inarticulate murmur.

Due to depression of the nerves of voluntary motion and sepsis of the vital fluids.

Bryonia.—Confusion and irritability.

Due to nervous tissues being at variance with each other.

Arsenicum.—That of organic depression and degeneration of the mental faculties, represented by anguish, fright, hopelessness and mania to kill.

127.—Name the characteristics of *Veratrum Viride*.

- 1.—Tendency to convulsions.
- 2.—Silent suspicion of attendants and medicine.
- 3.—Metastatic hyperaemia.
- 4.—Vision of green and red halo.
- 5.—Aggravation from heat and exertion.
- 6.—Hard shot pulse, 120, 140, 160, high T°.
- 7.—Sudden syncope.

128.—The ruling keynote for the use of *Phosphorus*.

- 1.—Sensation of weakness and emptiness in abdomen.
- 2.—Lack of nutrition in nerve trunks and vital fluids.
- 3.—Asthenia.

129.—What kind of a depressant is Antimonium Tart.? Mention factors engaged.

Is a cyanotic depressant.

Factors Engaged.

- 1.—Peripherals of pneumogastric. Paralyzed.
- 2.—Depression of the arterial vaso-motors.
- 3.—Which favors the accumulation of carbonic acid gas.

130.—How does Veratrum Vir. cause hyperaemia?

By a *secondary* recovery or stimulation of the arterial vaso-motors and depression of the inhibitors of heart. Indicated in the hyperaemic form of pneumonia, with *secondary* characteristics.

131.—Describe the Phosphorus patient.

Brunettes, dark eyes, long, sweeping lashes, intuitive, fine, sensitive perceptive power; easily discouraged, sad, melancholic, timid.

132.—Determine the remedy in a given case calling for Aconite, Baptisa, Phosphorus, Arsenicum.

Aconite.—Picture of congestion, strong and plethoric. First stage of all sthenic complaints. Mania of fear; before change of function and tissue. Period of action, 34 hours or less.

Baptisa.—A picture of toxæmia, red, besotted face, prostration, debility, putridity, muttering if unconscious, loss of absorption.

Phosphorus.—Diseases depending on fatty degeneration, hæmatic changes and lack of nutrition in

nerve structure; characterized by asthenia of mind and body.

Arsenicum.—Irritable, lymphatic temperaments with rapid prostration of the vital forces.

133.—Give the indications and pathology of Phosphorus, Iodine and Arsenicum in pernicious anaemia.

Phosphorus.—Dissolution of red corpuscle, and loss of normal P. Is the remedy in the anaemia of leuco. hydraemic, marasmic and phthisical individuals.

Iodine.—Unassimilated albumins. Adapted to scrofulous constitutions, with cachectic debility, brunette, wiry, restless, and trembles.

Arsenicum.—Alteration of both red and white corpuscle, resulting from disordered and defective nutrition, with dyspnoea, inability to lie down, short, hoarse cough and anguish.

134.—How do Phosphorus and Iodine cause marasmus?

Phosphorus.—Fatty degeneration and blood change.

Iodine.—Deposit of tubercle, as a result of unassimilated albumins.

135.—Define a choleric and syncopal remedy. Give example and indications for same in the sick.

A *choleric remedy* is an agent which causes excessive drain of the vital fluids; by reason of the loss of power of the epithelial points to absorb liquids or to *retain* moisture of the fluids of the body.

A *choleric remedy* in dynamic form will correct

this lesion, restoring first the villi and the absorption power.

Typical of this action is *Veratrum Album*; is useful in the choleric forms of dysentery caused by ptomaines, of spoiled food, typhoid or cholera bacillae.

Symptoms are: Vomiting after eating. Discharges, rice water stools. Feeble, husky voice. Cramps in hands and feet. Collapse, cold perspiration.

A *syncopal remedy* is one which causes and relieves fainting by restoring the equilibrium between the cardio and vaso inhibitory centers.

Remedy of this action is *Aconite*; first depresses the vaso-inhibitor, thence to the cardio inhibitor; destroys the *conducting power periphery to center*.

Symptoms.—Swaying sensation to and from the brain, numbness, feeble pulse, dilated pupils, fear.

136.—Name the variety of eruptions for which Kali Bromatum is useful.

The acne of innervation, relieving the nervous system.

137.—Define the inflammation of Causticum and Kali Bich.

Kali Bich.—Stimulation and *secondary* depression of the vaso-motor center, with loss of power to regulate the peripheral vaso-motors regularly, ending in indolence and engorgement of vessels. Of phlegmatic and degenerate character.

Causticum.—Due to innervation and depression of the nerve supply.

138.—What does the inflammation of the Kali group lack?

The redness, swelling and heat which characterizes the sthenic inflammatory invasion.

139.—Give the indications for Merc. Cyanide in diphtheria.

Membrane is gray, marked adynamia and prostration from the beginning; high pulse 130 to 150, with loss of volume; blue, cold surface of the body, contracted pupils, ending in gangrene of membrane, and syncope.

140.—Define the action of Belladonna, Apis, Arsenicum on the kidneys.

Belladonna.—Congestive.

1.—Congestion and stasis in the malpighian circulation with either suppression of urine with increase of sulphates and phosphates.

2.—Or an incontinence due to the combined action of paralyzed spincters.

Apis.—Due to inflammation of the mucous membrane of the urinary canaliculi, ureters, bladder, ending in dropsical swellings.

Arsenicum.—Degeneration of all tissues of the kidneys, scanty urine, contains albumen, casts, fat and blood corpuscles.

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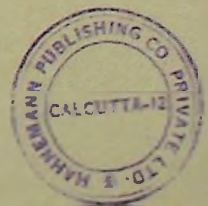
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