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WOOD'S MEDICAL AND SURGICAL MONOGRAPHS




CONTENTS

MODERN MATERIA MEDICA, WITH THERAPEUTIC NOTES.

BY DR. OTTO ROTH.

INDEX FOR VOL. XII.

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MODERN MATERIA MEDICA, WITH THERAPEUTIC NOTES, FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE.

BY OTTO ROTH. Revised by Dr. GREGOR SCHMITT.

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MODERN MATERIA MEDICA,

WITH

THERAPEUTIC NOTES,

FOR THE USE OF

Practitioners and Students of Medicine.

BY

DR. OTTO ROTH.

REVISED BY

DR. GREGOR SCHMITT,

Director of the Royal National and Provincial Boards of Health in Würzburg.

I.

THE VARIOUS REMEDIAL AGENTS

GROUPED ACCORDING TO THEIR

Physiological and Therapeutic Actions.

Abortifacients.—Aloes, cotton root, juniper, savine, ergot, ustilago, thuya.

Acids.—Inorganic: hydrochloric, nitric, phosphoric, sulphuric. Organic: acetic, citric, lactic, tartaric.

Anæsthetics.—General: ether, ethylene, ethyl bromide, butyl chloral, chloral hydrate, chloroform, cocaine, hyponone, methylene chloride, morphine, nitrous oxide (laughing-gas), urethan. Local: excessive cold, ether, ethylene chloride, chloroform, cocaine, conium, iodoform, carbonic acid, menthol, opium, veratrum. A mixture of one part of carbolic acid with two parts of glycerin has a local anæsthetic action, and is useful in allowing the painless opening of abscesses, etc.

Electricity (electric bath) in migraine, inflammations, painful ulcers, etc.

Anaphrodisiacs.—Remedies which diminish the sexual appetite are: bromide of potassium and of sodium, quinine, chloral hydrate, turpentine, morphine, camphor.

Antacids.—Carbonate of calcium, of sodium, and of magnesium, calcined magnesia, chalk preparations, etc.

Anthelmintics.—Remedies employed to effect the expulsion of intestinal worms: Santonate of atropine, pomegranate (punicin), ethereal extract of male fern, santonin, tansy (flowers and oil), koussou, kamala, naphthalin, areca nut, oil of turpentine, panna, pelletierine, saoria, and many domestic remedies such as walnut shells, wormwood, dog-rose, pumpkin-seeds, raw onions, and infusion of valerian.

Antiarthritics.—Remedies for gout are: the salts of potassium and sodium, colchicum, and many others.

Antiasthmatics.—Nitrite of amyl, chloral, chloroform, quebracho, stramonium leaves, grindelia robusta, lobelia, morphine, sodium nitrite, nitroglycerin, opium, pyridine, vapor of burning amber and nitre-paper, leeches at the jugulum, cigarettes of stramonium and coca leaves, cracked ice and water ices, hot mustard hand and foot baths, the pneumatic cabinet, sinapisms, dry cupping.

Antidotes.—In general: (a) dynamic or antagonistic, which restore the normal processes affected by another poison, such as atropine, hydrate of chloral, and morphine; (b) chemical, which combine with the still unabsorbed poison in the stomach or intestinal canal to form harmless compounds. Thus the acids are antidotes in poisoning by alkalies, and *vice versa*, tannin and iodine are antidotes in poisoning by alkaloids, etc. For a list of the specific antidotes in individual cases of poisoning, see the section Therapeutic Notes.

Anti-emetics.—Water of bitter almonds, oxalate of cerium, chloral, cocaine, creosote, morphine, tincture of iodine. For vomiting of pregnancy: iodide and bromide of potassium, menthol, Seidlitz powder, mixture of citrate of potassium (potio Riveri), champagne, cracked ice, carbonated waters (seltzer-water, soda-water, etc.), black coffee, wine, ether. Local applications over the region of the stomach: cold compresses, dry cups, sinapisms.

Antifermentatives.—See Antiseptics.

Antihidrotics.—Remedies employed to repress the secretion of sweat: camphoric, chromic, phosphoric, and tannic acids, agaricin, sulphate of atropine, belladonna, boletus, larch bark, calabar bean, sulphate and tannate of quinine, brandy (with milk), duboisine, homatropine, menthol, picrotoxine, salicylic acid with talc, sage, ergot, sulphonal, talc; lotions of vinegar or brandy.

Antihysterical Remedies.—Asafœtida, bromine and its salts, monobromated camphor, castor, coca, chamomile, peppermint, bromide of potassium and of sodium, kola nut, valerian, valerianate of zinc; baths, electricity, and massage.

Antineuralgic Remedies.—Hyperosmic acid, aconitine, antifebrin, antipyrine, arsenic, butyl chloral, sulphate of quinine, cocaine, colchicine, exalgin, iodide of potassium, morphine,

salicylate of sodium, phenacetin, and tincture of gelsemium. External remedies: chloroform, menthol, oil of hyoscyamus, veratrine; baths, electricity, massage.

Antiphlogistics.—Carbolic acid, by parenchymatous injection and local application, nitrate of silver, mercury (blue ointment), iodine (tincture); laxatives, less frequently diaphoretics, to draw the fluids to other parts; opiates, chloral hydrate, emulsives in general employed with a view of influencing nervous action; a bland diet and abstinence from alcoholic beverages.

Cold in its various modes of application, among which is the cold coil, a long piece of tubing, through which ice-water is made to flow, coiled about the inflamed parts. When ice is not to be had, water may be cooled by keeping it in parchment-paper filters. Ice is best preserved in porous flannel hung up so that the water may flow from it as the ice melts.

Moist heat is, in many cases, better. Sometimes local abstraction of blood, exceptionally in plethoric individuals venesection. Rest, painless compression made on the inflamed tissues, raising or suspending the parts.

The faradic or, more active than this, the galvanic current, is serviceable in certain cases, especially of scrofulous or traumatic inflammation, but it is contraindicated in articular rheumatism and in specific inflammatory affections.

Removal or destruction of the etiological factors (mechanical, chemical, specific, parasitic, etc.)

Antipyretics and Antiperiodics.—The remedies employed for this purpose are, according to the cause of the fever, whether inflammation, cold, specific infection, septic poisoning, etc.: benzoic, hydrochloric, phosphoric, and salicylic acids, alcohol, antifebrin, antipyrine, apiol, bromide of potassium, camphor, quinine and its salts (internally and subcutaneously), quinine, digitalis, eucalyptus, helenin, iodide of potassium (syphilitic fever), kairine, nitrate of potassium, methacetin, salicylate, dithio-salicylate, and sulphite of sodium, phenacetin, pyrocin (hydracetin), salol, thalline.

Antiphlogistics in general.

Emptying and disinfection of septic foci.

Direct removal of heat: breathing in a cold, dry atmosphere, cold drinks, cold baths, application of ice.

Rest, a fever diet—water, sugar, starch, mucilages, potas-

sium salts; these substances in the form of meat broths and sauces; calves'-foot jelly with meat extract, mildly acidulated jellies, vegetable soups, fruit juices, grits, crackers, and stale white bread. For cooling drinks: water, sweetened water (grape sugar), lemonade, raspberry vinegar, orange juice, tamarind water, sweet whey, and diluted wine. In cases of long-continued fever, small amounts of albuminous substances cannot be dispensed with, and among those may be given: sweet and sour milk, soups with sour cream, yolk of egg; later white meat, boned fowl, cold boiled fish with lemon, calves' head, lean salted meat, and meat broths.

Diaphoresis in catarrhal fever. Refrigerants.

To induce hyperæmia of the skin and the consequent loss of heat, rubbing with bacon is employed.

Antirheumatic Remedies.—Benzoic acid, benzoate of sodium, salicylic acid, salicylate of sodium, antifebrin, antipyrine, hydrochlorate of quinine, colchicum (tincture and wine), ichthyol, iodide of potassium, salicylate of lithium, ethereal oils, propylamin, salol, veratrum viride (tincture), veratrine, etc.

Antiseptics, Disinfectants.—These possess the property of restraining the growth and destroying the lowest forms of animal and vegetable life within and without the body, thus preventing or curing the decomposition, fermentative and septic processes, and the infectious, septic, and zymotic diseases. Outside of the body they are of the greatest utility in prophylaxis and local treatment; but internally also they are of service (given in small doses) in aiding the organism to render harmless any poison (whether microbic or chemical) introduced from without. This action is in part due to the formation of chemical combinations and also to the withdrawal of water from the tissues. The most important of these substances are: aseptic acid (5 parts of borax in 100 parts of 3% solution of peroxide of hydrogen), benzoic, boric, carbolic, hydrofluoric, salicylic, and sulphuric acids, alcohol, alum, chlorine water, arbutin, nitrate of silver, aromatics, arsenic, aseptol, bela indica, benzoin, beta naphthol, oxyiodide of bismuth, borosalicylic acid, bromine, chloride of lime, roasted coffee, creolin, eucalyptol, glycerin, witch-hazel, helenin, calomel and corrosive sublimate, hydroquinon, iodine, iodoform, iodol, trichloride of iodine, chlorate, permanganate, and nitrate of potassium, green soap, creasote, acetate of aluminium, chlor-

ide of sodium, naphthalin, manganate of sodium, ozone, phenyl borate, acetate of lead, resorcin, sulphocarbolic acid, salol, soziodol, sulphate of copper, of iron, and of zinc, tannin and substances containing it, oil of turpentine, thymol, tribromphenol, and trichlorphenol.

For disinfecting the atmosphere are used: acetic acid (vinegar poured on a hot plate), sulphurous acid (made by burning sulphur, about 3 i. for each cubic yard of air space), chloride of lime with vinegar or on a hot plate with carbolic acid; permanganate of potassium, acetate of aluminium, and other disinfectant solutions in the form of spray.

In addition to these are in general: cold and a boiling temperature; filtration of the air through a thick layer of carbolic, salicylic, or boric cotton kept in position by a loosely applied roller bandage. For keeping wounds aseptic, the usual antiseptic dressings.

Antispasmodics.—Hydrobromic acid, ethoxycaffeine, ethylene, nitrite of amyl, ethylbromide, bromide of potassium and of sodium, calabar bean, oxalate of cerium, chloral hydrate, chloroform, hydrobromate of coniine, curare, gelsemium, grindelia robusta, morphine, naphthalin, nitrite of sodium, nitroglycerin, ethereal oils, and pyridine.

Antisyphilitics.—Iodine and mercury in their preparations, infusions of various herbs and woods, and certain mineral waters, such as Aachen, Kreuznach, etc.

Antizymotics.—See Antiseptics.

Aphrodisiacs.—Remedies which stimulate the sexual appetite:

Buchu, cantharides, highly seasoned foods.

Astringents.—An indefinite term for remedies that reduce the size of the cells and narrow the lumen of the vessels, among which are: gallic and tannic acids, alum, nitrate of silver, lime-water, subnitrate of bismuth, catechu, sulphate of copper, sage leaves, uva ursi, kino, hæmatoxylon, acetate of lead, colombo, rhatany, and sulphate of zinc (*conf.* hæmostatic and constipating remedies).

Bitters (*Stomachics*).—In small doses these remedies stimulate the appetite, and in a certain measure control fermentation, while they probably favor the secretion of the digestive fluids.

Pure Bitters: Carduus benedictus; gentian, quassia, tri-

folium fibrinum (Ph. Aust.). The decoctions and extracts of the *Aromatic Bitters*, which exert also a stimulant and carminative action: absinth, angostura, orange leaves, sweet flag, blessed thistle, cascarilla, centaury, orange peel, milfoil, quassia, trifolium fibrinum, and other *Mucilaginous* and *Starchy Bitters*: Columbo, Iceland moss, polygala amara. *Saline Bitters* (resolvents, purgatives): aloes, colocynth, rhubarb, taraxacum, expressed juices of fresh herbs. *Astringent Bitters*: Cascarilla, Colombo, cinchona, butternut, rhubarb. *Stomachic Bitters*: Quinine, nux vomica, orexin. Bitters are best exhibited in the form of cold infusions; powders are the least suitable form for their administration.

These remedies should be given with caution in conditions of plethora, chronic gastric catarrh, organic diseases of the stomach, a tendency to cardialgia, and in the digestive disorders of hypochondriasis and hysteria.

(See Digestives and Carminatives.)

Carminatives, Aromatic Excitants.—These are used in flatulence, colic, insufficient peristalsis, dyspepsia, nausea, belching, and a feeling of oppression after a hearty meal. They consist chiefly of the ethereal oils, aromatic and spiritous remedies: alcoholic substances, aromatic bitters, ethers, benzoate of ammonium, solution of anisated mercury (Ph. G.), water and spirit of ammonia, angelica, cajeput oil, calamus, camphor, caraway seed, cloves, chamomile, cinnamon, fennel, galanga, laurel, lavender, mace, marjoram, melissa, mint, nutmeg, rosemary; tinctures of angelica, anise-seed, orange peel, lavender, rosemary, spirit of camphor, etc.; green tea, thyme, linden-flowers, vanilla, zedoary, and the distilled aromatic waters, aromatic tinctures, and ethereal oils of the drugs above mentioned.

Cathartics.—These excite intestinal peristalsis, hasten evacuation of the bowels, cause a profuse secretion from the intestinal glands, and, as a result of the greatly increased peristaltic action in the small intestine, colon, and rectum, hinder the resorption of the digestive fluids poured out into the intestinal canal. They are called *drastics* when they act in milligram or centigram doses ($\frac{1}{8}$ to $\frac{1}{4}$ grain), *laxatives* when they exert the desired effect in decigram doses ($1\frac{1}{2}$ grain), and *lenitives* or *eccoprotics* when the active dose is not under one gram (15 grains).

According to their mode of action they may be divided into: *a.* Mild laxatives, in part ordinary dietetic substances, such as fats and oils, honey, sugar of milk, etc.; common salt, carbonic acid, various acids, cooked fruit, milk and whey, kephir; in part including somewhat stronger vegetable and saline substances, such as frangula, manna, compound licorice powder, Seidlitz powder, castor oil, tamarinds; calomel, sulphate and tartrate of potassium, calcined magnesia, carbonate of magnesium, effervescent citrate of magnesium, phosphate and sulphate of sodium, boro-tartrate of potassium and sodium (Ph. G.), bitartrate of potassium, and tartrate of sodium and potassium; enemata, massage. *b.* Moderately active cathartics, such as white agaric, aloes, glycerin and glycerin suppositories, jalap root, podophyllin, senna; various mineral waters such as Franz-Josef, Friedrichshall, Hunyadi Janos, Püllna, Saidschütz, and Sedlitz, and natural and artificial Carlsbad salts. *c.* Powerful (drastic) purgatives, such as aloes, cascara sagrada, colocynth, croton oil, gamboge, resin of jalap, scammony (elaterium).

Laxatives for Children.—Calomel, glycerin, castor oil, compound licorice powder, compound rhubarb powder, syrup of rhubarb and manna (Ph. G.), mixture of rhubarb and soda, enemata, and suppositories.

Caustics.—Substances which liquefy and dissolve albumen, destroy the animal tissues, and produce a scab: Caustic potash, quicklime, caustic ammonia, inorganic and organic acids, arsenic, fused nitrate of silver, sulphate of copper, acetate of copper, aluminate of copper, sulphate of zinc, chloride of zinc, corrosive sublimate, tartrate of antimony and potassium, the actual cautery, and the galvano-cautery.

Cholagogues.—*a.* Those which act upon the liver alone and do not stimulate the intestine: dilute nitro-hydrochloric acid, phosphate of ammonium, ipecacuanha, benzoate and salicylate of sodium. *b.* Those which stimulate both the liver and intestine at the same time: aloes, colocynth, euonymin, jalap, phosphate and sulphate of sodium (Glauber salt), podophyllin, rhubarb, corrosive sublimate, tartrate of sodium.

Constipating Remedies.—Together with a proper diet, various bitters, tannin-holding drugs, and astringents are used, among which are especially: tannic acid, nitrate of silver, salicylate of bismuth, buchu, calomel (especially in chil-

dren), hæmatoxylon, cardamom, catechu, colombo, cotoin, paracotoin, tincture of coto-bark, spices, acacia and mucilaginous substances, morphine, chloride of iron, naphthalin, opium (powder and tinctures), acetate of lead, rhatany, salep, etc. (*conf.* Astringents).

Cosmetics.—Balsams, benzoin, ethereal oils, aromatic acids.

Cough Remedies.—See Expectorants.

Demulcents and Emollients.—They are employed in certain cases to diminish the tension of the skin and mucous membranes, to protect parts deprived of their epidermis from the air, and also to form a protective layer on the mucous membrane of the larynx and stomach. The soothing action upon the urinary tract, which they have been found empirically to possess, has never been satisfactorily explained.

To this class belong the fixed oils, mucilaginous substances, seed emulsions, collodion, albumen, gums, isinglass, and silicate of potassium.

Deodorizers.—Carbolic acid, acetic ether, chlorine, roasted coffee, coumarin, volatile oils, oil of eucalyptus, ozone, sulphur, and vanillin.

Depilatories.—Remedies for loosening and removing the hair are: bisulphide of arsenic, lime, sulphohydrate of calcium.

Diaphoretics, Sudorifics.—*Internal*: salicylic acid, carbonate and chloride of ammonium, camphor, decoctions, jaborandi, kava-kava, solution of the acetate of ammonia, acetate of potassium, nauseants, ethereal oils, pilocarpine, Dover's powder, sarsaparilla, sassafras, saturations, and aromatic teas (chamomile, mullein, linden flowers, various other herbs, and green and black Chinese tea).

In general everything that raises the temperature of the organism to a certain point increases the action of the heart, dilates the cutaneous capillaries, and prevents the abstraction of heat, thus: external warmth, Turkish and Russian baths, hot water, sand, and alcohol baths; covering the body with waterproof substances and those that are poor conductors of heat; and finally also cold in various forms.

Digestives.—Indicated in weak and disordered digestion, dyspepsia, nausea, oppression after a heavy meal and the eating of indigestible substances. In this class come first the spices which in small doses, through local irritation of the mucous membranes, increase the appetite, and also increase, by

reflex action, the secretion of saliva, gastric juice, and probably the intestinal juices, and thereby also increase the force of the peristaltic movements (though not their rapidity). Here belong: anethum, anise, orange peel, cardamom, caraway seeds, cloves, cinnamon, citron, coriander, saffron, fennel, juniper, cherry-laurel, nutmeg, pepper (black, white, Spanish, and Cayenne), vanilla, ginger, etc. Carbonic acid is stimulating to the gastric mucus membrane, promotes absorption of fluids, and strengthens peristalsis. Hydrochloric and lactic acids have a direct digestive action upon albumen, and favor the passage of the stomach contents into the intestine. Acetic acid and chloride of sodium act dietetically. The alkaline carbonates excite increased secretion of the gastric juice, loosen the gastric mucus, and also set free carbonic acid which acts as above stated. Those substances which directly aid in digestion are: pâncreatin, pepsin, ptyalin, and hydrochloric acid (*conf.* Bitters and Carminatives).

Disinfectants.—See Antiseptics and Deodorizers.

Diuretics.—*a.* Cardiac, which stimulate the heart, and raise the blood pressure (in the glomeruli), and quiet nervous tension: adonis vernalis, camphor, quinine in small doses, convallaria, digitalis, squill, sparteine, strophanthus: also the stimulants, such as the ethers, especially sweet spirit of nitre, alcoholics, and tonics.

b. Vascular, which act by dilating the renal arterioles: ethereal oils (oil of juniper, of turpentine, etc.), nitrite of sodium, nitroglycerin, sweet spirit of nitre; acetic, carbonic, citric, and tartaric acids; also acid fruits, cider, and wine.

c. Renal, which cause diuresis by direct irritation of the renal epithelium: ether, oils, balsams, cockroach, calomel, caffeine, theobromine (diuretin), sugar of milk, and salicylate of sodium.

d. Saline, apparently acting by increasing osmosis, of which the most commonly employed are: acetate of ammonium and of potassium, nitrate of potassium and of sodium, borotartrate of potassium and sodium, and bitartrate of potassium; also Kissingen and other allied mineral waters.

e. Acids and acid drinks. These act directly like the preceding through the formation of salts in the economy, and also in consequence of the increased volume of water added to the blood.

f. Domestic remedies which act by direct irritation of the kidneys, the nature of which is, however, not yet fully known; among these are: anethum, lappa, cockroach, guaiac, lovage, parsley, sarsaparilla, sassafras, viola tricolor, etc.

Ecbolics.—See Abortefacients and Emmenagogues.

Emetics and Emetocathartics.—These act partly on the vagus terminals in the stomach and partly on the central nervous system, and empty the stomach and duodenum of the food and mucus therein contained, and also—in consequence of the increased expiratory movements and abdominal pressure—expel the retained secretions of the bronchi and biliary passages. The remedies of this class are: apomorphine, sulphate of copper, emetine, ipecac, tartar emetic, sulphate of zinc (lukewarm water).

Emmenagogues.—Indirect emmenagogues, furthering the flow by overcoming general and local pathological states, are the tonics, and especially iron; direct emmenagogues are: aloes, asafoetida (cantharides), myrrh, savine.

General agents which aid in restoring the menstrual flow are: active bodily exercises, warm and stimulating sitz and general baths, carbonic-acid baths, uterine douches (with the vapor of hot water, plain or containing mustard, or with carbonic-acid gas), warm poultices on the abdomen, electricity.

Errhines, Olfactoria.—These act partly upon the terminal filaments of the trigeminus, like ammonia and ether; and partly upon the olfactory nerve, like the ethereal oils, hellebore, and tobacco.

Escharotics.—See Caustics.

Expectorants, Catarrh Remedies.—They act partly by stimulating the muscles concerned in expectoration and the ciliary movements, and partly by causing increased secretion and so diminishing the dry and irritable condition of the mucous membranes, seen especially in the early stages of an acute catarrhal inflammation; or in other cases they limit the too profuse mucous secretion. Remedies in this class are: alum, alkaline carbonates (a portion of the alkali is excreted with the bronchial mucus), carbonate, chloride, benzoate, and succinate of ammonium, ammoniac, anise, apomorphine, co-paiba, balsam of Peru, benzoin, camphor and the stimulants in general; emetics in divided doses, eucalyptus, extract of malt, fennel, ipecac, licorice (compound licorice powder),

solution of the succinate of ammonium, pectoral elixir, morphine, myrrh, phellandrium, quillaia, senega, pentasulphide of antimony (Ph. G.), sulphur, tannin, terpinol, terpine hydrate, paregoric. Among the domestic remedies are: warm drinks, aromatic teas, pectoral tea, whey, Eger Franzensquelle mineral water, Krähnen (with hot milk), Obersalzbrunnen, Selters-water, Soden-water, and others. Saccharine substances are also supposed to make the mucus more watery and thus favor its expectoration and reduce the irritation caused by its presence.

Heart Stimulants.—Atropine, digitalis, strophanthus, wine, etc. (See Stimulants.)

Hæmostatics, Styptics.—These cause coagulation of the blood and so stop hemorrhage: alum, antipyrine, nitrate of silver, ergotin, chloride of iron, surgeon's agaric, Penghawar Djambi, acetate of lead, ergot. Besides these there is a series of metallic remedies: acetate of aluminium, subnitrate of bismuth, sulphate of cadmium, sulphate of copper, sulphate of iron, bichloride of mercury, white and red precipitate, acetate and tannate of lead, acetate, oxide, sulphate, and chloride of zinc. Further, the vegetable substances containing tannin: tannic acid, hæmatoxylon, catechu, kino, cinchona, eucalyptus globulus, butternut, paullinia, oak, rhatany, salvia, etc. Also balsamic and resinous substances which are in part locally astringent, and in part also seem to act through the circulation in the way of reducing hemorrhage and hypersecretion: ammoniac, copaiba, balsam of Peru, benzin, benzoin, colophony, cubebs, creasote, myrrh, tar, turpentine. The following act upon the smooth muscular fibres of the blood-vessels and tissues in such a way as to stop bleeding and hypersecretion: cinnamon, coto-bark and cotoine, hydrastis canadensis, gossypium herbaceum, hamamelis, ipecacuanha, ergot. Less important are dilute sulphuric and phosphoric acids, used in hemorrhage from the lungs and stomach (in the latter case locally coagulant. Vinegar also induces coagulation, and is a favorite popular remedy in epistaxis. In the case of wood vinegar, the astringent action of the creasote may also be of significance).

In metrorrhagia irrigation with hot water (115° to 125° F.) is strongly recommended.

For the special indications for the hæmostatics, the reader

is referred to Part V. Therapeutic Notes, sections on Hæmoptysis, Hæmatemesis, Intestinal Hemorrhage, Metrorrhagia, Epistaxis, Hemorrhage from the Kidneys and Bladder, etc.

Hypnotics.—Amylene hydrate, tannate of cannabinum, chloralamid, chloral hydrate, codeine, hyoscine, hyoscyamine, hypnone, bromide of potassium and of sodium, methylal, morphine, narceine, lactate of sodium, opium, paraldehyde, piscidia, somnal, sulphonah.

Intoxicants (*Ebriantia*).—Alcohol and its derivatives, cannabis indica.

Litholytics.—They dissolve urinary and biliary calculi or prevent their formation; among them are: the alkalis, oil of turpentine, potassium and lithium salts, boro-citrate of magnesium, and various mineral waters (Neuenahr, Obersalzbrunn, Wildungen, etc.)

Mucilaginous Remedies.—Althæa, carrageen, acacia, Iceland moss, flaxseed, salep, tragacanth, quince-seed.

Narcotics and Sedatives.—Aconite, ethylene, alcoholics, ether, nitrite of amyl, bitter almond water (Ph. G.), atropine, bella-donna, bromide of ethyl, butylchloral, calabar bean, cannabis indica, chloral hydrate, chloroform, colchicum, conium (curare), hyoscyamus, hyoscyamine, hypnone, bromide of potassium, lactucarium, lobelia, lupuline, morphine, tobacco, opium and its alkaloids, ozone, paraldehyde, stramonium, sulphonah, urethane. (See also Hypnotics and Anæsthetics.)

Nauseants.—The emetics in small doses.

Nutrients.—Albuminates, fats, carbohydrates and substances containing them. Among such are: spermaceti, meat broths, beef-powders, glycerin, kephir, kumyss, cod-liver oil (morrhual), lipanin (fine olive oil), "mondanin," and peptone preparations.

Ophthalmic Remedies acting upon the pupil and the accommodation:

a. Myotics: morphine, muscarine, physostigmine (eserine), pilocarpine. *b. Mydriatics*: atropine, cocaine, daturine, duboisine, extract of calabar bean, homatropine, hyoscyamine.

Osteoplastics.—Remedies which favor the growth of bone are: arsenic, phosphorus.

Paralyzants.—Chloroform, curare, morphine.

Parasiticides.—Carbolic acid, carbolate of sodium, pyrogallic acid, benzin, chrysarobin, ichthyol, permanganate of po-

tassium, naphthalin, naphthol, balsam of Peru, petroleum, tar, resorcin, green soap, storax, corrosive sublimate, sulphur, mercurial ointment.

Refrigerants.—See antipyretics.

Remedies for Scrofula.—Iodide and phosphate of calcium, iodide of iron and of potassium, iodine, common salt (baths), cod-liver oil, etc.

Remedies Repressing the Secretion of Bile.—These are certain irritants of the intestinal canal, which cause a profuse secretion from the intestinal glands, such as: calomel, sulphate of magnesium (Epsom salt, which has the opposite effect to sulphate of sodium or Glauber's salt), castor oil, chloride of ammonium. Acetate of lead represses the secretion both of the bile and of the intestinal fluids.

Remedies Repressing the Secretion of Saliva.—Atropine, chlorate of potassium.

Resolvents.—In this class belong all those substances which hasten tissue changes and increase secretion and excretion, thus affecting the resolution of pathological products, exudates, etc. These are: diaphoretics, cathartics, diuretics, sarsaparilla, guaiac, expressed juices of fresh herbs, tonics; iodine, mercury, arsenic (alcohol, chlorate of potassium, condurango).

Externally heat in the form of compresses wrung out of hot water or aromatic infusions; wet packing, especially the Priessnitz fomentations. The latter are cold wet (seldom warm) cataplasms, covered with waterproof material, gutta-percha sheets, with a layer of wadding over all, so that they quickly become warm; they are changed only at the end of several hours. (The so-called "Neptune's belt" is a special application of this method locally to the abdomen, put on in such a way that the patient can go about.)

Restoratives.—See Stimulants.

Revulsives, *i.e.* remedies which irritate and redden the skin and raise blisters (Derivatives, Epispastics, Rubefacients, Vesicants).

Mild irritation of the integument, of whatever sort, causes, as we know from experience, a narrowing of the arteries of the skin; and as a result of this, the blood pressure is raised and the heart beats more rapidly and powerfully, the respiratory movements are slowed, and the internal temperature of the body is raised for a time.

Violent and painful cutaneous irritation is, in its early stage, followed by the same effects as the milder form, but in the second stage, which follows quickly upon the first, the opposite condition is found, viz., relaxation and dilatation of the cutaneous vessels, with the resulting congestion. The respiratory movements are still further retarded, the internal temperature falls, while that of the surface rises.

The following are the chief cutaneous irritants and rubefacients:

Alcohol, caustic ammonia and its various preparations, camphor preparations, cantharides (applied for a short time only), resin plaster, various irritant plasters, iodine, iodide of mercury ointment, compound camphor liniment, opodeldoc (soap liniment), oil of cajeput, petroleum, sinapisms, compound spirit of angelica, compound spirit of balm, spiritus and tinctura formicarum, tincture of iodine, spirit of wild thyme, spirit of mustard, corrosive sublimate, oil of turpentine, basilicon ointment, veratrine.

In addition to these, the following also belong in this category:

Heat applied in various ways, woollen cloths (mechanical irritants), irritant hand and foot baths (with ashes, salt, mustard, nitro-hydrochloric acid); also cold baths in running water, and douches; carbonic-acid baths, which increase tissue change; electrical brushes; dry-cupping, Priessnitz cataplasms; non-irritant plasters producing simply warmth; moist heat, etc.

To the group of vesicants belong:

Cantharides (vesicating), chloral hydrate, croton oil, and mezereum.

The following cause pustulation or actual wounds of the skin:

The actual cautery, issues, setons, moxæ, tartrate of antimony and potassium, and perhaps also Baunscheidtismus.

Sialagogues, Masticatories.—They act partly through the reflexes, like the spices, and partly by a direct influence on the nerves governing the salivary secretion, like pilocarpine and mercury.

Stimulants, Restoratives, employed in various adynamic conditions, syncope, collapse, neuroses, etc.

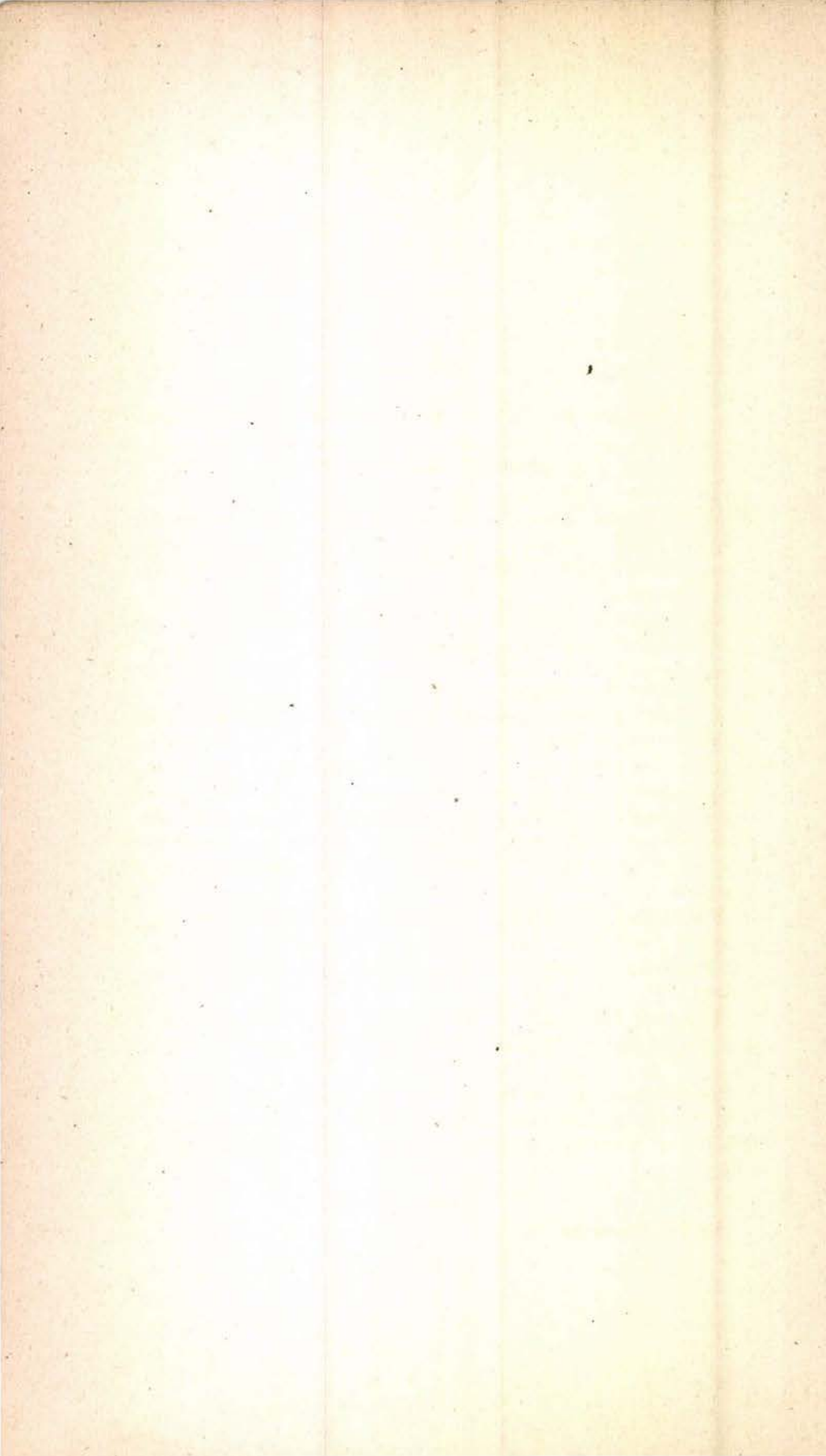
Internal Remedies: Alcohol in all forms, wine, cham-

pagne, brandy (with egg or milk), beer, distilled liquors; ether, ethereal oils (those without oxygen, like oil of turpentine, exert a paralyzing effect upon the nervous system, while those containing oxygen, the camphors, are powerful stimulants of the brain and spinal cord); ammonia, benzoic acid, arnica, absinth, asafoetida, camphor, cannabis indica, castor, cocaine, caffeine (coffee, tea), musk, guarana, musk-root, valerian; also the so-called metallic nervines, such as nitrate of silver, arsenic, subnitrate and valerianate of bismuth, iron, iodine, sulphate of copper, ammoniated copper, sulphate of zinc.

External Remedies: Cutaneous irritants, especially rubbing with aromatic and ethereal substances or spirits, warmth, hot and irritating hand and foot baths, as well as also temporary cold douches, electrical brushes, stimulating enemata. (See also Revulsives.) Also subcutaneous injections of ether, or camphorated oil.

Stomachics.—See Bitters and Digestives.

Tonics, Roborants, and Plastics.—In this class belong all those remedies which indirectly strengthen the body, such as the bitters, appetizers, digestives; the blood-forming substances (alcoholics, camphor, cinchona, iron, albumen, etc.) and the nutrients proper (meat, milk, artificial foods, kephir, kumyss, etc.); and also such agents as cold water, sea baths, active exercise (gymnastics, riding, fencing, dancing, travel), fresh oxygen-holding air, mountain climate, sea air, etc.



II.

DRUGS AND OTHER REMEDIES,

ALPHABETICALLY ARRANGED,

With Remarks on their Physiological Action,
Therapeutic Use, and Dosage.

ABSINTHIUM.

Wormwood, a stimulant bitter.

Internally, given in doses of gr. xv.–xl. several times a day in powder, decoction, or infusion (5 to 10 parts in 100 of water); also in vinous solution. (Various bitters, containing wormwood in wine, are popularly used as stomachics. The use of this substance in purely medicinal doses continued for several weeks may cause nausea and faintness, or even, as is seen especially in France from the abuse of absinth cordials, epileptic attacks.)

Extractum Absinthii.—Employed as a bitter tonic in dyspepsia in doses of gr. viij.–xv. in pill form several times a day. (An ingredient of the elixir amarum and elixir aurantii compositum.)

Tinctura Absinthii.—Dose, 20 to 50 drops several times a day on sugar, in wine, as an ingredient of various bitters, etc.

Elixir Amarum.—Extract of absinth, 10; oil of peppermint, bitter tincture, aromatic tincture, each 5; water, 25 parts. Dose, 1 to 2 teaspoonfuls, clear or in water, three or four times a day.

ACACIA.

See Mucilaginosas.

ACETANILID (ANTIFEBRIN).

An Antipyretic.—Made by the action of glacial acetic acid on anilin. Occurs in the form of colorless, shining, odorless crystals, having a slightly burning taste, soluble in 194 parts of cold water, in about 18 parts of boiling water, and in $3\frac{1}{2}$ parts of alcohol; readily soluble in ether and alcohol.

Internally: Dose for children, gr. $\frac{1}{4}$ for each year of the patient's age; for adults, gr. iij.—viij. every hour or two (maximum dose, gr. viij. or 3 i. pro die), taken as a powder in wafers, or in pill form. The indications for its use are the same as for that of antipyrine (which see); it is therefore antipyretic, antineuralgic, and antirheumatic. It must be used with caution, as it often acts very powerfully as a heart depressant, producing cyanosis. The effects of the drug are manifested in about two hours after its administration, the first symptom being usually profuse sweating. (Four grains of acetanilid are equal in efficacy to 15 of antipyrine.)

Externally, acetanilid is employed as an antiseptic application, in powder or solution, to sluggish granulations.

℞ Acetanilid, 3 ss.
Sach. albi, 3 i.

M. Divide into 8 powders. S. One powder, in wafer, water, or wine, two to four times a day.

℞ Acetanilid, 3 ss.
Sacchari albi,
Gum. acaciæ, āā gr. xv.
Aq. dest., q. s.

M. et ft. pil. No. 20. Sig. Three to five pills per day.

(For articular or muscular rheumatism, migraine, neuralgia, angina pectoris, etc.)

ACETONUM.

Internally, in tuberculosis of the respiratory organs, in doses of 5 to 25 drops undiluted; it is also recommended as a nervine in various neuroses.

Externally, it is used in inhalation in spray (0.1 to 1.0 in 100 parts of water) or in vapor after being dropped on cotton.

It is also used in the form of liniment with oil for embrocations.

℞ Acetoni,	3 iv.
Syr. aurant. cort.,	3 v.
Inf. valerianæ,	℥ iiij.

M. S. A tablespoonful three times a day; in neuralgia and rheumatism.

℞ Acetoni,	gr. xv.
Tinc. saponis,	
Ol. olivarum,	āā 3 i.

M. ft. liniment. S. To be used with rubbing for the relief of rheumatic pains.

ACETOPHENONUM.

See Hyponum.

ACETPHENETIDINUM.

See Phenacetinum.

ACETUM.

Internally, vinegar is employed as a cooling drink (10 to 15 parts in 100 of water) in fevers, and in poisoning by narcotics and caustic alkalis, a tablespoonful every ten minutes.

Externally for sponging and in compresses in fevers; by enema (2 to 5 tablespoonfuls in 6 ounces of water or chamomile tea) in adynamic conditions and syncope; as an injection (with astringents) in hemorrhages, nose-bleed, etc.; and as a spray in the sick-room.

Acetum Aromaticum.—Aromatic vinegar. Made by macerating various aromatic substances in vinegar.

Internally it is not much employed.

Externally it is used for the same purposes as vinegar, as a mild disinfectant for sponging the body, and as a spray when there is a disagreeable odor in the sick-room.

ACIDUM ACETICUM GLACIALE.

Glacial acetic acid.

Externally, it is employed diluted to soften horny growths, warts, corns, etc.; as a styptic in slight hemorrhages from the mouth or nose; on compresses for contusions. It is a readily procurable invigorating inhalant. It is recommended

as an efficacious application in psoriasis, and as a caustic to infected wounds and in bites of poisonous serpents.

ACIDUM ACETICUM PYROLIGNOSUM CRUDUM.

Wood-vinegar. Contains acetic acid and tarry substances.

Externally, it is used pure or diluted with water for sponging the body and as a disinfectant. For vaginal injections about two tablespoonfuls may be put in the irrigator full of water. The undiluted crude acid is used for painting the wall of the pharynx two or three times a week in chronic pharyngitis.

ACIDUM ARSENIOSUM.

Arsenious acid, white arsenic.

A nervine and alterative. Maximum dose, gr. $\frac{1}{2}$, or gr. $\frac{1}{3}$ a day.

Internally, it may be given in solution ($\frac{1}{12}$ to $\frac{1}{8}$ grain in 3 x. water) in teaspoonful doses, or in granules of $\frac{1}{80}$ grain each, several times a day. The best form for administration is the Asiatic pill, the formula for which is given below.

Liquor Potassii Arsenitis.—Fowler's solution. One hundred parts of the solution contain one part of arsenic. Maximum dose 10 drops, or 3 ss. pro die.

Internally, to be employed alone in doses of 2 to 10 drops two or three times a day from fifteen to thirty minutes after meals; the diet should be unstimulating and the bowels must be kept open. This dose is to be gradually increased until toxic symptoms appear: pain in the stomach, conjunctivitis, sleeplessness, dizziness, tremor, dryness of the throat, etc., when the drug must be temporarily or permanently discontinued.

1. In intermittent fever and malarial cachexia, especially in inveterate cases; though also in recent ones, when quinine has failed to relieve, 6 to 10 drops may be given two or three times a day.

2. In periodical neuroses (chorea, epilepsy, neuralgia) and migraine which are rebellious to quinine; also in non-typical cases, which are nevertheless obstinate and of long standing, especially in anæmic individuals, women, and children; for the relief of cardialgia in persons of middle age who have been exhausted by mental exertion.

3. In chronic skin eruptions in conjunction with local remedies; especially in psoriasis, old and extensive eczemas, and in general all chronic skin diseases characterized by infiltration of the cellular tissue and scale-formation; also for the relief of the severe itching attendant upon them.

4. In diabetes mellitus in doses of 30 drops pro die, merely as a symptomatic remedy.

5. In malignant lymphomata, in doses of 5 drops a day gradually increased, and in addition a daily injection of from 1 to 6 drops into the tumor. Care must be taken that the fluid does not escape into the subcutaneous cellular tissue. As the glands decrease in size a "resorption fever" is apt to set in.

6. It has been employed as a prophylactic and in the early stages of pulmonary tuberculosis, but this is not to be recommended. On the first day $\frac{1}{30}$ grain of arsenious acid may be given, on the second $\frac{1}{15}$, and if this is well borne it may be still further increased to $\frac{1}{6}$ grain.

Subcutaneously it has been employed in various nervous affections which are accompanied with tremor. One part of Fowler's solution is mixed with two parts of water, and of this two or three drops may be injected once or twice a day. Great caution is necessary. (It is said to be less apt to induce gastric disturbances when employed in this way.)

Eternally: *a.* In the form of ointment in very obstinate cases of psoriasis, 1 part to 30 of lanolin, vaselin, etc. *b.* As a caustic in epithelioma and lupus, and in dental caries to destroy the exposed pulp. (See Creasote.) *c.* In nævi, which are to be painted over with Fowler's solution every morning until ulceration takes place.

Liquor Sodii Arseniatis.—Pearson's solution. Arseniate of sodium, 1 part, water 100 parts. Uses and dosage the same as those of Fowler's solution.

Arsenical waters (usually containing iron also) from Levico and Roncegno, in the southern Tyrol. Used in doses of a tablespoonful diluted with water.

℞ Acidi arseniosi,	gr. vi.
Piperis pulv.,	3 i.
Mucil. acaciæ,	3 ij.

M. et ft. pil. No. 100. S. One pill a day, gradually increasing to 3 pills. (Asiatic pill, used especially in eczema and psoriasis.)

℞ Liq. potass. arsenit.,

Aq. menth. pip., āā 3 iiss.

M. S. Four drops three times a day, on every third day 2 drops more, until the dose of 8 drops three times a day is reached, where it should be maintained. (In eczema and psoriasis.)

℞ Acidi arseniosi, gr. iss.

Sacch. lactis, gr. lxxv.

Tragacanthæ, gr. i.

Aquæ, q. s. ut ft. massa.

M. et div. in pil. No. 100. S. Two pills three times a day after meals. (In tuberculosis, intermittent fever, and skin diseases.)

℞ Liq. potass. arsenit., ℥ xv.

Aq. destill., ʒ ss.

M. For subcutaneous injection. (In nervous tremor.)

ACIDUM BENZOICUM.

Expectorant and Disinfectant. But slightly soluble in water, readily soluble in ether, alcohol, and chloroform. (Incompatible with ammonium carbonate and alkaline salts.)

Internally in doses of gr. i.-v. several times a day in powder (30 grains daily dose) for scanty expectoration. As an antipyretic in doses of ʒ iiss.-v. a day it is unreliable.

Externally it is, like salicylic acid, recommended as a disinfectant that will not injure the instrument, and may be used in the proportion of 1 part to 250 of boiling water.

Subcutaneously employed, it is a stimulant.

Tinctura Benzoini.—Employed in cosmetic washes.

℞ Acidi benzoici,

Camphor. trit., āā gr. i.-ij.

Sacchari albi, gr. viij.

M. et div. in chart. No. 10. S. One powder every two hours.

℞ Acidi benzoici,

Camphoris, āā gr. viij.-xv.

Ætheris sulph., ʒ iiss.

M. For subcutaneous injection as a stimulant, one syringe-ful several times a day.

ACIDUM BORICUM.

A Non-irritant Antiseptic.

Soluble in glycerin, in 3 parts of boiling water, in 25 parts of cold water, and in 15 parts of alcohol.

Internally it is seldom employed; it may be given in doses of gr. v.-xv. in powder several times a day; or in solution (4 parts to 100 of water).

Externally as a disinfectant in powder with starch, or an ointment (1 part to 9); an ointment consisting of 1 part boric acid to 4 parts paraffin is useful in burns, in otorrhœa, nasal discharges, wounds, and ulcers. A solution of 2 parts in 100 of water may be used for injection into the bladder. In diphtheria a gargle of 1 part to 30 may be used every hour. In the form of an ointment it is of service in pruritus vulvæ, and is employed also as an antiseptic in surgical dressings.

For impregnating surgical dressings (borolint), English lint is soaked in a boiling solution of boric acid, and then dried.

℞ Acidi borici,
 Ceræ albæ, āā ʒi.
 Ol. amygdal. dul.,
 Paraffin. liq., āā ʒij.

M. S. Boracic ointment.

℞ Acidi boric. pulv., ʒ iij.
 Iridis pulv., ʒ i.

S. To be used as a snuff every two hours. (In ozæna.)

℞ Acidi borici, gr. lxxx.
 Vaselini, ʒ i.
 Bals. Peruv., gtt. viij.

M. S. For scaly eczema of the scalp.

℞ Acidi borici, gr. xv.
 Aquæ rosæ, ʒ iij.
 Aq. mel., gtt. v.

M. S. A mild cosmetic face wash.

℞ Acidi borici,
 Sulph. præcip., āā gr. xv.
 Ung. paraffin., ʒ iss.

M. S. To be rubbed in twice daily, after washing the head with soap, in herpes tonsurans.

℞ Acidi borici,	3 ij.
Acidi carbol.,	3 i.
Morph. sulph.,	gr. x.
Vaselini,	℥ i.

M. S. To be applied several times a day, after previously bathing the parts with warm water, in pruritus vulvæ.

ACIDUM CAMPHORICUM.

(An oxidation product of camphor treated with nitric acid.)

Occurs in the form of colorless needles, fairly soluble in alcohol and ether, but soluble with difficulty in water.

Internally it has been used for the night-sweats of phthisis in doses of gr. xv.-xxx. at noon and night, as a powder in wafers.

Externally, in $\frac{1}{2}$ to 1 per cent solution, it is employed in catarrhal affections of the nose, pharynx, larynx, bladder, etc.

ACIDUM CARBOLICUM.

Acidum Phenylicum Crystallisatum, and *Phenolum* or *Acidum Carbolicum Liquefactum* (carbolic acid in crystals, 100 parts; distilled water, 10 parts.)

Aqua Carbolisata (33 parts of carbolic acid to 967 parts of water).

(For disinfection on a large scale, the crude commercial carbolic acid, often mixed with lime or sulphate of iron, is used.) Carbolyzed lime for the disinfection of privies is made by dissolving 100 parts of freshly burned lime in 60 parts of water and adding, when cool, 5 parts of liquid carbolic acid.

The following is recommended for the disinfection of privies and water-closets: Crude sulphate of iron, $6\frac{1}{2}$ ounces; crude carbolic acid, 5 ounces; boiling water 20 quarts; to be applied in sufficient quantity to render the contents of the vault acid, that is so that they will redden blue litmus paper. It is soluble in 15 parts of water, and in alcohol, ether, chloroform, glycerin, and solution of soda in all proportions. Carbolic acid is most completely dissolved in warm water by stirring.

Internally it is employed but seldom in doses of gr. $\frac{1}{4}$ -iv.; maximum dose, gr. iss. or gr. viij. pro die (although as much as 4 drops has been given at a dose without unpleasant effects).

It is given in pill form, in alcoholic solution, and also in emulsion, in septicæmia; and has also been highly recommended in the various infectious diseases, such as typhoid fever, cholera, puerperal fever, and intermittent fever, in phthisis, pulmonary gangrene, diabetes, obstinate skin diseases, etc.

Externally it is employed in aqueous or alcoholic solutions or in oil (carbolic oil has not, however, a disinfectant action, although it is aseptic), glycerin, and vaselin in various proportions (1 to 20%). (In making a watery solution, the carbolic acid must be constantly stirred, otherwise it is liable to settle at the bottom of the vessel undissolved.)

a. In surgery it is used for irrigating wounds, in spray, in dressings, for disinfection of the instruments and hands, as a solution in which to keep the sutures, and for surgical dressings of all sorts. (See Hydrargyri chloridum corrosivum.)

b. It is employed pure as a caustic for the destruction of small patches of false membrane in the early stages of diphtheria, of soft chancre, malignant pustule, post-mortem wounds, and the like; also for cauterization of the tooth pulp in dental caries. (See formula below.)

c. In skin diseases, especially when itching is a prominent symptom, in scabies, chronic eczema, pityriasis, impetigo, and prurigo, it is applied one to three times a day in from four to twenty per cent solution; it is also employed as a swab for thrush.

d. In burns, it is applied in the proportion of 1 part to 30 parts of linimentum calcis, and for frost-bites in ointment (1:60).

e. Inhalations of a two or three per cent solution are used in diphtheria, and a stronger solution in absolute alcohol is sometimes employed as a local caustic, but this should be done with caution. As a gargle and for syringing the parts a solution of one-half to one per cent strength may be used, but it should be remembered that, in the case of children, a not inconsiderable amount of carbolic acid may be swallowed in this way.

f. For inhalation in diphtheria, aphthæ, and putrid bronchitis a solution of from $\frac{1}{2}$ to 5 parts in 100 of distilled water is suitable; in pulmonary phthisis, a one-half per cent solution, and in gangrene of the lungs a one to two per cent solution, may be employed every two hours.

g. For washing out the bladder in cystitis, a solution of 1 to 15 grains in 3 ounces of water is of the proper strength; as an injection in gonorrhœa, $1\frac{1}{2}$ to 8 grains to 3 ounces; for syringing out the nose in ozæna, 4 to 15 grains to 3 ounces; for vaginal douching or for an enema in diarrhœa, 1 to 2 grains to 3 ounces.

h. In cases of carcinoma of the cervix uteri, a six to eight per cent carbolic spray is an excellent disinfectant and analgesic application.

For subcutaneous use a solution is to be made of the strength of 1 part to 50 of distilled water.

1. In acute phlegmons of the subcutaneous and subfascial connective tissue, one or two injections may be made daily at the periphery of the lesion.

In erysipelas, as many injections must be made as may be necessary to circumscribe the inflamed area. (One syringeful influences an area about half the size of a playing-card. This mode of treatment should be resorted to at the earliest possible period.

2. In hemorrhoids, after the rectum has been emptied, the tumor is well greased and then an injection is made into its centre of from 3 to 6 drops of equal parts of carbolic acid and glycerin.

3. In the radical treatment of hydrocele, an injection is made into the tunica vaginalis of a little over a drachm of the solution. (A more certain method, however, and one that can now be made quickly and with safety, is direct incision into the sac.)

4. For washing out, with an irrigator, the cavity of a joint from which an effusion has been taken away by antiseptic puncture, a solution of two to three per cent strength is suitable.

When carbolic acid is used internally, or externally in large quantities, especially in intra-uterine irrigation, rectal injection, application over a wide area of an absorbent surface of the skin deprived of its epidermis, or even of the sound integument, it may be absorbed in sufficient amount to produce toxic symptoms. These consist in strangury with a green coloration of the urine, vertigo, a mild degree of stupor, tinnitus aurium, deafness, formication, great weakness, profuse perspiration, a weak pulse, lowered temperature, convulsions,

a feeling as if intoxicated, anæsthesia of the integument, heart weakness, and collapse. In the treatment of carbolic-acid poisoning, the stomach pump should be employed if the drug has been taken internally, and then olive or almond oil with castor oil should be given; saccharate of lime dissolved in large quantities of water, and then sulphate of sodium, in five per cent solution (two or three per cent solution for children). Milk and the white of egg may be given as a protective to the walls of the stomach. Externally oils should be applied to the injured parts.

For disinfectant purposes (destruction of the most resistant of the micro-organisms), solutions of carbolic acid in oil or alcohol are useless; only aqueous solutions (five to ten per cent) have any decided action of this sort.

Liquor Sodii Carbolatis (Carbolic acid, 5 parts; solution of caustic soda, 1 part; distilled water, 4 parts. Should always be freshly prepared).—This solution is miscible in water in all proportions. Its use is the same as that of carbolic acid, but it must be employed in double the quantity in dressings.

The Sulphocarbolates of Calcium, Sodium, Ammonium, and Magnesium have similar, though weaker, antifermentative and antiseptic properties, but possess the advantage of exerting very little or no toxic effect when used internally, doses of 70 or 80 grains being necessary to produce any vertigo. The same is true of sulphocarbolate of zinc, which see under *Zincum*.

℞ Acidi carbol. crystal, gr. viij.—xv.

Elæosacch. menth. pip., ʒ iiss.

(or mucilag. salep., ʒ v.)

Aq. destillatæ, ʒ vi.

M. S. One tablespoonful every two hours. May also be used in inhalation in abscess or gangrene of the lungs.

℞ Acid. carbol. cryst., gr. viij.

Olei limonis, ℥ viij.

Alcohol (90%), ℥ lxxv.

M. S. For toothache. A wad of cotton soaked in this solution is placed in the hollow tooth, and over this another wad wet with benzoic acid solution. To be renewed when the pain returns.

℞ Acidi carbolicī, ʒ i.
 Aq. menth. pip., ʒ x.
 Aq. destillatæ, ʒ vi.

M. S. One teaspoonful from two to four times a day, in diabetes.

℞ Acidi carbol. cryst., gr. xv.
 Alcohol dilut., ℥ xvi.
 Tinct. iodi, ℥ viij.
 Glycerini,
 Aq. destillatæ, āā ℥ xl.

M. S. Twenty-five to 30 drops in one or two tablespoonfuls of water for spray inhalation in diphtheria and pulmonary phthisis. The same mixture may be used to swab the pharynx, or a gargle may be made by adding 40 drops of the mixture to a glass of water, for use in diphtheria.

℞ Acidi carbol., gr. xv.
 Rhei pulv., gr. lxxv.
 Mucil. acaciæ, q.s.

M. et ft. pil. No. 50. S. One pill after each meal, as required. (For dyspepsia from fermentative changes in the stomach.)

℞ Acidi carbolicī, gr. xvi.-xl.
 Ol. terebinth., ʒ iss.
 (or glycerini, ʒ iss.)

M. S. For painting the pharynx every two or three hours, in diphtheria.

℞ Acidi carbol., ʒ i.-iss.
 Glycerini,
 Alcohol, āā ʒ vi.
 Aq. destillatæ, ʒ vi.

M. S. For a wash, or to be applied on compresses, in favus and scaly eczema of the scalp.

℞ Acidi carbol., ʒ ss.
 Alcohol dil.,
 Glycerini, āā ℥ xv.

M. S. To be painted over the affected parts every day or every second day, after removal of the crusts and epilation, in tinea sycosis. (Three applications suffice to effect a cure.)

℞ Acidi carbol. cryst.,
Collodii flexil., āā partes æq.

Or,

℞ Acidi carbol. cryst., 3 ss.
Spir. odorati, 3 ss.
Morph. hydrochlor., gr. viij.

M. S. To be applied on cotton to an aching carious tooth. If necessary, the application may be repeated several times a day.

℞ Acidi carbol., 3 i.
Alcohol (sp. gr. 0.960), 3 iij.
Liq. ammon. caust., 3 i.
Aq. destillatæ, 3 ij.

M. To be kept in a colored bottle with a glass stopper.

S. For inhalation in acute coryza, etc. A few minims to be dropped on blotting-paper and deeply inhaled. (Olfactorium anticatarrhoicum of Hager.)

ACIDUM CATHARTINICUM.

See Senna.

ACIDUM CHROMICUM.

A Caustic.—Used only externally, either pure or at most mixed with equal parts of water, for cauterization of warts, condylomata, and ulcers. The crystals may be introduced into hypertrophied tonsils. A solution of 1:1,000 in water has been recommended as a douche in ozæna and as an injection in gonorrhœa.

For sweating of the feet a five-per-cent solution may be applied with a brush after the feet have been washed and dried and if necessary may be repeated in a week or a fortnight. Care must be exercised if excoriations are present.

ACIDUM CHRYSOPHANICUM

is contained in rhubarb root, senna leaves, and *Parmelia parietina* (yellow wall lichen). It is seldom used. It is not identical with chrysarobin (the so-called Goa powder or pulvis ararobæ), but the two are similar in their action.

ACIDUM CITRICUM.

Used internally in powder (in effervescent powders), lozenges (gr. i.—gr. xx. sugar), solution for making lemonade in place of lemon juice (to one pint of water add about 75 grains of citric acid, or two tablespoonfuls of lemon juice, as much sugar as desired, and a drop of oil of lemon), and in saturations.

It is contra-indicated only in acid dyspepsia. It is an ingredient of the *potio Riveri*, *q.v.* under *Sodii Carbonas*. The normal proportions for saturation of the most commonly used salts are here given:

		Citric Acid.	Vinegar.	Tartaric Acid.
1 Part	Potassium carbonate, pure.....	about 1.0	18.0	about 1.1
1 "	Sodium carbonate.....	" 0.5	9.0	" 0.5
1 "	Sodium carbonate, dried.....	" 1.1	20.0	" 1.2
1 "	Sodium bicarbonate.....	" 0.9	15.0	" 0.9
1 "	Ammonium carbonate.....	" 0.8	14.0	" 0.8

In scurvy, the fresh lemon juice is used as a drink and as an application to the gums. In acute articular rheumatism it may be used in doses of 2 to 8 grains or half an ounce per diem; of fresh lemon juice 3 to 5 ounces a day may be taken.

It may be employed also as a sudorific, as a remedy for catarrhal jaundice, and as a diuretic (in large doses) in dropsy.

Externally it is employed as a mouth wash in cancer of the tongue (2 parts to 250 of water); and is painted over the pharynx in diphtheria, in solution of 125 parts in 10 of water.

Pulvis Refrigerans consists of 1 part of the acid to 12 of sugar; it is used for making lemonade, and is also employed in diarrhœa.

Take of:

Purified carbonate of potassium, ʒi.
 Lemon juice, as much as necessary for saturation.
 Syrup of orange flower, ʒi.
 (Water of bitter almonds, ʒi.)
 Distilled water, ʒiv.

Mix. One or two tablespoonfuls every hour or two, in painful gastric catarrh, vomiting, etc.

Take of:

Tamarind pulp,	℥i.
Dissolve in distilled water,	℥ viij.
Add citric acid,	gr. lx.
Strain and add syrup of senna,	℥i.

Mix. A mild laxative in wineglassful doses. Useful in catarrhal jaundice and gastric catarrh.

ACIDUM CREOSOTINICUM.

Antiseptic.—Employed externally. Readily soluble in alcohol, ether, and hot water. It is said to resemble salicylic acid in its action and to be used for the same purposes, but it is an uncertain remedy and has not been sufficiently tried to enable any definite judgment to be passed upon its value.

ACIDUM FORMICUM.

Rubefacient and Caustic.—Readily soluble in alcohol and water. Employed pure or in strong solution.

Externally used with friction or as a wash, in the place of spiritus formicarum, in the strength of from 1 to 10 parts in 100 of water or alcohol; also in baths and local vapor baths.

ACIDUM GALLICUM.

(Not to be confounded with tannic acid.)

Internally employed, in doses of gr. ij.–viiij. in powder, pill, or solution two or three times a day, very commonly but with doubtful effect in hemorrhages of every sort. It is also given in hæmophilia, albuminuria, Bright's disease, diabetes, diarrhœa, rickets, etc.

Externally it is used in powder, ointments, and solutions, like tannin, although it does not possess the local astringent action of the latter. It is employed in the form of injection for metrorrhagia, and is also used as a hair dye.

℞ Acidi gallici,	gr. i.–iiij.
Sacch. albi,	gr. viij.

S. To be taken as a powder every two or three hours.
(Astringent, similar to tannin.)

℞ Acidi gallici, 3 i.
Glycerini, 3 iv.

M. S. To be painted on the parts in aphthæ and sore throat.

ACIDUM HYDROBROMICUM.

Internally, in doses of 2 to 20 drops (maximum, 40 drops or 200 pro die) of a solution of 1 part to 100 or 150 of water, in spasmodic cough, vomiting of pregnancy, chorea, tinnitus aurium, etc.

Externally as an application for mercurial stomatitis and in antiseptic dressings.

ACIDUM HYDROCHLORICUM.

Internally, but never long continued, in doses of 3 to 10 drops of the dilute acid several times a day, or in tablespoonful doses of a mixture containing 15 minims of the strong acid in 1 ounce of raspberry syrup and 5 ounces of water; the raspberry syrup may be replaced by other syrups, bitters, or aromatics.

1. It is used as an indifferent drink to relieve the thirst of fevers.

2. In various diseases of the digestive tract (not organic affections of the stomach or acute inflammatory conditions), in pyrosis, dyspepsia with diminished amount of hydrochloric acid in the gastric juice; carcinoma of the stomach, gastro-ectasia; in dyspepsia due to insufficient secretion of gastric juice, especially in persons of sedentary habit who consume much nitrogenous food; in the dyspepsia of anæmic persons. In these conditions 8 drops may be taken in a wineglassful of water, a quarter to half an hour before, or one hour, when necessary even three hours, after eating.

3. In diarrhœa in consequence of abnormal fermentative processes in the intestinal canal, in catarrh of the stomach (where calomel and creasote are also indicated); in summer diarrhœa of children, etc.

4. In typhoid fever it is preferable to other acids because of its presence in the gastric juice.

5. In purpura hæmorrhagica and scurvy.

Externally.—(a) It is used strong as a caustic for warts and excrescences; in one to three per cent solution as a gargle and mouth wash in odontalgia, diphtheria, mercurial stomatitis, etc. For application by means of a brush it is mixed in the proportion of 1 to 3 parts in 25 to 30 of honey or syrup; for bathing and compresses, a one to two per cent solution. (b) For a full bath from 2 to 4 ounces may be added to the water, for a foot bath 1 to 2 ounces. For an effervescent bath, as used by Struve, a pound each of crude hydrochloric acid and bicarbonate of sodium may be used.

℞ Acid. hydrochlor.,
 Sp. ætheris chlorati, āā ℥ xv.
 Syr. althææ, ʒ v.
 Aq. destillatæ, ʒ iiij.

M. Dose: For children a teaspoonful. (In acid and bilious diarrhoea, vomiting, especially occurring during dentition.)

℞ Acid. hydrochlor., ʒ ss.
 Syr. aurant. cort., ʒ v.
 Aq. menth. pip., ʒ x.

M. Sig. A teaspoonful in a little water after every meal. (In dyspepsia due to an insufficient amount of acid in the gastric juice.)

℞ Acid. hydrochlor. dil., ʒ ij.
 Syr. rub. idæi, ʒ ss.

M. Sig. Twenty drops in a wineglassful of sweetened water after every meal.

℞ Acid. hydrochlor. dil., ℥ viij.—xv.
 Aq. destil., Oi.

M. Sig. For washing out the bladder in cystitis.

Take of:

Bone marrow, 2 drachms.
 Strong muriatic acid, 1½ "
 Althæa ointment, 5½ "
 Aqueous extract of opium, 1 "
 Camphor, 4½ "
 Venetian turpentine, 9½ "

Mix. Russian ointment for frost bites.

ACIDUM HYDROFLUORICUM.

Dilute fluoric acid.

A colorless gas, soluble in water, made by the action of sulphuric acid upon fluoride of calcium. It has been used as an antiseptic in dressings $\frac{1}{2}$ to 1 part in 500, and has been especially recommended as an inhalation (1 part of gas to 1,000 of air) in diphtheria and also, in specially constructed chambers, in pulmonary tuberculosis.

ACIDUM HYPEROSMICUM AND OSMICUM.

Shining, transparent, very hygroscopic needles having an exceedingly pungent odor.

Internally its use is not to be recommended.

Externally it has been used in parenchymatous injection, in doses of 3 drops of a one-per-cent solution (to be kept in a colored bottle with glass stopper) once a day, in the treatment of malignant new-growths, inoperable sarcomata, and goitre. In hypodermic injection (half-syringeful of a one-per-cent solution) it has been used in neuralgia and sciatica. It is also employed in histological work.

Potassii Osma.—Used for the same purposes and in the same dose as the preceding. It possesses the advantage of being less hygroscopic than osmic acid.

ACIDUM LACTICUM.

A mildly cauterizing fluid of syrupy consistence.

Internally.—1. As an aid to digestion in doses of 5 to 20 drops of a one-half-per-cent solution. It does not appear to possess any advantage over hydrochloric acid, and like the latter causes digestive disturbances when too long continued or given in too large doses.

2. In the early stages of diabetes mellitus as a substitute for starch and sugar to render possible a strictly meat diet; for this purpose it is given in doses of 1 to 2 drachms a day.

3. In a two-per-cent solution, with simple syrup, it is given, in the diarrhoea of children, in doses of a teaspoonful every half-hour.

Externally.—a. In twenty to eighty per cent solution it is

used as an application in tubercular laryngitis after the previous use of cocaine; also in lupus after previous scraping of the nodules.

b. For dissolving the diphtheritic membrane a five-per-cent solution is applied on a swab, or the drug is used in inhalations of five minutes' duration every half-hour. Also as a mouth wash and gargle in a one-per-cent solution, or weaker.

c. A one to two per cent solution is employed in injections and for dressings.

ACIDUM NITRICUM.

Internally.—(It is used like hydrochloric acid, but is not specially to be recommended.) Best given in drops or a mixture, if possible alone, in one to three per cent solution, in long-continued catarrhal jaundice, cirrhosis of the liver, cholera, and as a diuretic in albuminuria.

Externally in foot baths (about 3 iss.) or in full baths (3 v.), in liver troubles. It is applied with a piece of wood or a glass rod as a caustic to condylomata, lupus, telangiectasis, phagedenic ulcers, and carcinoma; for this purpose the undiluted acid must be used, preferably fuming nitric acid. Felons and boils may not infrequently be aborted by the early application of nitric acid.

℞ Acidi nitrici,

Acid. hydrochlor., āā 3 ss.

Sacch. albi, ʒ ss.

Syr. simplicis, ʒ ss.

Aq. destill., ʒ iv.

M. Sig. One tablespoonful every two hours. (Obstinate jaundice.)

℞ Acid. nitro-hydrochlor., ʒ i.

Syr. simplicis, ʒ i.

Aq. destillatæ, ʒ v.

M. Sig. A tablespoonful three or four times a day. (Jaundice.)

℞ Acidi nitrici, ʒ ss.

Aq. destillatæ, ʒ iiiss.

M. Sig. To be applied on compresses for frost bites.

ACIDUM PHOSPHORICUM.

A very pleasant and mild acid. A well-known and favorite febrifuge. Mode of exhibition and dosage the same as of hydrochloric acid.

Internally.—Ten to 20 drops of a one to three per cent solution, every two or three hours in water with some fruit syrup.

℞ Acidi phosphorici, ʒ ss.
 Syr. aurant. flor., ʒ i.
 Decocti althææ, ʒ v.
 M. Sig. A tablespoonful every hour, in fever.

℞ Acidi phosphorici, ʒ i.
 Tinct. cinnamomi, ʒ ij.
 Mucil. salep, ʒ iij.

M. Sig. Teaspoonful in sweetened water every half-hour, in metrorrhagia.

ACIDUM PYROGALLICUM.

Externally, in the form of ointment with lard or paraffin (1 part to 10 or 20) it has been employed with good effect in psoriasis, eczema, and lupus. In phagedenic chancre of the vulva the insufflation twice a day of the following powder has been recommended:

℞ Acidi pyrogallici, ʒ i.
 Amyli, ʒ iv.

The powder must be freshly prepared and kept in a well-stoppered bottle.

In favus, the part should be painted once a day with a one-per-cent alcoholic solution until the scale-formation ceases. (The brown staining of the skin caused by this application may be removed by means of benzin.) A stronger solution (twenty per cent) is irritant and even vesicant, and milder solutions applied over extensive areas of the skin for a long period may give rise to general toxic symptoms. Especial caution must be observed in applying the acid to mucous surfaces.

It is employed cosmetically in watery solutions as a harmless dark brown hair dye.

ACIDUM SALICYLICUM.

Antipyretic, Antiseptic, Antirheumatic.—Occurs in the form of white needles or a light crystalline powder, without odor but with an acrid taste; soluble in about 500 parts of cold water and in 15 parts of boiling water, and readily in alcohol and ether. (See also Salicinum and Salolum.)

The use of salicylic acid often causes vomiting, which may be controlled by rum or subnitrate of bismuth.

Large doses of the acid, less often of salicylate of sodium, frequently cause congestion of the head, dimness of sight, deafness, tinnitus aurium, or delirium. Very large doses ($2\frac{1}{2}$ to 3 drachms) of either the acid or the sodium salt may cause death, after marked sinking of the pulse and blood pressure, from paralysis of respiration and convulsions. (Antidote: digitalis.)

Internally the acid or the sodium salt may be used in the same doses and to answer the same indications; it may be given in divided doses of 4, 8, 15, or 30 grains every one to three hours, or $\frac{1}{2}$ to 2 drachms may be given in one dose or divided into two, or the full dose may be given morning and evening. The acid is given only in powder, the sodium salt (soluble in 1 part of water or in 6 parts of alcohol) in capsules or solution, without syrup as it has itself a sweetish taste, but if necessary with some aromatic or in licorice; the best time for administration is with meals.

1. In acute articular rheumatism in young, strong persons, 1 to 2 drachms a day in doses of 15 grains; or the same amount may be given in one or two portions, a small dose being tried first experimentally. In older, weakly persons 1 drachm a day in 8-grain doses; and in children of from five to fifteen years of age, from 30 to 45 grains per diem in 4-grain doses; it may be given also during the night if the patient is wakeful. Cure usually takes place after from 150 to 300 grains have been taken, but after the disease has subsided it is necessary to continue the administration of the drug in gradually decreasing doses for a week. (A dose of 15 grains a day continued for five days is said to have weakened the sexual feeling for a period of three months.)

2. As an efficacious antipyretic, in fevers of all kinds, $\frac{1}{2}$ to 1 drachm of the acid, 45 to 120 grains of the salicylate of

sodium, is given in two doses at an interval of fifteen to thirty minutes, late in the evening, in powder or dissolved in rum or brandy.

3. In neuralgia, especially in sciatica, hemicrania, the peripheral pains of locomotor ataxia, etc., it is given in small repeated doses of 4 to 8 grains up to 75 or 150 grains per diem.

4. In long-standing cases of diabetes mellitus, the drug is said frequently to cause a temporary improvement in the symptoms.

5. It is also given in chronic gastric and intestinal catarrhs, and in diarrhœa with foul-smelling stools.

Externally, salicylic acid is employed as a mouth wash, as an injection into the nose in whooping-cough, and for washing out the bladder or stomach, in solutions of 1 part to from 300 to 1,000 of water; as a dressing to wounds, 1 to 300. An ointment for eczema or a tendency to eczematous eruptions is made with 1 part of salicylic acid to from 10 to 50 of ointment. For a tooth powder or catarrh snuff the acid is mixed in the proportion of 1 grain to 10 grains of charcoal, sugar, tannic acid, etc. For salicylic cotton a four-per-cent solution, or stronger, is suitable. Corns, warts, or callosities may be moistened with boric or salicylic acid solution, covered with a layer of salicylic acid about one-fifth of an inch thick, over which are placed four folds of moistened boric lint, the whole being covered with gutta-percha tissue and left undisturbed for five days. Salicylic acid mixed with prepared talc or starch is a useful application in sweating of the feet or abnormal sweating of any part.

℞ Sodii salicylatis,	. . . . .	gr. xlvi.
Spt. vini gallici,	. . . . .	ʒ xij.
Solve et adde		
Vini Xerici,	. . . . .	ʒ xx.
Syr. aurant. cort.,	. . . . .	ʒ i.

M. Sig. One tablespoonful before the mid-day and evening meals, in acid dyspepsia.

Take of:

Salicylic acid,	. . . . .	3 parts.
Powdered starch,	. . . . .	10 "
Venetian talc,	. . . . .	87 "

Mix. Powder for profuse sweating of the feet.

℞ Acid. salicyl., gr. xv.
 Adipis, 3 ss.
 Lanolini, 3 iiss.

M. et ft. unguentum.

(For eczema, ichthyosis, and ulcer of the foot.)

℞ Acidi salicylici, gr. xv.
 Zinci oxidi,
 Amyli,
 Vaseline. flav., āā 3 vi

M. et leniter terendo fiat pasta.

A salicylic paste for application to moist surfaces.

℞ Acidi salicylici, gr. xv.
 Collodii flexilis, ʒ ss.
 Ext. cannabis ind. (or Terebinth. venet.), gr. v.

M. Sig. Collodion for corns. To be applied with a brush three times a day.

ACIDUM SCLEROTINICUM.

See Ergota.

ACIDUM SOZOLICUM.

See Aseptolum.

ACIDUM SULPHO-ICHTHYOLICUM.

See Ichthyolum.

ACIDUM SULPHURICUM DILUTUM.

Internally its use is not advisable, but the dose and mode of administration are the same as those of dilute hydrochloric acid. Externally it may be used as a gargle in one to four per cent solution.

Crude sulphuric acid is used for disinfecting fecal discharges, etc.

Mistura Sulphurica Acida.—Haller's acid elixir is composed of 1 part sulphuric acid to 3 parts of alcohol. It has a pleasant taste and may be given in digestive disturbances in doses of 5 to 15 drops several times a day, in sweetened water or barley water. It is also employed in metrorrhagia. A cooling drink may be made by adding 1 to 2½ drachms to a pint of water flavored with raspberry syrup.

Aromatic sulphuric acid is an alcoholic dilution flavored with various aromatics; it is given in doses of 5 to 15 drops in a mucilaginous vehicle, in digestive disorders.

℞ Acid. sulph. dil., 3 ss.
 Syr. rubi idæi, ʒ v.
 Aq. destillatæ, ʒ iv.

M. Sig. One tablespoonful every two hours. (For quenching the thirst in feverish conditions.)

℞ Mist. sulph. acidæ,
 Tinct. opii, āā 3 ss.
 Tinct. cinnamomi, ʒ iij.

M. Sig. Twenty drops in oatmeal water every hour. (Metrorrhagia.)

ACIDUM TANNICUM.

Tannin causes coagulation of albumin and is on that account a good astringent and hæmostatic in cases of internal or external administration where it can exert a direct local action. Soluble in 1 part water, 2 parts alcohol, and 8 parts glycerin. It is incompatible with organic substances, especially organic bases and mucilages by which the tannin is precipitated.

Internally employed in doses of 1 to 8 grains several times a day in powder, pill, solution in water, alcohol, or glycerin; or in mixtures in aromatic waters, wine, or syrup.

1. In hemorrhages of the stomach or intestinal canal, in doses of 1 grain every two hours or 8 grains once or twice a day.

2. In the same dose in diarrhœa, especially in chronic cases or in those dependent upon ulcerative lesions; when given for a long period it is liable to disorder the digestion.

3. As an efficient antidote in cases of poisoning with organic substances, the alkaloids such as morphine, atropine, and nicotine, and metallic substances (as long as the poison has not yet been absorbed), since it forms with the last two insoluble tannates.

Its utility is very questionable in cases of hemorrhage where it cannot act locally upon the bleeding part, yet it has a reputation for efficacy in hemorrhagic nephritis, in cystitis, and in whooping-cough.

Externally.—(It makes brown stains on linen, which are very difficult to remove. When used in gonorrhœa, the patient should wear bathing-trunks.)

a. As a hæmostatic when it can be applied directly to the source of the bleeding; as an astringent in vaginal leucorrhœa in a two to five per cent solution applied on a tampon, in powder, pure or better mixed with starch, and also in suppositories in the proportion of 1 part of tannin to 5 parts of cacao butter; as an injection for gonorrhœa, in the proportion of 8 to 15 grains to 3 ounces of red wine; as a gargle (two-per-cent solution) or in five-per-cent solution for painting the parts in chronic laryngitis and pharyngitis; and also as an application in powder, blown in by means of a quill or taken as snuff, to nasal polypi.

b. As an application to frost bites, in twenty-per-cent ointment or liniment.

c. As a drying powder and protective to ulcers and to prevent putridity of the secretions.

d. As an inhalation in non-acute laryngitis, tracheitis, and bronchitis, and also, according to Leube, in pulmonary phthisis. For this purpose a two-per-cent solution may be used, but it is well to begin with a weaker solution (say one-third per cent) in order to test the idiosyncrasy of the patient. When even this weak solution cannot be borne, recourse must be had to alum, which is moreover a better application when there is deep infiltration of the mucous membrane.

e. As an injection (one to two per cent solution) in dysentery of children, and in larger amount in adults. In Asiatic cholera an injection may be given of a solution of tannin with laudanum (see formula).

f. In eczema, dressings wet with a five to ten per cent solution are very useful. The addition of a little alcohol or glycerin makes a solution of tannin clearer and more permanent.

Tinctura gallæ is made by soaking nut-galls in alcohol. It is employed externally. Equal parts of tincture of galls and tincture of iodine are used as a local application in epididymitis.

Sodii tannas and *tannicum albuminatum*, both prepared extemporaneously (see the formulæ below), are said to have a less disagreeable taste, to be more readily absorbed, to irri-

tate the mucous membranes less, and to exert an astringent and hæmostatic effect even in distant organs.

℞ Acidi tannici, gr. i.-iv.
 Opii, gr. $\frac{1}{2}$
 Sacchari, gr. viij.

M. Sig. One such powder every two to four hours, in profuse diarrhœa.

℞ Acidi tannici, 3 iss.-v.
 Tinct. opii, gtt. xxx.
 Gum acaciæ, $\frac{3}{4}$ iss.
 Aquæ (104° F.), Oiv.

M. Sig. Enema for cholera.

℞ Acidi tannici, gr. xv.-xxij.
 Tr. cinnamomi,
 Syr. acaciæ, āā 3 vi.
 Aq. destillatæ, $\frac{3}{4}$ iss.

M. Sig. One teaspoonful every hour or two, in diarrhœa of children.

℞ Acidi tannici, gr. xv.-3 i.
 Aq. destillatæ, $\frac{3}{4}$ v.

Adde

Liq. sodii carbonatis, q.s.

ad react. alkalin.

M. To be kept in well stoppered bottles away from the light. Sig. To be taken in the course of one or two days, in tablespoonful doses. (Liquor sodii tannatis.)

℞ Acidi tannici, 3 ss.
 Aq. destillatæ, $\frac{3}{4}$ iij.

Adde agitans

Solutions albuminis ovi unius, $\frac{3}{4}$ iij.

M. Sig. To be taken in the course of one or two days. (Tanninum albuminatum.)

℞ Acidi tannici, 3 iss.

Div. in part. æq. No. 3. Sig. Dissolve one powder in eight tablespoonfuls of red wine, and use as an injection several times during the day. If this has no effect, dissolve the two remaining powders in the same quantity of red wine and inject as before. (For aborting a gonorrhœa in the initial stage.)

℞ Acidi tannici, 3 ss.
 Zinci sulphatis, gr. xv.
 Aq. destillatæ, 3 iv.

M. Sig. As an injection in gonorrhœa.

℞ Acidi tannici, gr. iv.
 Ol. theobromæ, gr. xlv.

M. et ft. globulus. Vaginal balls for leucorrhœa.

℞ Acidi tannici, 3 iv.-v.
 Glycerini, 3 xij.

M. Sig. Saturate tampons in this solution, introduce into the vagina every night, and leave *in situ* until morning. (For leucorrhœa.)

℞ Acidi tannici, gr. xxx.-xlv.
 Ung. glycerini (or Spt. camphoræ), . . 3 xij.

M. Sig. Liniment for frost-bites.

℞ Acidi tannici, gr. viij.
 Flor. rosæ pulv.,
 Sacchar. pulv., āā 3 vi.

M. Sig. Snuff for chronic nasal catarrh, nose-bleed, etc.

℞ Acidi tannici, gr. xv.
 Ol. theobromæ, gr. lxxv.

M. et div. in suppos. No. v. aut x.

The larger suppositories may be used in the rectum or vagina, the smaller for introduction into the nostrils in eczema of these parts.

ACIDUM TARTARICUM.

Action and dose the same as those of citric acid, but it is less hygroscopic than the latter and on that account better adapted to use in the form of powder, but is not so well borne by the stomach. Incompatible with the vegetable bases, potassium salts, hydrochloric and sulphuric acids, iron, and soap.

Internally in doses of 8 to 15 grains several times a day in the form of powder, troches (1 grain each), effervescent powders, mixtures, and in acid whey.

℞ Acidi tartarici,
 Sodii bicarb., āā 3 v.
 Magnesii carb., gr. lxxv.
 Elæosacch. citri, $\frac{2}{3}$ iij.

M. An agreeable tasting effervescent powder. Mix a teaspoonful in a glass of water.

℞ Acidi tartarici, gr. xxij.
 Syr. simplicis, 3 iv.
 Decoct. hordei, $\frac{2}{3}$ v.

M. Sig. A tablespoonful every two hours as desired. (Cooling drink.)

ACIDUM THYMICUM.

See Thymolum.

ACONITUM.

A narcotic of rather doubtful utility.

Internally.—Dose, $\frac{1}{2}$ to 1 grain; hardly ever used in powder or pill form, but in the following preparations.

Tinctura Aconiti.—Dose, 2 to 8 drops several times a day up to the maximum dose of 6 minims.

Extractum Aconiti.—Dose, $\frac{1}{2}$ to $\frac{1}{4}$ grain; maximum dose, $\frac{1}{3}$ grain. Both these preparations are employed in neuralgia and rheumatism.

Aconitina.—A preparation which varies much in strength, and is exceedingly poisonous in minute doses.

It has been employed internally in initial doses of $\frac{1}{800}$ grain in pill form, in neuralgia and rheumatism.

Externally it is used to fulfil the same indications in the form of ointment (gr. i.-iiss. to 3 iiss.-iv. of lard).

The subcutaneous mode of administration is exceedingly painful.

First symptoms of poisoning are manifested in difficulty of swallowing, disturbances of tactile sense, disordered movement, disturbances of the psychological functions and gastric disturbances. Antidote: tannic acid.

℞ Extr. aconiti, gr. viij.
 Tr. guaiaci ammon.,
 Vini antimonii, āā 3 iiss.

M. Sig. Ten to 15 drops three times a day, in gout.

℞ Extr. aconiti, gr. viij.
 Pulv. opii, gr. v.
 Pulv. glycyrrhizæ, gr. xlv.

M. et ft. pil. No. 30. Sig. One pill twice a day, in facial neuralgia.

℞ Aconitinæ cryst., gr. $\frac{1}{30}$
 Glycyrrhizæ, q.s.

M. et ft. pil. No. 20. Sig. Two to four pills a day. (For facial and other forms of neuralgia.)

℞ Aconitinæ cryst., gr. ij.
 Solve in

Alcohol, gtt. x.
 Lanolin, $\frac{2}{3}$ ss.

M. Sig. For external use in facial and other forms of neuralgia.

ADONIS VERNALIS.

A succedaneum for digitalis in cardiac diseases, nephritis, and dropsy.

Used internally in infusion (4 to 6 parts to 150 of water) in doses of one tablespoonful.

Adonidinum.—Is used to meet the same indications, in doses of $\frac{1}{2}$ grain in pill, two or three times a day.

ÆTHER.

Sulphuric ether is a powerful stimulant and antispasmodic (especially in hysterical persons), carminative, and anæsthetic.

Internally given in doses of 5 to 20 drops every hour or two on sugar, in sweetened water, or in tea (more commonly in the form of spiritus ætheris compositus and various ethereal tinctures), in syncope and collapse, in various forms of neuralgia, in hysterical attacks, in asthmatic paroxysms, violent vomiting, cardialgia, colic, meteorism, flatulence, and biliary colic. In these affections of the abdominal viscera the drug seems to have a local anæsthetic effect; as it boils at 95° F., it is of course immediately vaporized in the stomach.

Externally.—*a.* It is used by inhalation and local application in conjunction with its internal administration.

b. It is given by enema in asphyxia, apparent death, and colic.

c. Dropped into the ear it is sometimes useful in tinnitus aurium.

d. Applied by dropping or spray (producing artificial cold) it is often of service in relieving the pain of articular rheumatism, toothache, headache, hysterical hyperalgesia of the skin, incarcerated hernia, etc.

e. By inhalation to induce general anæsthesia in surgical operations. By spray directed against the part to produce local anæsthesia in minor surgical operations. The tip of the atomizer should be held at a distance of one-half to one inch from the part to be anæsthetized, and held there for from one-half to four minutes, in the case of inflamed tissues eight to ten minutes, until the part becomes hard. In the case of a finger or toe, the ligature of the digit will favor the production of the local anæsthesia.

Subcutaneously: In case of sudden collapse from any cause, one or more syringefuls of ether, either pure or camphorated (camphor 1 part, ether 4 parts) may be injected under the skin.

Spiritus Ætheris.—Employed internally to fulfil the same indications as pure ether, and is preferable to the latter. It is composed of 1 part of pure ether to 3 parts of alcohol. It may also be used subcutaneously.

Spiritus Ætheris Compositus.—Hoffmann's anodyne is composed of ether 30 parts, alcohol 67 parts, and heavy oil of wine 3 parts. Dose, $\frac{1}{2}$ to 2 drachms.

℞ Ætheris, 3 iij.
Ol. terebinth., 3 ij.

M. Sig. Fifteen to 30 drops several times a day. (Durande's remedy for gall-stone.)

ÆTHER ACETICUS.

Internally, acetic ether is employed for the same purposes and in the same manner as sulphuric ether, given in doses of 10 to 20 drops.

Externally, it is employed as an inhalant in syncope and collapse, and as a local application in headache.

℞ Ætheris acet., ʒ iiss.
 Camphoræ, gr. viij.
 Tinct. opii, ʒ ss.

M. Sig. Fifteen to 20 drops every fifteen minutes in the collapse of cholera.

℞ Ætheris acet.,
 Tinct. castorei, āā ʒ iiss.
 Ol. valerianæ,
 Vini opii, āā ℥ xv.

M. Sig. Ten to 20 drops every two hours in hysterical cardialgia.

℞ Ætheris acetici, ʒ iiss.
 Moschi, gr. iss.-iij.
 Ol. menth. pip., gtt. vij.

M. Sig. Thirty drops every two hours, as a stimulant in the collapse of cholera, typhoid fever, etc.

ÆTHER AMYLO-NITROSUS.

See Amyl Nitris.

ÆTHER HYDROBROMICUS.

(*Ethyl Bromide*, C_2H_5Br .)

Prepared by distillation of potassium bromide with sulphuric acid and alcohol. A colorless, sweetish liquid, having an odor of chloroform, easily decomposed by the action of light and air. Not to be confounded with ethylene bromide ($C_2H_4Br_2$), which is not narcotic, but is exceedingly poisonous.

Externally used to produce narcosis by inhalation, from 2 to 5 drachms being poured upon the ordinary inhaler. The narcosis so induced appears with thirty to sixty seconds and continues then for ten or fifteen minutes. It destroys the sensation of pain, but does not produce complete unconsciousness, and the patient awakes pleasantly and quietly. For this reason the anæsthetic is to be recommended for small, even though painful, operations. If necessary, the narcosis so produced may be prolonged by the administration of chloroform. Inhalations of ethyl bromide are also recommended in epileptic and hysterical convulsions.

ÆTHYLENUM BICHLORIDUM.

(Liquor Hollandicus.)

Externally employed as a local anæsthetic in neuralgias and painful inflammations (articular rheumatism), either pure or mixed with ether. After the liquid is applied, the painful part should be well wrapped up.

AGARICUS ALBUS.

Boletus laricis, purging agaric.

Internally was formerly employed in doses of gr. viij.–xv. several times a day as a purgative. Recently it has been used in doses of gr. iij.–vij. two or three times a day, in powder or pill, as an efficient remedy in the night sweats of phthisis and in the profuse sweating following the administration of anti-pyrine and similar drugs. It is used for both these purposes, as a popular remedy, as a tincture in brandy.

Agaricina.—*Internally* employed in one or two doses of $\frac{1}{2}$ to $\frac{1}{4}$ grain, in powder or pill (with the addition of opium when there is a tendency to diarrhœa), five or six hours before the time for the appearance of the colliquative sweats in phthisis.

℞ Agaricinæ, gr. i.
 (Pulv. opii, gr. iij.)
 Sacchari, ʒ iss.

M. et div. in chart. No. 12. Sig. One or two powders at evening. (For the night sweats of phthisis.)

℞ Agaricinæ, gr. iv.
 Pulv. ipecac. et opii, gr. l.
 Pulv. rad. althææ,
 Mucil. tragacanth., āā ʒ ss.

M. et div. in pil. No. 50. Sig. One or, at most, two pills (representing $\frac{1}{2}$ to $\frac{1}{4}$ grain agaricine) at evening.

ALANTOLUM.

See Heleninum.

ALCOHOL.

In health, alcohol in moderate doses acts as a stimulant and tonic, but in disease it acts as an alimentary substance, especially when other food cannot be borne. In such cases,

taken well diluted with water, it is easily assimilated and imparts to the organism a certain power of resistance in adynamic diseases. This statement of its action furnishes the indication for its employment. Pure alcohol is never used for internal administration, but rather dilute alcoholic liquids, especially wine.

The contra-indications to the employment of alcohol are: childhood, nervous excitability, a tendency to congestions and hemorrhages, and heart disease.

Alcohol Absolutum.—Absolute alcohol (ethylic alcohol) is prepared by dehydrating rectified spirit. Its specific gravity is 0.797.

Spiritus Rectificatus.—Rectified spirit (alcohol) contains about ninety per cent absolute alcohol, and is of a sp. gr. 0.830–0.834.

Spiritus Tenuior.—Dilute alcohol (proof spirit) contains more water than the preceding, and has a sp. gr. 0.928 (U. S. Ph.); that of the B. Ph. has a sp. gr. 0.920; of the Ph. G., 0.892–0.896.

Spiritus Vini Gallici.—Brandy is a distillation product of wine, and contains from forty-six to sixty per cent of alcohol.

Other alcoholic preparations of about the same strength are: Arac made from rice, whiskey (*spiritus frumenti*) from rye or corn, rum (*spiritus sacchari*) from molasses, and gin (*spiritus juniperi compositus*) made from barley with the addition of juniper berries. All these preparations are frequently adulterated and falsified. The difference in taste for the most part depends upon the various ethers.

Liqueurs are prepared from the preceding by maceration with various aromatic and bitter herbs, with the addition of sugar.

Vinum.—Wine contains alcohol (ten to twenty per cent), sugar, tartaric acid, salts, bone-earth (Hungarian wines), various ethers (which impart the bouquet), and coloring matters. The weaker sorts, such as Rhine wine, contain from seven to ten per cent alcohol, while the more fiery southern wines, such as Madeira, Tokay, port, and sherry, contain from fifteen to twenty per cent alcohol besides a considerable amount of sugar. The red wines, containing tannin, have from ten to fifteen per cent alcohol. Then the sparkling wines, in addition to the alcohol and sugar, contain carbonic acid.

Cider contains acids and salts, with very little alcohol; it is laxative and diuretic.

Beer (cerevisia) contains from three to five per cent alcohol, carbonic acid, salts, also many nutrient substances, such as dextrin, starch, albumin, and sugar, and a stomachic bitter (hops). The drinking of beer is indicated in anæmia, emaciation, and weak digestion, and is contra-indicated when there is a tendency to the formation of adipose tissue.

ALOE.

The inspissated juice of the leaves of Socotrine and other varieties of aloes. It is a cathartic bitter and emmenagogue, acting especially upon the large intestine, causing congestion of the pelvic organs, and in small doses aiding digestion. Its cathartic action is very slow, but is not diminished by long-continued administration.

Internally it is best given in pill form, in doses of $\frac{1}{3}$ to 1 grain as a stomachic; 1 to 5 grains as a mild cathartic; 5 to 15 grains as a drastic purgative.

1. In habitual constipation, with or without dyspepsia, in jaundice, and blennorrhœa, when a laxative is indicated. It is contra-indicated only in bleeding plies where the loss of blood is not desired as a palliative, in general plethora, pregnancy, and where there is a tendency to uterine hemorrhage.

2. In hemorrhoids when it is desired to bring back the bleeding.

3. In suddenly suppressed menses and amenorrhœa.

Externally it is employed only in the form of enema in doses of 3 to 20 grains.

Aloin.—Laxative in doses of $1\frac{1}{2}$ to 3 grains, purgative in 3 to 5 grains (maximum dose, 5 grains; or 9 grains per diem). It is given in pill or in glycerin solution (1 part to 5 or 8).

Extractum Aloes.—Administered for the same indications as aloes in pill form in doses of 1 to 7 grains several times a day.

Tinctura Aloes.—Dose (U. S. P.), $\frac{1}{2}$ to 2 drachms several times a day. Exceedingly bitter.

Tinctura Aloes Composita.—(Composed of aloes, 6 parts; gentian, rhubarb, zedoary, and crocus, each 1 part; dilute spirit, 200 parts). Is taken as a tonic in doses of $\frac{1}{2}$ to 1 tea-

spoonful once or twice a day. It is extensively used as a popular remedy under the name of Augsburg elixir of life, or Sulzberg drops.

Pilula Aloes et Ferri.—Composed of 1 grain each of aloes and sulphate of iron. Given in doses of one to five pills several times a day in amenorrhœa.

℞ Aloes, gr. xx.
 Pulv. rhei,
 Saponis, āā 3 i.
 Extr. taraxaci, q.s.

M. et ft. pil. No. 60. Sig. Six to eight pills morning and night. (A mild laxative.)

℞ Aloes pulv., 3 i.
 Saponis, 3 ss.

M. et ft. pil. No. 50. Sig. One to three pills at night. (Mildly laxative.)

℞ Extr. aloes, 3 i.
 Extr. rhei, 3 ss.
 Extr. colocynth. comp.,
 Ferri pulv., āā gr. xv.

M. et ft. pil. No. 60. Sig. One to three pills as required. (Stahl's drastic pills.)

℞ Extr. aloes, 3 ss.
 Sodii carb., 3 i.
 Extr. taraxaci, q.s.

M. et ft. pil. No. 60. Sig. Two pills morning and night. (Catarrhal jaundice.)

ALTHÆA.

Marshmallow root. *Expectorant.*

Internally used in various preparations, and forms the principal ingredient of pectoral tea. It may be given in decoction or infusion, and is also used as an excipient in pill masses.

Externally used in poultices, and as an emollient mouth wash, gargle, collyrium, or enema.

Syrupus Althææ.—Employed alone in teaspoonful doses, or as an ingredient of various expectorant remedies.

ALUMEN.

Alum is soluble in $10\frac{1}{2}$ parts of water, but insoluble in alcohol. It is a hæmostatic astringent and as such ranks next after tannin for internal use. It is incompatible with the salts of the weaker acids, sulphates, animal and vegetable gelatins, albumen, and coloring matters.

Internally, it is given in doses of $1\frac{1}{2}$ to 15 grains several times a day in powder, pill, or solution, in acute and chronic gastric catarrh and in intestinal hemorrhage, in the latter case being also sometimes administered in enemata. It is, however, not often employed internally, as it is very apt to disorder the digestion.

Externally, it is employed to impregnate tampons and by injection in chronic vaginal catarrh; as a gargle in chronic pharyngitis (as a popular remedy in sage tea); as an inhalation (3 ss. of a one-per-cent solution) in chronic catarrhal conditions of the respiratory organs; mixed with gum as an application to bleeding ulcers; for scorbutic stomatitis; in skin diseases and sweating of the feet, in ointment or solution (five per cent); and as a hæmostatic mixed with colophony, catechu, sulphate of iron, or kino. Alum makes the enamel of the teeth brittle, and must therefore be used with caution in the mouth.

℞ Aluminis,	3 i.
Decoc. salviæ,	℥ v.
Tr. pimpinellæ,	3 iij.
Syr. mororum,	3 v.

M. Sig. Gargle for sore throat.

℞ Aluminis,	3 i.
Vitel. ovi coct. unius.	
Glycerini,	3 ss.

M. et ft. unguentum. (Very efficacious, combined if need be with opium, in frost bites and eczema.)

℞ Aluminis,	gr. xv.-xxx.
Zinci sulph.,	gr. viij.
(or Acidi tannici,)	gr. iij.-x.)
Aq. destillatæ,	℥ vi.

M. For injection two or three times a day in gonorrhœa with profuse discharge.

- ℞ Aluminis,
 Zinci sulph., āā ʒi.
 Aq. destill., ʒ xiv.
 M. Sig. As a vaginal injection in pruritus and leucorrhœa.

Alumen Exsiccatum.—Powerfully astringent and mildly escharotic. Diluted with sugar it is employed as a powder in exuberant granulations; and with gum acacia as an application to stop bleeding.

ALUMINII ACETAS.

Solution of the acetate of aluminium (*argilla acetica*) is *styptic* and *antiseptic*.

Externally, it is employed pure or mixed with water (1 part to from 5 to 20). It is recommended as an application, in weak solution, for bromidrosis of the feet or axillæ, for herpes, and ulcers of the feet. In furunculosis of the external auditory canal, the meatus may be filled every hour with a watery solution (1:4) and closed with a wad of cotton. In a one to three per cent aqueous solution it is used as a vaginal injection and for washing out the bladder.

ALUMINII ACETO-TARTRAS.

Externally, aceto-tartrate of aluminium is recommended as a non-poisonous and certain astringent and antiseptic mouth wash and gargle in a one to two per cent solution; as an antiseptic dressing for wounds in one to three per cent solution; and for frost bites in fifty-per-cent solution.

ALUMINII SULPHAS.

Sulphate of aluminium is used in the same strength and for the same purposes as the preceding, and like them is a powerful styptic, though weaker than alum. (It is used in the preparation of acetate of aluminium.)

AMMONIACUM.

A tonic expectorant, though inferior to senega and benzoin, diminishing the secretion in bronchorrhœa; may be employed when neither fever, digestive disturbance, nor a tendency to hemorrhage is present.

Internally it is administered in doses of 5 to 15 grains in pill made with soap and vegetable powder, or in emulsion.

Externally it is employed in the form of plaster (ammoniac 100 parts, dilute acetic acid 140 parts).

℞ Ammoniaci,	3 i.
Vitellum ovi unius.	
Aq. fœniculi,	℥ iv.
Liq. ammonii anisati,	3 i.
Syr. althææ,	3 v.

M. Sig. A tablespoonful every two hours. Shake well before using.

℞ Ammoniaci,	
Saponis,	
Pulv. rhei,	āā 3 i.

M. et ft. pil. No. 80. Sig. Six to eight pills three times a day.

AMMONIÆ AQUA.

Solution of caustic ammonia is made by dissolving 10 parts of gaseous ammonia in 100 parts of water.

Externally it is employed, diluted with 10 parts of water, as a wash for insect bites, and by subcutaneous or intravenous injection as an antidote to snake bites or to poisoning by chloroform. It is used as a rubefacient and as a stimulant inhalant (but great caution is needed here) in syncope, drunkenness, narcotic poisoning, and with carbolic acid as an abortive remedy in the initial stages of an acute coryza. One teaspoonful added to a wineglassful of water is employed as a lotion for comedones of the face.

Linimentum Ammoniaë.—Volatile liniment. Composed of water of ammonia 30 parts, and cotton-seed oil 70 parts.

Linimentum Ammoniaë Camphoratum.—Composed of 30 parts water of ammonia and 70 parts camphorated oil.

Linimentum Saponis Camphoratum.—Opodeldoc. This is similar to the soap liniment of the U. S. P. It is composed of soap, 40 parts; camphor, 10; oil of thyme 2; oil of rosemary, 3; ammonia water, 25; alcohol, 420.

These four preparations are much used, either pure or mixed with aromatic tinctures, opiates, fatty oils, etc., in embrocations for their derivative and irritant effect upon the skin in rheumatism, paralysis, etc.

AMMONII ACETATIS LIQUOR.

Solution of the acetate of ammonium (*Spiritus Mindereri*) is a diaphoretic and a feeble diuretic, which may be given in large doses without disturbing the digestion.

Internally, in doses of ʒi.-iiss. four to six times a day, to promote diaphoresis in mild catarrhs, rheumatism, and dropsy (scarlatinal). It is given in elder-flower tea or in extemporaneous mixtures.

Externally employed as a gargle and in embrocations.

℞ Ammon. carb., ʒi.
Aceti vini, q.s.

Ad saturationem.

Vini antimonii, ʒss.
Syr. aurant. cort., ʒv.
Aq. petroselini, ʒiij.

M. Sig. A teaspoonful every hour for children.

℞ Liq. ammon. acetat.,
Mel. rosæ, āā ʒv.
Infus. flor. sambuci (1:8), ʒvi.

M. Sig. To be used as a gargle in ulcerative scarlatinal sore throat.

AMMONII ANISATI LIQUOR.

Composed of oil of anise, 1 part; water of ammonia (sp. gr. 0.960), 5 parts; alcohol, 24 parts. Anisated water of ammonia.

A powerful expectorant, apt to excite a momentary attack of coughing, which can be avoided, however, by giving the remedy in some demulcent vehicle. It is used in catarrhal inflammation of the smaller bronchi, and in catarrhal and croupous pneumonia with profuse secretion, after the crisis. It is contra-indicated in the stage of acute inflammation, unless in the presence of symptoms of collapse.

Internally in doses of 5 to 15 drops several times a day in some demulcent vehicle, or in extemporaneous mixture (1 to 5 parts to 100). A mixture with water is turbid.

Elixir Glycyrrhizæ (Pectoral Elixir).—Composed of 1 part each of anisated water of ammonia and extract of licorice and 3 parts of fennel water. It is given in doses of 20 to 30

drops three or four times a day, pure or as an ingredient of other mixtures, as an expectorant.

℞ Liq. ammonii anisati, ℥ xv.
 Syr. fœniculi, ʒ vi.
 Infusi senegæ (1:20), ʒ iij.

M. Sig. A teaspoonful every hour as an expectorant in pneumonia in children. For adults, from three to five times the quantity of the anisated water of ammonia may be used.

℞ Liq. ammonii anisati,
 Aq. amygdal. amar., āā ʒ i.
 (Tinct. opii camphoratae, ʒ ss.)
 Aq. aurant. flor., ʒ xij.

M. Sig. A teaspoonful two or three times a day in peccatorial tea, in chronic bronchitis with profuse secretion. (Peccatorial tea is a demulcent infusion made from marshmallow, licorice, mullein-flowers, colt's foot, anise, and orris root.)

AMMONII BROMIDUM.

Indications and dose the same as those of Potassii Bromidum, which see.

AMMONII CARBONAS.

A nervine stimulant and expectorant, possessing also diaphoretic and diuretic properties.

Internally it is given in doses of 3 to 8 grains several times a day in solution or infusion of ipecac, in capillary bronchitis and catarrhal pneumonia of children and aged people, in threatening pulmonary œdema, etc.

Externally it is used for inhalation, and also in ointment (1 to 3 parts in 10) and liniment, and for bathing the skin in solution of 1 to 2 parts in 25, or stronger if an irritant effect is desired.

Ammonii Carbonatis Liquor.—The solution of carbonate of ammonium is made by dissolving 1 part by weight of the salt in 5 parts of water; dose, 20 to 30 drops.

AMMONII CHLORIDUM.

Muriate of ammonia, sal-ammoniac. A solvent expectorant. It is incompatible with salts of the alkalies and with metallic salts.

Internally, in doses of 5 to 15 grains in lozenges (1 part to 8 extract of licorice), aqueous solution, or in some mucilaginous decoction (1 part to 30, with extract of licorice as a corrigens). Of the latter a tablespoonful every hour or two may be given in apyrexial catarrhs with tenacious expectoration, but the long-continued use of the drug is liable to disorder digestion. It is employed frequently in mixtures with one or more of the following: ipecac, tartar emetic, bitter-almond water, extract of belladonna or hyoscyamus, opiates, anisated water of ammonia, and senega.

Externally it is given by inhalation or in gargles (1:40) in acute and chronic bronchitis.

Ammonii et Ferri Chloridum.—Ammonio-chloride of iron is employed (rarely, however) in certain cases of anæmia, dyspepsia, etc., when it is desired to combine the effects of the two drugs. Dose, 3 to 15 grains in pill or mixture (2 to 5 parts to 100).

℞ Althææ rad.,
 (Senegæ rad., āā), ʒ iiss.
 Aq. ut ft. decoct. ad colat., ʒ v.
 (Tinct. opii, ℥ viij.)
 Ammonii chloridi, gr. lxxv.
 Ext. glycyrrhizæ, ʒ iiss.

M. Sig. A tablespoonful every hour or two, as an expectorant in bronchitis.

℞ Ammonii chloridi, gr. lxxv.
 (Antim. et potas. tartr., gr. i.)
 Ext. glycyrrhizæ, ʒ iiss.
 Aq. fœniculi, ʒ v.

M. Sig. One tablespoonful every hour or two in bronchitis with tenacious sputum.

AMMONII IODIDUM.

Internally, employed in doses of gr. iss.–viij., in syrup with the addition of a few drops of anisated water of ammonia, it is a more certain remedy than iodide of potassium in syphilis, beginning goitre, enlarged spleen, so-called scrofulous affections, etc.

Externally it is applied in the form of ointment (1 part to

25; best prepared extemporaneously by mixing 1 part of iodide of potassium with 8 of chloride of ammonium) as a solvent to tumors of various kinds.

℞ Ammonii iodidi, gr. xlv.
 Aq. destillatæ, ℥ iij.
 Liq. ammonii anisat., ℥ iv.
 Syr. simplicis, ℥ xij.

M. Sig. A tablespoonful every three hours.

℞ Ammonii iodidi, gr. iij.
 Ol. olivæ, ℥ vi.

M. Sig. As an embrocation in the night pains of syphilis.

AMMONII PHOSPHAS.

Internally employed in doses of gr. viij.—xxx., in solution, in the treatment of rheumatism, gout, and the uric-acid diathesis.

AMMONII PICRAS.

Internally employed as a succedaneum for quinine in intermittent fever; it has also been recommended as a specific remedy in whooping-cough in doses of $\frac{1}{6}$ — $\frac{1}{2}$ grain two or three times a day. It is an active cardiac poison and is also readily explosive, and care must therefore be taken in dosage and in compounding.

℞ Ammonii picratis, gr. i.
 Ammonii chloridi, gr. xx.
 Ext. glycyrrhizæ, ℥ i.
 Aq. destillatæ, ℥ iv.

M. Sig. For a child under three months of age, one-half teaspoonful every three hours; from one to two years, one teaspoonful; and from three to five years, a tablespoonful. (For whooping-cough.)

AMMONII SULPHO-ICHTHYOLAS.

See Ichthyolum.

AMYGDALA AMARA.

Internally employed almost always in the form of **Aqua Amygdalæ Amaræ**.—Contains one per cent of oil of bitter almond. Maximum dose, ℥ ij.

Internally it is employed diluted with water, syrup, or in various mixtures and emulsions, frequently with the addition of morphine. (It is incompatible with alkalis, chlorine water, nitric acid, and metallic salts.) In doses of ʒ i.-ij. (U. S. P.) in cardialgia, nervous or sympathetic vomiting, etc., and especially in irritant catarrhs of the respiratory organs and dry cough, and even in inflammatory and pyretic conditions; in phthisis with distressing cough, and also in pertussis.

Oleum Amygdalæ Amaræ.—Externally employed in embrocations, and as an ingredient in liniments, ointments, etc.

AMYGDALA DULCIS.

Sweet almonds are used in the preparation of almond emulsion and of

Syrupus Amygdalæ.—Containing of bitter almond 3 parts, sweet almond 10 parts, in 100 of the syrup.

Mistura Amygdalæ.—Almond emulsion is composed of 6 parts sweet almond, 1 part powdered acacia, and 3 parts sugar, in 100 parts water.

℞ Aq. amygdalæ amaræ,	ʒ ij.-iv.
Syrupi amygdalæ,	ʒ iv.
Misturæ amygdalæ,	ʒ iij.

M. Sig. One-half to one tablespoonful every hour or two, in irritable cough.

AMYL NITRIS.

A clear, yellowish aromatic pungent fluid, which causes, when inhaled, a relaxation of the arterial and bronchial muscular fibres.

Externally it is employed by inhalation (not more than eight to ten inspirations should be taken) in doses of 2 to 5 drops on a handkerchief or blotting-paper, in angina pectoris, asthma, spasm of the glottis, hemicrania, cardialgia, and other neuralgias, tinnitus aurium, singultus, seasickness, chloroform asphyxia, dysmenorrhœa, epilepsy, cocaine-poisoning, lead colic, etc.

The inhalation must be discontinued when congestion and heat of the face are produced. It must never be used when cerebral congestion is present.

℞ Amyl nitritis, gtt. x.
 Chloroformi, ʒ i.

M. Sig. A few whiffs to be inhaled by each asthmatic paroxysm.

℞ Amyl nitrit., ʒ i.
 Alcohol, ʒ ij.

M. Sig. Six to twelve drops for inhalation.

AMYLENUM HYDRATUM.

A clear, colorless, thin, neutral liquid, having a burning taste and an aromatic odor, soluble in 8 parts of water and forming a clear mixture with ether, chloroform, glycerin, benzoin, and the fatty oils.

Internally employed in doses of ʒ ss.-i. (maximum), in capsule, extemporaneous mixture (well shaken before using) or in a glass of beer, to induce sleep.

℞ Amyleni hydrati, ʒ ij.
 Ext. glycyrrhizæ, ʒ iiss.
 Aq. destillatæ, ʒ ij.

M. Sig. Half this amount in one dose at evening.

℞ Amyleni hydrati, ʒ i.
 Mucil. acaciæ, ʒ v.
 Aq. destillatæ, ʒ xij.

M. Sig. For rectal injection.

AMYLUM.

The starches have the same alimentary value as sugar, into which they are converted by the action of the saliva. They are employed chiefly as a non-stimulating diet in fevers of short duration even though of considerable intensity, and also for individuals of full habit. A diminution of nitrogen in the food by means of vegetable diet, containing more starchy and saccharine substances, is indicated in the uric-acid diathesis and when there is a tendency to rheumatic affections. Starchy food is also given in inflammatory conditions of the gastric and intestinal mucous membrane.

Starchy as well as saccharine foods are contra-indicated in chronic catarrhal affections of the stomach where there is a

tendency to acid decomposition of the ingested matters, in obesity, diabetes mellitus, and (in large amounts) in rachitis, in the first years of life, and also in convalescence from acute diseases in which there has been great destruction of muscular tissue, as after typhoid fever, long-continued suppuration, etc.

Externally starch is employed as a vehicle for remedies given by enema to control diarrhœa and dysentery, as a dusting powder in intertrigo and eczema, and in surgical dressings.

The following contain starch in large proportion: rye, wheat, oats, barley, rice, potatoes, beans, sago, cacao, and acorns. The latter are used as a stomachic tonic, roasted as acorn-coffee. Most of the expensive proprietary foods are made from some of the ground cereals mixed with pea or bean meal. A mixture of finely bolted rye flour with about equal parts of lentil meal furnishes about the proportion of nitrogenous to non-nitrogenous matters required for the organism, and is cheaper and better than most of the prepared infant foods. The meal is put into cold water or milk and cooked for one-half to one hour, and then, with the addition of salt and meat extract if necessary, furnishes an easily digestible and agreeable food for invalids with gastric catarrh and for convalescents; cooked with a little cream, it may be given as a milk substitute to children.

Dextrinum.—Dextrin is a sweetish substance, resembling acacia, soluble in water and diluted alcohol, which possesses nutrient properties and is said to hasten the digestion of other foods. It may be given with other food to children, but is used chiefly in the preparation of surgical dressings and splints (1 part in from 2 to 10 of water).

ANILINUM.

Internally anilin has been recommended in doses of 1 to 2 grains twice or three times a day, in powder, pill, or solution, in the treatment of chorea and epilepsy.

ANTHEMIS.

Chamomile is employed as a carminative, especially in the form of infusion (chamomile tea, $\frac{z}{3}$ ss.—O*i.*) in colic and flatulence, and as a diaphoretic, serving to give a flavor to the

warm water and also acting as an adjuvant to its diuretic action.

Externally it is employed in infusion as an application to atonic ulcers which require a mild stimulation; as an injection in diarrhœa with fetid stools, and in colic; it is also used in making herb pillows, in baths, and in warm, moist cataplasms to reduce pain.

Extractum Anthemidis.—*Internally* given in doses of gr. viij.—xv. several times a day in pills and mixtures.

Externally, in solution, for painting and in dressings to painful parts.

Oleum Anthemidis.—*Internally* employed in doses of $\frac{1}{2}$ to 2 drops.

Externally in alcoholic solution (1:100) as toothache drops.

Oleum Anthemidis Infusum.—Made with alcohol and olive oil, and used for embrocations, in ointments, and in enema (in emulsion with the yolk of an egg).

Syrupus Anthemidis.—Employed as a synergist in anti-spasmodic mixtures.

ANTHRAROBINUM.

A derivative of alizarin or purpurin. See also Chrysarobinum.

Externally it is employed in ten-per-cent ointment or alcoholic solution in the treatment of skin diseases, meeting the same indications as chrysarobin. It acts less energetically than the latter, but is just as reliable, and is less irritant, being therefore suitable for use on the face.

ANTIFEBRINUM.

See Acetanilidum.

ANTIMONII ET POTASSII TARTRAS.

Tartar emetic occurs in the form of white crystals or a crystalline powder, soluble in 17 parts of cold and 3 parts of boiling water.

An emetic which excites great nausea, causes diarrhœa, disorders the digestion, and sometimes induces alarming collapse, for which reason it should be used only in the case of robust individuals.

Internally (maximum dose, gr. iij., or gr. viij. pro die) given

in doses of gr. $\frac{1}{2}$ – $\frac{1}{6}$ several times a day as an expectorant, resolvent, and diaphoretic; of gr. $\frac{1}{6}$ – $\frac{1}{3}$ every hour or two as a nauseant (often causes vomiting also); and of gr. $\frac{1}{3}$ – $\frac{1}{2}$, usually with ipecac gr. iss.–xv. (these doses repeated every 10 to 15 minutes until from 2 to 4 have been taken), as an emetic, in powder or suspension.

It should not be given in infancy or old age, nor in any condition where its usual action upon the gastro-intestinal tract and the heart is to be feared.

Externally it is used in solution of gr. viij.–xv. in \bar{z} iij. as an injection into fistulæ with the object of exciting an adhesive inflammation, and as an injection into cystic tumors (see formula).

Vinum Antimonii.—Tartar emetic, 4 parts; boiling distilled water, 60 parts; and stronger white wine, 1,000 parts. Given as an emetic for children in doses of one-half to one teaspoonful every fifteen minutes; as an expectorant, 10 to 30 drops several times a day.

Unguentum Antimonii.—Autenrieth's salve. Contains 2 parts of antimony in 8 of paraffin ointment. It is used as a derivative, especially in meningitis, applied to the shaven scalp, and in laryngitis. The pustules caused by it leave behind very ugly white scars.

℞ Ant. et pot. tart., gr. i.
 Ammonii chloridi,
 Ext. glycyrrhizæ, āā ʒi. | "

M. et div. in chart. No. 10. Sig. One powder every three hours. (Expectorant and resolvent.)

℞ Ant. et pot. tartr., gr. iss.
 Pulv. ipecac., ʒ ss.

M. et ft. pulvis. Sig. One-fourth part to be taken every ten minutes, to cause emesis.

℞ Vini antimonii,
 Oxymel. scillæ, āā \bar{z} ss.

M. Sig. A teaspoonful every ten minutes until vomiting is produced.

℞ Ant. et potass. tart., gr. viij.
 Aq. destillatæ, \bar{z} ss.

M. Sig. From a few drops to a syringeful (15 drops) to be injected into small cystic tumors of the scalp. At the end

of from thirty to thirty-six hours the wen will be found to be a little painful, and soon thereafter (by the end of the second or third day) the entire sac may be pressed out through the slightly inflamed puncture made by the needle, which will probably have to be enlarged. This is a tolerably certain method.

Other formulæ will be found under *Digitalis*, *Potassii Nitras*, *Ipecacuanha*, *Camphor*, and *Ammonii Chloridum*.

ANTIMONII PENTASULPHIDUM.

Insoluble and easily decomposed. A solvent expectorant, which sometimes causes nausea like tartar emetic, but which acts very well, when mixed with a little extract of opium, in the treatment of dry catarrhs.

Internally employed in doses of gr. $\frac{1}{4}$ —iss. three or four times a day, in powders or pills; it is often combined, according to the indications present, with calomel, Dover's powder, opium, benzoin, camphor, licorice, ipecac, chloride of ammonium, and sugar.

℞ Antimonii pentasulph., gr. iss.—v.
 Extr. opii, gr. iss.
 Sach. albi, ʒi.

M. et div. in chart. No. 10. Sig. One powder three or four times a day.

℞ Antim. pentasulph.,
 Hydrarg. chlor. mitis, āā gr. iss.
 Sacch. albi, ʒi.

M. et div. in chart. No. 10. Sig. One powder every two or three hours. (Flummer's powder, for children.)

ANTIPYRINUM.

An *antipyretic*, *antineuralgic*, and *antirheumatic*. Prepared synthetically from anilin and acetic ether. It occurs as a white crystalline powder, readily soluble in water, and possessing a slightly bitter taste, which is easily disguised by wine or aromatic water.

Internally it is employed in powder or solution (with syrup), in doses of $\frac{1}{4}$ grain for each month, or $1\frac{1}{2}$ grains for each

year, of life for children; gr. viij.-xv. two or three times a day for adults; maximum dose, gr. lx.-lxxv. pro die. It frequently produces unpleasant symptoms, such as profuse sweating, vertigo, heart weakness, less frequently vomiting and collapse, and occasionally a rash resembling that of measles.

1. In all pyrexial diseases, inflammations of every sort, also in tuberculosis, intermittent fever, etc., to reduce temperature and pulse.

2. In doses of from 8 up to 15 or 20 grains at the beginning of an attack of hemicrania, and repeated in dose of 8 grains, on an empty stomach; also in other forms of neuralgia, migraine, etc., and in whooping-cough and influenza (see formula).

3. In doses of gr. xv. three times a day, in conjunction with the bromides (see Potassii Bromidum), in chorea minor, Also in the lancinating pains and twitching of locomotor ataxia.

4. In acute muscular and articular rheumatism it exerts a specific effect like salicylic acid. It is recommended to give for the first three days a tablespoonful of a solution of $2\frac{1}{2}$ drachms of antipyrine in 5 ounces of water (without syrup) every three hours. Later, when the fever and local symptoms have subsided, the solution is to be continued in doses of one tablespoonful a day for five days; or, if a relapse is to be apprehended, three tablespoonfuls a day may be given for several weeks.

5. It has been strongly recommended in diabetes insipidus, beginning with single doses of gr. viij.-xv. (3 ss. a day) to test the idiosyncrasy of the patient, and then increasing the dose by 15 grains a day until a maximum daily amount of 3 iss. is reached; at the end of a week, when the polyuria has been reduced, the remedy is to be discontinued to test the permanence of the cure, and may then be recommenced, if necessary, in the dose that has been found to be efficacious.

Externally, antipyrine has been used, in five-per-cent solution, as a local hæmostatic in epistaxis, and also applied in powder to wounds, and at the same time given internally. In chronic ulcers of the leg, when there is a foul discharge, it is applied in powder and covered with salicylated cotton.

The drug may be administered by enema, in doses of 3 ss.-i., when it is not well borne by the stomach.

For subcutaneous use a solution is made of equal parts of

antipyrine and boiling water. It may be employed in this manner in neuralgias, biliary, nephritic, and other forms of colic, rheumatism, etc. The action of the drug, when given hypodermically, is quite certain, and unpleasant symptoms are less liable to ensue, but there is sometimes quite a powerful local reaction.

℞ Antipyrini, ʒ iiss.
 (Syr. aurant. cort., ʒ vi.)
 Aq. destillatæ, ʒ v.

M. S. A tablespoonful from three to five times a day.
 (Each dose contains 15 grains of the drug.)

℞ Antipyrini, gr. xv.
 Vini Tokayensis,
 Aq. destillatæ, āā ʒ vi.
 Syr. aurant. flor., ʒ xij.

M. S. A tablespoonful every two hours. Larger doses for adults, smaller for young children. (Pertussis.)

APIOLUM ALBUM CRYSTALLISATUM.

A stearopten in colorless acicular crystals, obtained from *Apium petroselinum*, common parsley.

Internally, employed in doses of gr. iv.-xv. several times a day, up to a maximum daily dose of ʒ i., in powder, syrup, or capsules, as a substitute for quinine in intermittent fever, and also for amenorrhœa. Symptoms of intoxication are produced by large doses, of ʒ ss.-i.

Apiol.—A yellowish oily liquid, of a peculiar odor and pungent taste, obtained from parsley. It is given, like the preceding, for amenorrhœa and dysmenorrhœa, in doses of ʒ to 6 minims in capsules.

APOMORPHINÆ HYDROCHLORAS.

A white or grayish-white crystalline powder, readily soluble in water, obtained by the action of concentrated hydrochloric acid on morphine. A reliable emetic.

Internally, employed in powder, pill, or less frequently in solution, as the latter, unless mixed with syrup and kept from the air, turns a greenish color. The maximum dose is ½ grain; 1½ grain pro die.

1. As an expectorant in doses of $\frac{1}{80}$ — $\frac{1}{30}$ grain (proportion-

ately smaller doses for children) in powder, pill, or solution (the latter to be kept in a colored bottle), in the treatment of severe bronchial catarrh (with the addition of morphine for the cough), tracheitis, and pneumonia. When given in aqueous solution, a few drops of hydrochloric acid should be added.

2. As an emetic, in doses of $\frac{1}{6}$ grain for adults, proportionately less for children.

Subcutaneously it is given: (a) As a certain and speedy emetic (within ten to twenty minutes), which does not cause nausea, and produces no general symptoms, in doses of $\frac{1}{30}$ to $\frac{1}{12}$ grain for children, and $\frac{1}{12}$ to $\frac{1}{6}$ grain for adults. This mode of administration is to be preferred in all cases in which an emetic is indicated, but in which its internal administration is difficult, as in laryngeal croup and in narcotic poisoning, or where the use of the stomach pump is inadvisable.

b. For cutting short epileptic attacks. A hypodermic injection should be given immediately upon the appearance of the aura.

Given by the rectum, apomorphine is emetic in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain.

℞ Apomorph. hydrochlor., gr. iss.
 (for children, gr. $\frac{1}{2}$)
 Aq. destillatæ, ʒ iiss.

M. To be kept in a colored glass bottle. S. From 8 to 15 drops to be injected beneath the skin of the arm. (Emetic.)

℞ Apomorph. hydrochlor., gr. i.
 Pulv. glycyrrhizæ,
 Extr. glycyrrhizæ, āā ʒ i.

M. et ft. pil. No. 50. S. One to three pills every hour or two. (Expectorant.)

℞ Apomorph. hydrochlor., gr. ss.
 Morphin. hydrochlor., gr. iss.
 Aq. destillatæ, ʒ v.

M. To be kept in a dark-colored bottle. S. A tablespoonful every two to four hours. (Expectorant.)

℞ Apomorph. hydrochlor., gr. $\frac{1}{4}$
 Syr. althææ, ʒ iiss.
 Aq. destill., ʒ iv.

M. S. Twenty drops every hour, as an expectorant for children; as an emetic, one teaspoonful.

AQUA AMYGDALÆ AMARÆ.

See Amygdala Amara.

AQUA CARBOLISATA.

See Acidum Carbolicum.

AQUA CHLORI.

Chlorine water is a four per mil. solution of chlorine gas in water. It is an antiseptic with slightly escharotic action; in the presence of organic molecules, it forms hydrochloric acid, drawing its oxygen from them, and thus acts as a powerful poison to the lower forms of animal and vegetable life, destroying putrid matters and removing the odor.

Internally, in doses of ʒss.-i. in syrup and water, it is given to prevent fermentation in the stomach and small intestine; also in typhoid fever and other infectious diseases.

Externally it is used as a disinfectant mouth wash and gargle (1 part to from 2 to 5 of water), for application to the pharynx (mixed with equal parts of syrup), in dressings, for washing infected bed-clothing, etc. (diluted with equal parts of water), for bathing (1 quart added to the bath), and by enema for the destruction of thread-worms (in doses of one tablespoonful diluted).

Fumigatio Chlorig.—Chlorine vapor for disinfecting purposes may be obtained by adding 2 parts of a fifty per cent solution of crude sulphuric acid to 1 part each of common salt and peroxide of manganese. A milder fumigation may be obtained by adding vinegar to a thin paste of chloride of lime and water. Chlorine gas is very irritating to the respiratory organs. See also *Liquor Sodæ Chloratæ*.

ARAROBA.

See Chrysarobinum.

ARBUTIN.

See Uva Ursi.

ARGENTI NITRAS.

(Pencils made of 1 part of nitrate of silver and 2 parts of nitrate of potassium are less brittle than those of the pure nitrate of silver.) The stains on the skin and clothing caused

by nitrate of silver may be removed by concentrated solutions of iodide or cyanide of potassium.

An astringent (antiphlogistic caustic) and antispasmodic.

It coagulates albumin and causes contraction of the blood-vessels.

Internally it is employed in doses of $\frac{1}{12}$ to $\frac{1}{2}$ grain (the maximum dose) from one to three times a day in pills (with alumina), lozenges (with chocolate), but best in simple aqueous solution (gr. iv. to distilled water ξ i.) in doses of 10 to 60 drops, or in a solution of gr. iv. to distilled water ξ iij., in doses of one-half to one teaspoonful. The solution causes a staining of the lips and teeth. To prevent argyria, the total amount of the drug employed should not exceed half an ounce.

1. In diseases of the digestive organs (in solution); in diarrhoea, especially of children, chronic intestinal catarrh, tuberculosis of the intestines, ulcer of the stomach, dysentery, and typhoid fever (in the last two cases also by enema), and in all forms of cardialgia.

2. In nervous diseases, at the present time only in epilepsy (occasionally it is curative but usually only palliative) and tabes dorsalis.

The antidote in cases of acute poisoning is common table salt.

Externally nitrate of silver is used: (a) In the abortive treatment of quinsy (caustic), in chronic conjunctivitis (one-half to one per cent solution), as a prophylactic ag. inst ophthalmia neonatorum; in gonorrhœal conjunctivitis; in soft chancre and panaritium (in the last two cases the parts must be energetically treated with the solid stick).

b. In subacute and chronic catarrh of almost all the accessible mucous membranes, in a one to five per cent solution (for laryngeal applications, a powder composed of 1 grain nitrate of silver in 15 to 60 grains sugar may be insufflated); and also in ulcers of the mucous membranes, but a caustic effect must be shunned in diphtheria.

c. In painful burns of the second and third degrees an application may be made of 1 part nitrate of silver in from 1 to 5 of water; after the formation of an eschar, the pain subsides, and the danger of union of the opposing surfaces is obviated.

d. In sluggish ulcers, with bleeding or exuberant granula-

tions, nitrate of silver may be used either as a caustic or as a dressing (in one to two per cent solution).

e. In gonorrhœa, nitrate of silver is employed in injection (as an astringent, 1 to 2 grains to the ounce; or as an abortive agent, 2 grains to the drachm); in vaginal gonorrhœa, a solution of 1 to 1½ grains to the ounce is of the proper strength.

f. In orchitis and epididymitis, the scrotum may be painted with a strong solution (100 grains to the ounce), the patient resting in bed and having the scrotum supported on a cushion. In dysentery and typhoid fever, rectal injections of 1 to 4 grains in solution may be given.

℞ Argenti nitratis, gr. ss.-iss.
Glycerini, ʒ v.
Aq. destillatæ, ʒ xx.

M. Keep in colored glass bottle. S. A teaspoonful every two hours. (Infantile diarrhœa, cardialgia, gastric ulcer.)

℞ Argenti nitratis, gr. iv.-viiij.
Boli albæ, gr. lxxv.
Aq. destill., q.s.

M. et ft. pil. No. 50. S. One or two pills after meals. (Locomotor ataxia, epilepsy, gastric ulcer.)

℞ Argenti nitratis, gr. iss.
Aq. destillatæ, ʒ v.

M. Keep in black glass bottle. S. One to two tablespoonfuls fasting, for gastric ulcer.

℞ Argenti nitratis, gr. xv.
Aq. destillatæ, Oij.

M. Keep in black glass bottle. S. For washing out the bladder in cystitis.

℞ Argenti nitratis, gr. viij.-xv.
Bals. peruviani, ʒ i.
Ung. zinci oxidi, ʒ iiss.

M. et ft. unguentum. S. Ointment for syphilitic ulcers when cicatrization is delayed.

℞ Argenti nitratis, gr. iss.
Aquæ destillatæ, ʒ iss.

M. Keep in colored glass bottle. S. For inhalation once a day in pertussis, the patient being kept in a room at an even temperature. A narcotic to be given at night.

After eight or ten days all the characteristic symptoms should have disappeared.

ARGILLA.

See Bolus Alba.

ARISTOLUM.

Antiseptic.—A combination of iodine and thymol. A reddish-brown powder insoluble in water and glycerin, slightly soluble in alcohol, but readily soluble in ether. A good succedaneum for iodoform, as it favors cicatrization and is, moreover odorless and non-toxic.

Externally employed in three to ten per cent ointment with vaselin as an application to varicose ulcers, parasitic eczema of the thighs, lupus exulcerans, soft chancre, psoriasis, mycosis capillarum, and tertiary syphilitic ulcers. For insufflation (pure powder) in rhinitis, naso-pharyngitis, laryngitis, and specific ozæna; after the insufflation, a tampon impregnated with a ten-per-cent ointment should be passed into the nostrils.

ARNICA.

Internally employed (rarely) as a nervous stimulant in infusion (5 to 15 parts in 150), or in powder in doses of 5 to 15 grains.

Externally employed in enemata, and for making cataplasms (5 to 20 parts in 100).

Tinctura Arnicæ.—This is the form in which the drug is most commonly employed. It is used as an application to injuries of all kinds, in pure tincture, to small wounds and contusions; in compresses, mixed with brandy or lead water; and in embrocations in contusions, rheumatism, and paralyses.

ARSENICUM ALBUM.

See Acidum Arseniosum.

ASAFŒTIDA.

A nervine employed as a symptomatic remedy in hysterical attacks. Many hysterical patients, however, exhibit an idiosyncrasy in regard to asafœtida, convulsive paroxysms being excited by it, and the initial doses should therefore be small.

Internally, in doses of 3 to 15 grains or more several times a day in pills or bits of the gum (with the addition of a small quantity of mucilage or alcohol), which should be coated with gelatin on account of the disagreeable odor.

By enema in doses of $\frac{3}{4}$ to 2 drachms, with the yolk of one egg, mixed in $\frac{5}{8}$ iss.-v. of fluid. This is the most common mode of administration.

Tinctura Asafœtidæ.—Dose for internal administration, 20 to 60 drops. It is also used for inhalation in hysterical hallucinations of smell.

℞ Asafœtidæ, ʒ iss.
Alcoholis, q. s.

M. et ft. pil. gelatin. No. 60. S. Three pills three times a day.

℞ Asafœtidæ, gr. lxxv.
Aceti, Oij.

M. S. To be added to enemata. (Vinegar acts as a stimulant to the rectum.)

℞ Tinct. asafœtidæ, ʒ iij.
Tinct. castorei canadensis,
Ætheris,
Tinct. opii camphoratæ, āā ʒ iss.

M. S. Fifteen to 20 drops two or three times a day. (In convulsions, especially hysterical in nature.)

℞ Asafœtidæ, ʒ ss.-i.
Vitello ovi unius

M. sensim terendo cum

Infus. valerian., $\frac{5}{8}$ iv.

Fiat emulsio. S. Sufficient for two clysters.

ASEPTOLUM:

Aseptol or sozolic acid is prepared by mixing phenol with concentrated sulphuric acid in the cold, and neutralizing with barium carbonate. It is a syrupy, reddish-brown fluid, miscible in all proportions with water, alcohol, and glycerin. (Becomes unfit for use after being kept for any length of time.)

Externally employed in ten-per-cent aqueous solution in the same manner as carbolic and salicylic acids, of which it possesses the antiseptic but not the irritant and toxic proper-

ties. It is said that it is an efficient antiseptic in a solution of even 1:1,000.

ASPARAGINUM.

Internally employed in doses of gr. i.–iss. (maximum daily dose, gr. v.) in powder, pill, or solution several times a day, as a diuretic.

ASPIDIUM.

Filix mas, male fern, is a good remedy for tape-worm, which affects the stomach but little.

Internally employed in two or three doses of 80 grains of the powdered root taken at intervals of fifteen to thirty minutes, in water, black coffee, or electuary, and also in mixture with pomegranate root; an hour after the last dose a half-ounce of castor oil should be taken (*conf.* Brayera). It is usually employed in the form of an extract or of the

Oleoresina Aspidii.—Given in doses of ʒ i.–ij. for adults in beef tea, coffee, or capsules. The patient should eat nothing the evening before except a little oatmeal water, and should take a teaspoonful of Epsom salts. In the morning, fasting, he should take 1 to 2 drachms of the oleoresin (warmed) at one dose, followed in an hour by a tablespoonful of warmed castor oil; if the bowels are not freely moved in a couple of hours, some more Epsom salts should be taken in a cup of wormwood tea. For children ½ to 1 drachm may be given in divided doses at short intervals, mixed with sugar, rum, or fresh lemon juice. The following formulæ are strongly to be recommended:

℞ Oleoresinæ aspidii,
 Chloroformi, āā ʒ i.
 Emulsion. ol. ricini (Ol. ricini, ʒ iss.), ʒ iij.

M. S. To be taken at one dose after a twenty-four-hour fast.

℞ Oleoresinæ aspidii, ʒ i.
 Acaciæ, ʒ ss.
 Syr. simplicis, ʒ ss.
 Aq. destillatæ, ʒ iss.

M. S. To be taken in divided doses within a half-hour, and to be followed in fifteen minutes by one or two tablespoonfuls of castor oil.

ATROPINA.

See Belladonna.

AURANTIUM.

Unripe oranges are similar to orange peel, but contain also citric acid and tannin. They are employed as an aromatic stomachic bitter, macerated in wine (1 part to 10 or 15) or in liqueur (Curaçao), or dried and powdered, mixed with valerian and lemon-balm leaves, as a tea.

Aurantii Cortex.—Orange peel is used in the preparation of the following:

Tinctura aurantii.—One part orange peel, 5 parts alcohol. Dose, ℥ xv.—3 i.

Employed in dose of 20 to 80 drops in water, pure or with tincture of rhubarb, etc.; a favorite ingredient of stomachic mixtures.

Elixir aurantii compositum contains 20 parts finely cut bitter-orange peel with various bitters in 100 parts of sherry wine, with a little carbonate of potassium added. Dose, ʒ ss.—3 i.

Syrupus aurantii corticis is an elegant preparation, containing some alcohol, which is frequently employed as an ingredient of various mixtures, and may also be given pure to children.

Aurantii Flores.—*Oleum aurantii florum* is used for making elixirs, syrups, etc.; an oil-sugar is also made with it.

Aqua aurantii florum (aqua naphæ) is employed as a flavoring ingredient, and, for its odor, in various pharmaceutical preparations.

AURI CHLORIDUM.

Externally employed as a caustic. It is an ingredient of Landolfi's caustic for cancer.

AURI ET SODII CHLORIDUM.

A golden-yellow powder, completely soluble in 2 parts of water, but imperfectly soluble in alcohol.

Internally employed, in doses of $\frac{1}{12}$ grain several times a day (up to a maximum dose of 3 grains pro die), in aqueous

solution (kept in colored glass bottles) or pill, in the treatment of epilepsy, locomotor ataxia, and syphilis.

Externally used as a collyrium in solution ($\frac{1}{3}$ to 1 grain to the ounce), or in ointment in the proportion of gr. ss.-ij. to $\frac{5}{3}$ ss.

BALSAMUM COPAIBÆ.

See Copaiba.

BALSAMUM GURJUNÆ.

Gurjun oil or gurjun balsam (balsamum dipterocarpi), from *Dipterocarpus trinervis*.

Internally employed instead of copaiba in doses of 10 to 30 drops, three or four times a day, pure or with peppermint water, in the treatment of gonorrhœa, non-specific urethritis, and elephantiasis.

Externally used, in the form of liniment (1 part to 3 of lime water), in the treatment of scaly diseases of the skin, and especially of leprosy. The diseased parts should be rubbed with the balsam for one hour, morning and evening, after a bath.

℞ Bals. gurjunæ,	3 ij.
Gum. acaciæ,	3 iiss.
Syr. acaciæ,	$\frac{5}{3}$ i.
Aq. menth. pip.,	$\frac{5}{3}$ iss.

M. S. To be taken in three doses, for urethritis.

BALSAMUM NUCISTÆ.

See Myristica.

BALSAMUM PERUVIANUM.

A balsam having an agreeable odor, but a sharp, bitterish taste.

Internally employed, instead of balsam of copaiba, in doses of 5 to 25 drops several times a day in capsules, pills, or emulsion (5 or 10 parts, with half the amount of gum arabic, in 150 of the emulsion).

It diminishes the secretion, like copaiba, but is weaker and milder in its action than the latter; it is also expectorant, and is especially indicated in bronchorrhœa. It is often well borne in cases in which patients cannot take copaiba.

Externally.—1. An excellent remedy for itch, killing both the mites and their eggs. In the morning from 3 to 4 drachms, pure or more rarely diluted with alcohol, should be well rubbed over the entire body, with the exception of the head, and then in the evening a bath with warm water and soap should be taken. The application may be repeated in twenty-four to forty-eight hours.

2. In the treatment of wounds, sore nipples, ulcers, burns, frost bites, and chilblains, balsam of Peru, in ointment, cerate, or liniment, acts as a slightly stimulating protective dressing.

3. For pencilling the parts in diphtheria and ozæna, it is used mixed with turpentine and thinned with alcohol. This mixture may also be made into an emulsion with the yolk of an egg, for internal use.

4. It has been recommended for the treatment of tuberculosis by intravenous injection of an emulsion made with almond oil and mucilage of acacia (1 part to 400 or 500).

Syrupus Balsami Peruviani.—Contains 1 part of Peruvian balsam in 40 of syrup. Is used in expectorant mixtures.

Mistura Oleoso-balsamica (Hoffmann's balsam of life).—Contains 3 parts balsam of Peru and 1 part each of the volatile oils of clove, cinnamon, lavender, orange flower, thyme, mace, and lemon, in 240 parts of alcohol.

Internally employed as a stimulant-expectorant in doses of 10 to 20 drops in wine or dropped on sugar, several times a day.

Externally for inhalation, and as an elegant stimulant embrocation, wash, and cosmetic.

℞ Bals. peruv.,	3 i.-iiss.
Gum. acaciæ,	3 i.
Aq. aurant. flor.,	ʒ v.
Syr. bals. peruv.,	ʒ v.

M. S. One tablespoonful (after shaking the bottle) every two hours, in bronchial catarrh with profuse secretion.

℞ Bals. peruv.,	
Sodii biboratis,	ññ 3 i.
Vitell. ovi unius	
Ol. amygdal. dulcis,	ʒ i.

M. et ft. linimentum. S. For application to sore nipples. Shake the bottle before using.

- ℞ Bals. peruviani, 3 i.
 Mist. oleoso-balsam., 3 v.
 Spir. odorati, ̄i.
 M. S. For application to pernio of the first degree.

- ℞ Mist. oleoso-balsam.,
 Spir. formicarum, āā ̄ss.

M. S. Liniment for rubbing the parts in rheumatism, paralysis, etc. (Spiritus formicarum contains formic acid, 4 parts; water, 26 parts; and alcohol, 70 parts.)

1. ℞ Balsam. peruviani,
 Ol. ricini, āā 3 vi.

M.

2. ℞ Styrcis liq.,
 Ol. olivæ, āā 3 xij.

M.

Mix 1 and 2 while stirring, to make a liniment. S. For itch.

BALSAMUM STYRACIS.

See Styrax.

BALSAMUM TOLUTANUM.

A brownish-yellow, brittle, resinous mass, easily beaten into a yellow powder, having an agreeable odor and slightly acid, aromatic taste.

Internally employed, to meet the same indications as balsam of Peru, in doses of gr. iij.–xv. several times a day in pills, capsules, or emulsion. It has been recommended in combination with creasote in the treatment of pulmonary phthisis.

Externally used, with balsam of Peru, as a remedy for scabies.

- ℞ Bals. tolutani,
 Creasoti, āā 3 i.
 Pulv. althææ, q.s.

M. et ft. pil. No. 60. S. One pill three times a day. (Phthisis.)

BARI CHLORIDUM.

[*Internally*, in doses of one to two teaspoonfuls three times a day of a solution of 5 grains to the ounce of water, in weakened cardiac action.]

Externally, as a collyrium and in dressings (varicose veins) in a solution of $\frac{1}{2}$ to 2 parts in 100 of water.

BELA.

Bael fruit, Bengal quince. A demulcent astringent.

Internally employed in decoction, and recommended in the treatment of diarrhœa.

Extractum Belæ Liquidum.—A preparation of the B. Ph., employed like the decoction in diarrhœa and dysentery.

℞ Ext. belæ liq.,	. . . . .	$\frac{3}{4}$ v.
Tr. opii, .	. . . . .	3 ss.
Syr. simp.,	. . . . .	3 v.

M. S. One tablespoonful every two hours. (For diarrhœa, especially the diarrhœa of phthisis.)

BELLADONNA.

A narcotic (having a cumulative action) which paralyzes the motor oculi muscle, first stimulates and then paralyzes the brain and spinal cord, reduces the excitability of the peripheral sensory nerves, especially of the vagus terminations in the lungs and heart (increasing the rapidity of the pulse), and causing increased blood pressure, contracting the arterioles. The first symptoms of poisoning are: dilatation and fixedness of the pupils, disturbed vision, delirium, a rapid pulse and dryness of the throat; the latter symptom is due to the arrest of the salivary secretion in consequence of paralysis of the chorda tympani nerve.

Belladonnæ Folia.—*Internally* employed (rarely) in doses of gr. ss.—ij. once or twice a day in pill, powder, or infusion ($\frac{1}{2}$ to 1 part in 100).

1. In cardialgia, nervous vomiting, neuralgia, and spasmodic affections of various kinds; and smoked in cigarettes for asthma.

2. Empirically, in habitual constipation and indigestion associated with a sluggish condition of the lower bowel. Belladonna seems to increase the peristaltic movements and to quiet the colicky pains.

Extractum Belladonnæ.—*Internally* employed in doses of $\frac{1}{6}$ to $\frac{3}{4}$ gr. two or three times a day, in powder or pill, for

gastralgia and lead colic. In rebellious obstipation it is sometimes given in several large doses of one grain each every hour or two.

Externally used in ointments and liniments (1:10) in painful spasmodic muscular contractions, especially of the sphincters; locally as an anodyne in neuralgia and pain of all kinds. In watery solution (one-half to one and one-half per cent) it is used as an eye-wash. It is administered also in enemas (gr. i.-xv. in $\frac{3}{4}$ ij.-v.) and in suppositories (gr. $\frac{1}{2}$ to 3 ss. cacao butter).

Atropinæ Sulphas.—*Internally* given in doses of gr. $\frac{1}{100}$ to $\frac{1}{60}$ (maximum dose, $\frac{1}{60}$ gr. pro die) in pill, powder, or solution, for convulsions, whooping-cough, epilepsy, chorea, for the night sweats of phthisis, and for the hyperidrosis of acute rheumatism.

Externally used to dilate the pupils in solution (gr. ss.-i. in 3 ij.), in ointment (gr. $\frac{1}{3}$ to $\frac{2}{3}$ in 3 ij.), or in gelatin disks (each containing $\frac{1}{40}$ grain) which can be readily placed in the eye by taking up on the end of a moist camel's-hair pencil.

Subcutaneously employed for the indications given above; recommended especially in pulmonary and other forms of hemorrhage in doses of gr. $\frac{1}{300}$ to $\frac{1}{125}$, also in the same dose for convulsions, neuralgia, myalgia, and rheumatic pains.

Homatropinæ Hydrobromas.—Employed as a mydriatic (gr. ss.-iss. in 3 iiss. water), the paralysis of accommodation being of shorter duration than that produced by atropine; the drug is also much less liable to produce a systemic toxic effect.

Antidotes in atropine poisoning are opium and calabar bean. On the other hand, atropine is itself an antidote to mushroom poisoning.

℞ Pulv. belladonnæ fol., gr. viij.
 Bismuthi subnitratæ, gr. iv.
 Elæosacch. matricariæ, gr. lxxx.

M. et div. in chart. No. x. Keep in waxed paper. S. One powder every three hours. (Cardialgia.)

℞ Extr. belladonnæ, gr. iv.
 Aq. amygdal. amaræ, $\frac{3}{4}$ ss.

M. S. Thirty drops three or four times a day. For children, 3 to 10 drops. (Cardialgia, irritable cough, pertussis.)

℞ Atropinæ sulph., gr. $\frac{1}{8}$
 Morphinæ sulph., gr. iij.
 Pulv. glycyrrhizæ,
 Ext. glycyrrhizæ, āā q.s.

M. et ft. pil. No. 20. S. One pill two or three times a day.
 (Colic, lead colic.)

℞ Atropinæ sulph., gr. $\frac{1}{8}$
 Aq. destillatæ, ʒ iiss.

M. S. For hypodermic injection in dose of 8 to 15 drops.
 (Epilepsy, hydrophobia, morphine poisoning, and hæmoptysis.)

℞ Extr. belladonnæ, gr. iv.
 Liq. ammonii anisati, ʒ ss.
 Aq. destillatæ, ʒ ss.

M. S. Ten to 20 drops even hour. (Spasmodic cough.)

℞ Atropinæ sulphatis, gr. $\frac{1}{12}$.
 Extr. gentianæ, q.s.

M. et ft. pil. No. 10. S. One or at most two pills at night.
 (Night sweats of phthisis, epilepsy.)

℞ Atropinæ sulph., gr. $\frac{1}{8}$
 Pulv. rhei,
 Ext. gentianæ, āā gr. xlv.

M. et ft. pil. No. 30. S. One to three pills at night. (Cardialgia.)

℞ Atropinæ sulph. gr. $\frac{1}{8}$
 Morphinæ sulph., gr. iss.
 Aq. destillatæ, ʒ iiss.

M. S. Eight to 15 drops hypodermically. (Neuralgia, migraine, sciatica.)

℞ Atropinæ sulph., gr. i.-iss.
 Aq. destillatæ, ʒ iiss.

M. S. Poison. For *external use*, with care. (For dropping in the eye to dilate the pupil.)

BENZINUM.

Internally in doses of 20 to 30 drops once or twice a day, in a mucilaginous mixture, or better in capsules, for the relief of fermentative processes in the stomach (dilatation of the stomach) and chronic intestinal catarrh, and for the destruction of trichinæ in the intestine; in the latter case to be com-

bined with repeated rectal injections of 30 drops of benzin in water.

Externally (1 part to 3 of lard) for the destruction of parasites, especially of the itch-mite. (It is irritating to the skin; and is also very combustible, so must be kept away from fire.)

In pediculosis capitis, the scalp should be rubbed thoroughly with benzin and then covered with cotton and gutta-percha tissue.

For the destruction of thread-worms, injections may be used of two teaspoonfuls in a quart of water.

BENZOINUM.

See Acidum Benzoicum.

BENZOLUM.

A thin fluid obtained from coal tar. Benzene (not to be confounded with benzin, obtained from petroleum).

Internally employed in emulsion or capsules (in doses up to ʒ iss. pro die) in trichiniasis.

Externally in the form of ointment in various affections of the skin, especially scabies.

℞ Benzoli,	ʒ iss.
Mucil. acaciæ,	ʒ vi.
Ext. glycyrrh.,	ʒ ij.
Aq. menth. pip.,	ʒ iiij.

M. S. A tablespoonful (after shaking the bottle) every hour or two, in trichiniasis.

℞ Benzoli,	ʒ i.
Adipis,	ʒ iss.

M. et ft. unguentum. S. For external use, in scabies and other skin affections.

BISMUTHI SUBNITRAS.

A mild, somewhat emollient, protective astringent, which interferes in no way with nutrition. It is a remedy which is highly prized by many and considered worthless by others (*conf.* Sodii Bicarbonas).

Internally it may be given in doses of gr. iss.-xv. several times a day in powder or pill, often combined with opium, morphine, or belladonna.

1. In cardialgia from various causes, chronic gastric and intestinal catarrh, pyrosis, gastric and intestinal ulcers, etc.

2. In cholera infantum, in hourly doses of 3 to 6 grains, it is regarded by many as almost a specific; in the diarrhœa of phthisis, dysentery, and intestinal ulceration it may be given in doses of 15 grains every hour or less frequently.

Externally it is employed pure as a dusting powder or mixed with sugar (1:5) as a drying-powder for the nose, pharynx, or larynx; in suspension (4 to 10 parts to 100) as an injection in gonorrhœa; and as an ointment (1 to 3 parts to 25 of vaselin) in eczema, burns, and other wounds.

(The too free use of bismuth has caused toxic symptoms similar to those of mercury.)

Bismuthi Subcarbonas, Citras, and Tannas.—These salts are employed in the same way and for the same purposes as the above.

Bismuthi Bromas and Valerianas.—Employed like the subnitrate, sometimes preferably, in nervous gastric disorders.

Bismuthi Oxyiodidum.—A reddish insoluble powder.

Internally employed in powder in doses of gr. iss.–iij. several times a day in ulcer of the stomach and typhoid fever.

Externally used as a dusting-powder and in ointment like the subnitrate; and in suspension in water (1:100) as an injection in gonorrhœa.

Bismuthi Salicylas.—*Internally* employed in doses of gr. v.–xv. to meet the same indications as the subnitrate, more particularly in the diarrhœa of phthisis (gr. viij. every two or three hours), in typhoid fever (gr. xv.–xxx. several times a day), and in chronic gastric and intestinal disorders. Is well borne by the stomach and can be employed for longer periods than the subnitrate.

℞ Bismuthi subnitr.,
Ext. valerianæ, āā ʒi.

M. et ft. pil. No. 60. S. Five pills three times a day. (Nervous cardialgia.)

℞ Bismuthi subnitr., gr. xxiv.
Morph. hydrochlor., gr. i.
(Sodii bicarb., gr. xv.)
Sacch. albi, ʒi.

M. et div. in chart. No. 10. S. One powder three times a day. (Cardialgia.)

℞ Bismuthi subcarb., ʒ iiss.
 Sacch. albi, ʒ i.
 Pulv. opii, gr. iss.

M. et div. in chart. No. 10. One powder an hour before each meal. (Diarrhœa from intestinal ulceration.)

℞ Bismuthi subnitr., ʒ iiss.
 Zinci oxidi, ʒ ss.
 Glycerini, ʒ ij.
 Acidi carbol., gtt. xx.
 Vaseline. alb., ʒ i.

M. et ft. unguentum. (Eczema of children.)

℞ Bismuthi subnitr., ʒ i.
 Liq. calcis, ʒ iss.
 Aq. foeniculi, ʒ iiss.
 Syr. aurant. cort., ʒ ss.

M. S. A teaspoonful every two hours. (Diarrhœa of children.)

BLATTA ORIENTALIS.

Called also pulvis taracanae, powdered cockroach. Diuretic (a domestic remedy for dropsies).

Internally given in doses of 1 to 15 grains several times a day in powder; also in teaspoonful doses of a cold infusion (ʒ ij. : ʒ iij. of water).

BLAUD'S PILLS.

See Ferri Sulphas.

BOLETUS LARICIS.

See Agaricus Albus.

BOLUS ALBA (*Argilla*).

Internally employed as an excipient for pills containing salts which are readily decomposed by organic matters, such as nitrate of silver, bichloride of mercury, etc.

Externally as an ingredient of dusting-powders, tooth powders, etc.

BORAX.

See Sodii Boras.

BOROCITES.

See Magnesii Borocitras.

BRAYERA.

More commonly called kousso, is a tolerably certain anthelmintic for tape-worm.

For a few days preceding the administration of the remedy the patient lives on a rather spare meat diet, avoiding black bread, eggs, vegetables, and fruit, but selecting rather acid things such as onion salad, pickles, herring, etc. On the evening before the treatment is to be begun, he eats only a herring salad with onions, and on the following morning takes a cup of well-sweetened black coffee. Then he takes two powders of ʒiiss.-iv. each of kousso, half an hour apart, in red wine, lemonade, sweetened water, or rum and water, or twenty to thirty lozenges containing 15 grains each of the drug, or the same amount in electuary, keeping very quiet in the mean while to prevent vomiting. For the nausea and to prevent vomiting a little lemon juice may be taken. If the bowels do not move within three hours after the last dose, half an ounce of castor oil or a dose of St. Germain tea (see Senna).

Kosinum Amorphum (Bedall).—Occurs in the form of yellow crystals, but slightly soluble in water.

Internally employed in doses of gr. xv.—xxx. in wafers or pills twice within two hours.

Kosinum Crystallisatum (Merck).—*Internally* employed in doses of gr. viij.—xv. in powder or pills, two or three times within an hour or an hour and a half.

℞ Brayerae,

Mel. despumat., āā ʒv.

M. et ft. electuarium. S. Take in two portions within one hour.

℞ Brayerae, ʒi.

Kamalæ, ʒss.

Ext. aspidii, ʒi.

Mel. despumat., q.s.

M. et ft. boli No. 60. S. Take ten or twelve in the evening, and thirty the following morning.

BROMALI HYDRAS.

Internally employed in doses of gr. i.-viiij. or more several times a day in pills and solution, in the treatment of epilepsy, chorea, and tabes dorsalis.

℞ Bromali hydrat.,
Ext. glycyrrhizæ, āā ʒ ss.

M. et ft. pil. No. 30. S. Two or three pills from one to three times a day. For children, about half the quantity.

℞ Bromali hydrat., gr. xv.
Mucil. acaciæ,
Syr. rubi idæi, āā ʒ iss.
Aq. destillatæ, ʒ iv.

M. S. A tablespoonful three times a day.

BROMOFORMUM.

A colorless fluid, very slightly soluble in water, but readily soluble in alcohol, which is rapidly volatilized by lamplight, giving off the vapor of bromine; when the fluid has a red color, it is decomposed.

Internally it has been strongly recommended for whooping-cough, given pure in drop doses in a teaspoonful of water for a child three or four weeks old, three or four times a day; for older nurslings, 2 to 3 drops three times a day according to the intensity of the affection; for children two to four years of age, 4 or 5 drops three or four times a day; for children from five to seven years old, 6 or 7 drops three or four times a day. On account of the volatility of the liquid, not more than a drachm should be ordered at a time, and the bottle should be kept tightly corked and away from the light.

BROMUM.

A dark, brownish-red, volatile liquid, soluble in 30 parts of water, very soluble in alcohol, ether, and chloroform. It gives off a yellowish-red vapor. It should be prescribed only in aqueous solutions of bromine, iodine, or chlorine salts.

Internally employed (rarely) in doses of 5 to 15 drops of a one-per-cent solution several times a day, in diphtheria and croup.

Externally in one-quarter to one-half per cent solution for painting diphtheritic membranes, and as an antiseptic in fomentations (one-half-per-cent solution) and ointment (one to two per cent).

It is also given by inhalation in diphtheria and croup.

℞ Bromi, ℥ iss.
 Potass. bromidi, gr. iv.
 Aq. destillatæ, ℥ iv.

M. S. One teaspoonful every hour in a little water, at the same time with inhalations according to the other formula.

℞ Bromi, ℥ viij.
 Potass. bromidi, gr. viij.
 Aq. destillatæ, ℥ viij.

M. Keep in a colored-glass bottle. S. A sponge moistened with the solution is placed in a tin funnel or pasteboard cone, and held under the nose for five or ten minutes every hour or two.

BROMUM SOLIDIFICATUM.

Diatomaceous earth saturated with bromine and inclosed in a tight vessel. For disinfection of rooms and other large but confined spaces, the vessel is opened, and the vapor of bromine allowed to escape and diffuse itself throughout the apartment.

BRUCINA.

See Strychnos Nux Vomica.

BUCHU.

Internally employed in powder of the leaves in doses of gr. xv.-xxv. three or four times a day, or in infusion (℥ i.-iv. in ℥ iiij.-v.). Tablespoonful doses of the latter are given in the treatment of chronic affections of the urinary passages, cystitis, and protracted gonorrhœa; as a diuretic in dropsy; for impotence, lithiasis, etc.

BURSA PASTORIS.

Shepherd's purse, also called *Capsella bursa pastoris*.

Internally employed in infusion (three or four tablespoonfuls of the fresh herb to make two cups of tea, of which one is

to be taken morning and evening). A domestic remedy for hemorrhages.

BUTYL-CHLORAL HYDRAS.

Croton chloral hydrate. An analgesic.

Internally employed in doses of gr. iiij.-viiij. several times a day, in solution with the addition of glycerin or alcohol, in neuralgias of the head and face, toothache, trigeminal neuralgia, the pains of locomotor ataxia, angina pectoris, spasmodic and teasing coughs, and pertussis.

℞ Butyl-chlorali,	3 ss.-i.
Spt. vini rectific.,	3 iiss.
Glycerini,	3 v.
Aq. destillatæ,	℥ iv.

M. S. Three or four teaspoonfuls at a dose. (Facial neuralgias and toothache.)

℞ Butyl-chlor. hydrat.,	3 ss.-i.
Glycerini,	℥ i.
Syr. aurant. cort.,	3 v.
Aq. destillatæ,	℥ iiij.
Ol. fœniculi,	gtt. v.

M. S. A tablespoonful, to be repeated in five or ten minutes if necessary. (In tic douloureux and other neuralgias.)

CAFFEINA.

Similar to theine, and is also contained in guarana (*q. v.*). A cup of coffee made with ℥ ss. of the ground berry, or of tea from 80 to 120 grains of the leaves, contains about 2 grains of caffeine, but in these hot drinks one gets also the effects of the volatile and empyreumatic oils. See also *Coffea* and *Guarana*.

Caffeine is an alkaloid prepared from coffee and tea (cardiac tonic and diuretic), occurring in white, shining elastic needles, soluble in 80 parts of water, 50 of alcohol, and 9 of chloroform, but only slightly soluble in ether. It is used as a substitute for digitalis in most cardiac affections and also in nephritis, croupous pneumonia, and emphysema. It regulates the heart's action and causes the removal of œdema through increased diuresis. It is often effectual in cases where digi-

talis (which it cannot always replace) fails, and *vice versa*; it has the advantage of rapid action (its effects likewise rapidly disappear) and of possessing no cumulative effects. Its administration at the same time with narcotics, especially morphine, is not to be recommended.

Internally employed in doses of gr. i.-vi. (or gr. xij.-xxx. per day in divided, preferably hourly doses) in all cases in which digitalis may be indicated. For migraine and other forms of headache it may be given in powders of gr. i.-iij. several times a day. It has also been employed in small doses for insomnia, but is unreliable. It is given by subcutaneous injection (gr. xv.-xxx. in ʒ iss. of water) to meet the same indications as when internally employed. On account of their greater solubility (1 part in 2 of water), the double salts with sodium are to be preferred for hypodermic use.

Caffeinæ Citras, Hydrobromas, Sodio-benzoas, Sodio-cinnamas, and Sodio-salicylas.—The citrate of caffeine may be given in the same doses as the uncombined alkaloid (though not by hypodermic injection), but the double salts above enumerated contain only from 50% to 62.5% of caffeine, so that 5 grains of caffeine represent 10 grains of the sodio-benzoate, and 8 grains of the sodio-cinnamate and sodio-salicylate.

Æthoxycaffeina.—A narcotic sedative. Employed internally in doses of gr. iij.-viij. for facial neuralgia and migraine.

℞ Caffeinæ, gr. xv.
 Pulv. guaranæ,
 Sacch. albi, aa ʒ ss.
 Mucil. acaciæ, q.s.

M. et ft. pil. No. 30. S. Two pills every half-hour, allowed to dissolve slowly in the mouth. (May be tried in hemi-crania.)

℞ Caffeinæ citratis,
 Extr. tritici, āā gr. viij.

M. et ft. pil. No. 10. S. One pill every two hours. (Hemi-crania.)

℞ Caffeinæ sodio-benzoatis, ʒ ss.
 Aq. destillatæ, ʒ iiss.

M. S. Fifteen to 30 drops by subcutaneous injection.

℞ Caffeinæ sodio-benzoatis, ʒ ss.-i.
Sacchari albi, ʒ i.

M. et div. in chart. No. 10. S. One powder three times a day. (Migraine, heart disease, dropsy.)

℞ Æthoxycaffeinæ,
Sodii salicylatis, āā gr. iv.
Cocainæ hydrochlor., gr. i.
Syr. simplicis, ʒ v.
Aquæ tiliaë, ʒ ij.

M. S. May be taken at one dose, for the relief of migraine or facial neuralgia.

CALAMUS.

Internally employed as an aromatic bitter in atonic dyspepsia, in doses of gr. viij.—xxx. several times a day in powder, or in five to ten per cent infusion.

Externally, sweet-flag is used in baths in the proportion of one-half to one pint of the infusion to the bath.

Tinctura Calami.—Given in doses of ʒ ss. or more several times a day as an ingredient in stomachic and nervine mixtures.

Extractum Calami.—*Internally* employed in doses of gr. iss.—viij. repeated several times a day.

Oleum Calami.—Used in doses of $\frac{1}{2}$ to 2 drops added to tinctures, emulsions, or oil-sugars.

Mariazell Stomach Drops.—A tincture containing calamus, gentian, rhubarb, zedoary, anise, and fennel, each 10 parts; aloes, 5; benzoin, $7\frac{1}{2}$; balsam of tolu, 10; and alcohol, 600.

℞ Infus. calami (rad., ʒ ss.), ʒ ij.
Gum. acaciæ, ʒ i.
Sacch. albi, ʒ ij.

M. S. One or two teaspoonfuls every two or three hours, in dyspepsia and diarrhœa of children.

℞ Infus. calami (rad., ʒ ij.), ʒ v.
Tinct. cinchonæ comp., ʒ i.
Acid. hydrochlor., ℥ xv.
Syr. cinnamomi, ʒ v.

M. S. A tablespoonful every two to three hours, in atonic dyspepsia.

CALABAR BEAN.

See Physostigma.

CALX.

Quicklime, oxide of calcium, caustic lime, is employed externally only, mixed with equal parts of caustic potash, as Vienna paste (potassa cum calce).

Liquor Calcis.—Lime water is an antacid and mild astringent, and is an absorbent for carbonic acid.

Internally employed pure in doses of $\frac{3}{4}$ ss.—v. several times a day; best in the morning, taken like mineral waters with equal quantities of warm milk, sweet whey, water, or meat broths. Children may take it with milk or sugar.

1. In pyrosis, chronic diarrhoea, especially that of children caused by acid fermentation of food or due to intestinal ulceration. As lime water forms an insoluble soap with the fatty acids, it furnishes an excellent protection to ulcers of the intestine or of the skin, under which cicatrization can take place as beneath a plaster.

2. In cystitis, pyelitis, rachitis, and osteomalacia.

Externally—(a) Sprays and gargles of lime water are useful in phthisis or pharyngitis with tough adherent mucous secretion, and in diphtheria and croup; for this purpose it may be used pure or mixed with equal parts of water with the addition of $\frac{1}{10}$ part glycerin or one per cent carbolic acid; it appears to be the best solvent we possess for the pseudo-membrane. It may also be found useful by enema in dysentery.

(b) In burns (equal parts lime water and linseed oil with a little carbolic acid), profusely suppurating ulcers, moist skin eruptions, etc.

CALX CHLORATA.

A disinfectant, employed only externally and in sprays and vapor. Chloride of lime is wet with weak vinegar, and old cloths dipped in the solution are hung up on lines about the room. For washing the effects of a patient, a solution of 3 vi.—xij. in a quart of water is employed. The powder may be added pure to fecal matters. For removing the cadaveric odor from the hands after dissection, a thin paste of chloride of calcium

with water, to which is added a little sulphuric or hydrochloric acid, may be used.

CALCII CARBONAS PRÆCIPITATUS.

Exists in crude form as creta (chalk) and also in conchæ præparatæ (burnt oyster-shells). Soluble only in water containing carbonic acid gas.

Employed as an antacid under the same conditions as lime water, and is to be preferred to other alkaline carbonates in diarrhœa, while it is contra-indicated when there is a tendency to constipation.

Internally employed in doses of gr. viij.-xxx. and more, several times a day, in powders, lozenges, and suspension, for pyrosis and rickets.

Externally as a dusting-powder, pure or mixed with charcoal, alum, camphor, or quinine, as a tooth powder, and as a liniment mixed with oil for burns.

℞ Calc. carb. præcip.,	℥ ss.
Pulv. iridis flor.,	gr. xlv.
(Cocci,)	q.s.)
Ol. caryophyl.,	gtt. x.
Ol. bergamot.,	gtt. i.

M. S. Antacid tooth powder.

℞ Calcii carb.,	3 i.
Ferri carb.,	3 ij.
Sacch. lactis,	
Elæosacch. fœniculi,	āā 3 ss.

M. et ft. pulvis. S. As much as can be taken on the end of a knife-blade three times a day. (Rachitis.)

℞ Calcii carb. præcip.,	3 i.
Aq. fœniculi,	℥ iiij.
Syr. amygdalæ,	℥ ss.

M. S. A dessertspoonful every hour. Shake the bottle before using.

CALCII PHOSPHAS PRÆCIPITATUS.

Phosphate of lime, with the carbonate, occurs in bone and gives it its hardness.

Internally employed in conjunction with hygienic and

dietetic measures in the treatment of rickets, in doses of gr. viij.-xxx. several times a day in powder (it may be added to the food); for scrofulous and marasmic children to control the diarrhœa and vomiting; in tuberculosis, caries, delayed callous formation in fractures; and for pregnant and nursing women. It is soluble in carbonated water, solutions of common salt, and in acids; it is partially soluble, therefore, in the gastric juice, but, as the proportion of acid in the latter is too feeble to effect a complete solution, the drug is usually given in combination with lactic acid (syrup of the lactophosphate of lime).

℞ Calcii phos. præcip., gr. xlv.
 Calcii carb. præcip., gr. xxx.
 Ferri reducti, gr. viij.
 Chocolate, q.s.

M. et ft. trochisci No. 30. S. One lozenge three times a day.

℞ Calcii phos. præcip., ʒ i.
 Calcii carb. præcip., ʒ ij.
 (Ferri lactatis, gr. xv.-xxx.)
 Sacch. lactis, ʒ i.

M. et ft. pulvis. S. A level teaspoonful three times a day in the food.

CALOMEL.

See Hydrargyri Chloridum Mite.

CAMBOGIA.

Gamboge, a gum resin obtained from the *Garcinia Hanburii* (nat. ord. Guttiferæ). A drastic cathartic, employed in doses of gr. i.-vi. (maximum dose, gr. viij., or gr. xv. pro die), in emulsion or pill form, usually in combination with other remedies.

CAMPHORA.

A white, tough, crystalline mass or crystalline powder, very slightly soluble in water, but readily so in alcohol, chloroform, and ether, and readily pulverizable on the addition of a few drops of any one of these three substances.

In medicinal doses camphor is a stimulant to the brain and spinal cord, lowers the temperature, but does not act mea-

surably upon the heart. It is also expectorant and diaphoretic.

Internally employed in doses of gr. i.-v. in powder, pill, solution, or emulsion. (Camphorated oil—linimentum camphoræ, U. S. P.—contains 1 part of camphor to 4 parts of cotton-seed oil.)

1. As a stimulant in collapse occurring in the course of acute fevers, and in narcosis from opium, alcohol, or belladonna poisoning.

2. As an expectorant, similar to benzoin, and usually in combination with it.

3. For the relief of chordee in gonorrhœa.

Externally as a stimulant and antiseptic application to sluggish granulations, to local œdemas, bruises, and sprains unaccompanied by distinct inflammatory reaction. It is also added to pillows of aromatic herbs, usually in the form of some of its preparations. Small pieces of camphor covered with cotton and inserted in the external auditory canal are used in toothache. The addition of camphor to stiff plasters makes them more flexible.

Subcutaneously a solution of camphor in ether (1:5) or oil (1:4) acts as an energetic stimulant in asphyxia and collapse. If the oil is used, a hypodermic needle with tolerably large lumen should be selected.

Vinum Camphoratum.—Composed of camphor and alcohol, each 1 part; gum arabic, 3 parts; white wine, 45 parts. It is employed as a dressing to bed-sores and atonic ulcers.

Spiritus Camphoræ.—Composed of camphor, 1 part; alcohol, 7 parts; and water, 2 parts. Is employed chiefly externally.

For Camphorated Liniment of Ammonia and Camphorated Soap Liniment, see Ammoniaë Aqua.

℞ Camph. pulv., gr. v.-xxx.
Sacch. albi, ʒi.

M. et div. in chart. No. 10. S. One powder in a wafer every one to three hours.

℞ Camphoræ, ʒi.
Ætheris, ʒij.

M. S. Twenty to 30 drops in wine.

- ℞ Camph. pulv., 3 ss.
 Adipis, 3 v.
 Acid. hydrochlor. pur., ℥ xv.
 M. et ft. unguentum. To be applied at night. (Chilblains.)
- ℞ Camphoræ, gr. xv.
 Ætheris, 3 ss.
 Ol. olivæ, 3 ij.
 M. S. For use in hypodermic injection (15 to 30 drops).
- ℞ Camphoræ, 3 ss.
 Ergotæ, 3 i.
 Mucil. acaciæ, q.s.
 M. et ft. pil. No. 50. S. One pill morning and night. (Prolutions, priapism, chordee.)
- ℞ Camphoræ, gr. xv.
 Ol. olivæ, 3 ij.
 Mucil. acaciæ, 5 v.
 M. et ft. emulsio et adde
 Syr. simplicis, 5 i.
 M. S. A tablespoonful every two hours.
- ℞ Camphoræ, gr. viij.
 Acid. tannici, gr. xv.
 Pulv. acaciæ, 3 i.
 M. et div. in chart. No. 10. S. One powder every hour or so, as required. (Cholera.)

CAMPHORA MONOBROMATA.

Internally recommended as a sedative in doses of gr. iss.—viij. in powder, pills, emulsion, or best in capsules (1½ grains each) in various forms of neuroses and neuralgia, but seems to be more especially efficacious in those conditions when associated with irritable conditions of the genito-urinary organs, and in palpitation of the heart.

CANNABIS INDICA.

Indian hemp in form of the herb is seldom employed, except in powder combined with the extract to make pill masses and in cigarettes for use in asthma. A preparation of the herb is sold in Eastern countries, under the name "hashish," and used as an intoxicant, but the medicinal employment of this

preparation, on account of its varying strength and unreliability, is not to be recommended. It is, however, sometimes burned, and the fumes inhaled for the relief of asthma.

Extractum Cannabis Indicæ.—A thick, dark green extract, insoluble in water. Maximum dose, $1\frac{1}{2}$ grains, or 6 grains per day.

Internally employed in doses of gr. ss.—iss. two or three times a day in pill or emulsion as a hypnotic and sedative; but its effects, as those of all the preparations of cannabis indica, are so very uncertain, often negative, and sometimes alarming that it would be better to abandon the medicinal use of the drug. A single daily dose of $\frac{1}{4}$ to $\frac{1}{2}$ grain, continued for a long period, has been highly recommended in the treatment of migraine.

Externally it is employed in ointments or liniments for the relief of local inflammatory, rheumatic, or neuralgic pains.

Tinctura Cannabis Indicæ.—*Internally* employed in doses of 10 to 30 minims, pure or diluted with some other tincture. The extract answers every purpose, and this preparation could readily be dispensed with.

Cannabinum Tannicum.—Given in doses of 10 to 20 drops (maximum dose 3 ss. a day), as a hypnotic. It is an unnecessary preparation, yet it seems to have a reliable and not unpleasant action.

Cannabinum and Balsamum Cannabis Indicæ are two preparations which have been used as hypnotics but are liable to produce unpleasant symptoms, and their use is not to be recommended.

℞ Ext. cannabis ind.,

Pulv. cannabis ind., āā gr. xv.

M. et div. in pil. No. 20. S. One or two pills at a dose. (Hypnotic.)

℞ Extr. cannabis ind., gr. iij.

Lin. ammoniæ camph., 3 vi.

M. et ft. liniment. S. For external use in the pains of chronic rheumatism.

CANTHARIS.

Internally Spanish fly is employed in doses of gr. i. as a diuretic, emmenagogue, and aphrodisiac, but acts injuriously upon the kidneys, and is better not used. For poisoning with

cantharides give emetics and diluent drinks, but no oily fluids.

Externally employed in all the usual ways as a derivative, rubefacient, and vesicant, but caution must be exercised, as even the external application may cause strangury.

Cantharidinum.—The active principle of the drug, employed only in combination with potassium or sodium. (Dissolve 3 grains of pure cantharidin and 6 grains of potassa in 300 minims of water, over a water bath, and dilute to two pints. Fifteen minims contain $\frac{1}{30}$ grain.) It is recommended in doses of $\frac{1}{30}$ grain to at most $\frac{1}{15}$ grain by hypodermic injection in tuberculosis. (It was first used in tubercular laryngitis.) Larger doses of cantharidin cause serous exudations, even when the renal and pulmonary capillaries are normal; and the doses above given, while not affecting the healthy vessels, cause a serous exudation from the diseased capillaries, which exerts a favorable influence upon the surrounding tissues. From experiments thus far made, it is asserted that the drug causes a rapid cure of tuberculous ulcers in the larynx, subsidence of the local pulmonary symptoms, and an improvement in the general condition; but in several instances an unfavorable action upon the genito-urinary apparatus has been noticed. A further trial of the remedy is needed before positive statements can be made in regard to its therapeutical value.

Emplastrum Cantharidis.—*Externally* employed as a vesicant. When it is applied to one part for a short time only, and then removed to another, the process is known as applying flying blisters, and is recommended in acute articular rheumatism and other affections.

Unguentum Cantharidis.—*Externally* employed as a derivative and rubefacient in rheumatism and other pains, but will blister if kept too long in contact with the skin. The application of cantharidal ointment behind the ears is often efficacious in relieving toothache.

Oleum Cantharidis.—(Made by digesting 3 parts of cantharides in 10 parts of olive oil for ten hours over a water bath.)

Internally employed (rarely) in doses of gr. $\frac{1}{4}$ to $\frac{1}{2}$ two or three times a day in gelatin capsules or pills (made with vegetable extracts and powders) in the treatment of psoriasis and alopecia areata.

Externally in rubefaciant liniments.

Tinctura Cantharidis.—(One part cantharides to 20 alcohol.)

Internally employed (rarely) in doses of 4 to 10 drops three times a day in a mucilaginous mixture for atony of the bladder and impotence, but must be used carefully because of the danger of causing albuminuria.

Externally as a rubefacient.

Collodium cum Cantharide.—A very convenient and cleanly mode of producing vesication consists in painting the part, over the area desired, with cantharidal collodion.

℞ Tinct. cantharidis, ʒi.
 Ol. ricini, ʒxij.
 Ol. jasmini, ʒi.
 Ol. neroli, gtt. x.

M. S. Stimulating hair oil, for alopecia.

℞ Tinct. cantharidis, ℥xlv.
 Ol. olivæ, ʒvi.
 Spir. odorati, ʒxij.
 Ol. rosæ, gtt. iij.

M. S. Rub gently on the scalp by means of a sponge. (Alopecia.)

CARBO LIGNI.

Internally, wood charcoal is used in doses of gr. viij.—xxx. several times a day in powder, troches, or electuary to prevent fermentative changes in the stomach and intestine.

Externally in powder to ichorous ulcers, in tooth powders and mouth washes (3 to 5 parts in 100), and in ointments (10 parts to 25).

CARBONEI BISULPHIDUM.

Counter-irritant, diaphoretic. A colorless liquid, with sharp, disagreeable taste and smell.

Internally employed in doses of 1 to 6 drops (maximum, 40 drops per day), in milk, mucilage, sweetened water, or preferably in capsules, for rheumatism, gout, amenorrhœa, and paralysis. It is, however, unreliable and not to be recommended.

Externally, pure or mixed with equal parts of a fatty oil,

applied to disperse gouty swellings and enlarged glands. It is also employed as a local anæsthetic.

CARBONEI TRICHLORIDUM.

Stimulant and analeptic.

Internally employed in doses of gr. iss.–vi. (not more than ʒ ss. pro die), in powder triturated with sugar, or in alcoholic solution, in the asphyxia and collapse of cholera.

CARDUUS BENEDICTUS.

Blessed thistle may be given in powder or infusion, but the extract is more commonly used.

Extractum Cardui Benedicti.—*Internally* employed as a pure bitter in doses of gr. viij.–xxiv. several times a day, but enjoys a traditional reputation especially in the treatment of the dyspepsia of drunkards, and in bronchial catarrh and dropsy, when a bitter is indicated.

℞ Ext. cardui bened., ʒi.

Aq. amygdal. amaræ, ʒv.

M. S. Twenty to 40 drops several times a day. (Chronic catarrhs of the respiratory tract.)

℞ Ext. cardui benedicti, ʒi.

Ext. hyoscyami, gr. vij.

Aq. fœniculi,

Syr. glycyrrhizæ, āā ʒi.

Liq. ammon. anisati, ʒi.

M. S. One to two teaspoonfuls every two hours. (Chronic bronchitis.)

CARLSBAD SALTS.

See Sodii Sulphas.

CARLSBAD WATER.

For a "cure" away from Carlsbad, the water of the Mühl or Schloss-Brunnen is usually taken (although the chemical constitution of all the Carlsbad springs is about the same, the waters differing in temperature only). From two to four glasses of the water, warmed to from 100° to 120° F., are taken in the morning, fasting, the patient walking about in the mean while. In conjunction with the use of the waters a strengthen-

ing flesh diet with a little wine is prescribed, but the patient should avoid indigestible and fatty food, leguminous vegetables, acid fruits or drinks, and beer.

CARO.

The proportionate composition of the different sorts of meat and their nutritive value is shown in the following table, taken from Munk and Uffelmann, "Die Ernährung des gesunden und kranken Menschen," Vienna, 1887.

	Albumin.	Fat.	Salts.	Extractives.
Lean beef,	18.0	2.0	1.4	1.7
Raw scraped beef, free from fat,	20.0	0.5	1.4	1.7
Scraped ham,	23.5	1.5	3.7	—
Veal,	15.5	1.0	1.25	1.25
Domestic poultry,	22.0	1.0	1.0	1.3
Wild fowl,	23.0	1.0	1.2	1.5
Ordinary meat broth,	0.4	0.6	1.2	1.2
Expressed meat juice,	60-70	0.5	1.2	1.5
Meat broth with the yolk of egg,	3.16	4.2	1.8	1.2
Beef tea,	0.5	0.5	1.6	1.33
Meat extract,	—	—	22.04	58.0

Beef Tea.—A watery extract of meat, prepared with heat, which contains, as far as such an extract can, the greatest amount of the nutritive substance of the meat; it is a pale blood-red gelatin, which does not keep long, but soon becomes putrid.

Liebig's Cold Extract of Meat.—To six ounces of fresh meat (or chicken), cut fine, add eight ounces of water with a little salt and a few drops of hydrochloric acid; let it stand for one hour, strain through a hair-sieve and steep the residue in 125 parts of water. This is a very nutritious extract, but must be used within a few hours after being made.

Peptonum Carnis.—Meat peptones are usually in the form of pasty extracts, seldom of dry powders, which are prepared by the artificial digestion of beef with pepsin or pancreatin (1 part ordinarily represents 3 parts of meat). In quantities of three to seven ounces a day, they offer, with the addition of carbohydrates, fat, salts, and extractives (Liebig's meat extract furnishes the latter), an excellent nutrient material in cases of digestive disorders, feverish conditions, and during

convalescence from acute diseases. Beef peptones may be given by the mouth or rectum, but for the latter mode of administration, since fluids are frequently rejected, peptone suppositories are best. These are made in the proportion of 24 grains of peptone to 150 grains of meat, and are to be inserted oiled, the rectum having been previously cleaned out with an enema of tepid water.

Pancreatin.—Dry pancreatin is prepared by extracting the pancreas with dextrin or sugar of milk in vacuo; fluid pancreatin by extracting the cut-up organ with glycerin.

Internally the dry pancreatin may be given in doses of gr. viij.—xv., the liquid in doses of a teaspoonful, in cases of weak digestion. More commonly, however, the preparation is given by enema mixed with finely chopped beef. Leube's pancreas-meat enemas are made of finely scraped and chopped pancreas (ʒ xij.) and lean meat (ʒ ivss.) stirred up to the consistence of a thick porridge with water (ʒ iij.).

CARRAGEEN.

See Cetraria.

CASCARA SAGRADA.

The bark of *Rhamnus Purshiana* is a reliable and, as far as present experience goes, harmless purgative for use in habitual constipation.

Internally the crude drug may be employed in doses of gr. iv. in powder or capsules.

Extractum Cascaræ Sagradæ is stronger than the following. It may be given in doses of gr. i.—iss. in pills two or three times a day, but preferably in the evening, as its action is slow, the effects being produced only at the end of ten to twelve hours.

Extractum Cascaræ Sagradæ Fluidum.—This is the most usual form of administration of the drug. It is given in doses of 20 to 30 drops at night, or several times a day, in habitual constipation, dysentery, hemorrhoids, and fissure of the anus. It is more commonly, perhaps, given in mixture.

℞ Extr. cascariæ sagradæ fl.,
 Syr. zingiberis,
 Aq. destillatæ, āā ʒ i.

M. S. One to two teaspoonfuls at night, as required.

CASTANEA VESCA.

Chestnut is recommended in the treatment of catarrhal troubles, but especially whooping-cough. The dose of the fluid extract (extractum castaneæ fluidum) is one-half to one teaspoonful two or three times a day for children, and in correspondingly larger amounts for adults.

CASTOREUM.

Internally employed in doses of gr. viij.-xv. (of Siberian castor half the amount) in powder or pill in erethistic motor and sensory disturbances of hysterical persons, in cramps and neuralgias, and in cardialgia and vomiting.

Tinctura Castorei.—*Internally* given in doses of 20 to 30 drops several times a day; of the tincture of Siberian castor the dose is 10 to 30 drops.

Externally employed in infusion of chamomile (3:100) for blepharospasm; for ear-drops; given also by enema in doses of ℥ xv.-lx.

℞ Tinct. castorei, ʒ iiss.
 Infus. valerianæ, ʒ iv.
 Syr. anthemidis, ʒ vi.

M. S. A tablespoonful every two hours.

℞ Castorei, gr. viij.-xv.
 Potass. bromid.,
 Sacch. lactis, āā ʒ i.

M. et div. in chart. No. 10. Sig. One powder three times a day. (Antispasmodic powders.)

℞ Castorei, ʒ ij.
 Ol. theobrom., ʒ x.

M. et ft. suppos. No. 4. S. An antispasmodic suppository.

℞ Tinct. castorei,
 Tinct. valerianæ, āā ʒ ij.

M. S. Twenty to 30 drops three times a day. (Hysteria, cramps.)

CATECHU.

A dry extract of the wood of *Acacia Catechu*, employed where tannin is indicated. It is given in doses of gr. viij.-xxx. combined with opium (gr. $\frac{1}{4}$ to $\frac{1}{2}$), in powder or pill several

times a day, and also in solution made with hot water (3 to 5 parts in 100) with wine in chronic diarrhœa.

Tinctura Catechu.—Dose, 20 to 60 drops several times a day. It is also employed pure as a dentifrice.

CERII OXALAS.

Internally employed in doses of gr. i.–v. two or three times a day, in powder with sugar of milk, in various gastric affections, especially in cardialgia and vomiting of pregnancy; it is also given in seasickness.

CETACEUM.

Spermaceti is the purified solid portion of the contents of special cavities in the body of the sperm whale. It occurs in white, shining, unctuous masses, having a crystalline fracture.

Internally employed in doses of gr. xv.–xlv. in powder, emulsion (5:100), or mixed with cod-liver oil (50:200, liquefied with gentle heat—teaspoonful doses), in pulmonary phthisis and so-called scrofulous affections.

Externally used in the preparation of ointments.

CETRARIA.

Iceland moss (*Cetraria islandica* or *Lichen islandicus*) is a mucilaginous and starchy bitter, a nutrient stomachic. The bitter principle only is extracted in infusions, the other constituents in decoctions.

Internally employed in doses of ʒ iij.–v. a day in decoction or infusion, ʒ iiss.– $\frac{5}{3}$ v., or a heaping tablespoonful in two glasses of water as a tea; evaporated, as a gelatin; and also boiled with milk as an expectorant, nutrient, and stomachic, in bronchorrhœa, phthisis, and weak digestion.

If the nutrient or emollient, without the stomachic, properties are desired, a special preparation may be used from which the bitter principle has been abstracted, the mucilaginous part being left.

Chondrus.—Irish moss (*Chondrus crispus*, *Fucus crispus*, carrageen) is employed as a food, although its nutritive value is very slight; also as an emollient in irritable states of the larynx and intestinal canal.

CHARTA NITRATA.

See Potassii Nitras.

CHARTA RESINOSA.

Paper spread with pitch, colophony, and turpentine, employed as a mild counter-irritant, especially in rheumatism.

CHINOLINUM.

Antiseptic and antipyretic. Obtained from the distillation of quinine or cinchonine with alkalis. An oily fluid, of disagreeable taste and odor, slightly irritant to the stomach, which lowers the bodily temperature, and is said to act like quinine in malaria, intermittent fever, neuralgia, etc. It is, however, employed almost solely externally as an antiseptic in mouth washes and gargles (one-tenth to two per cent with oil of peppermint), and for painting the pharynx in diphtheria (five-per-cent solution in alcohol and water.)

Chinolini Tartras.—*Internally* employed in doses of gr. viij.—xv. (one-third to one-half as much for children) several times a day in wafers or in solution (gr. xv. in ζ v. of a mixture of equal parts of syrup of raspberry and water) as an antiseptic and antipyretic.

Externally used for the same purposes and in the same way as pure chinolin.

℞ Chinolini tartratis, gr. xv.
 Aq. amygdal. amar., ℥ viij.
 Syr. rubi idæi,
 Aq. destillatæ, āā ζ iiss.

M. S. A tablespoonful every three hours. (Lemon juice or cracked ice may be given to restrain vomiting.)

℞ Chinolini tartratis, gr. xxiv.
 Aq. destillatæ, ζ iv.
 Alcoholis, ζ v.
 Ol. menth. pip., gtt. ij.

M. S. To be used as a mouth wash, diluted with five to eight parts of water.

CHLORAL.

Chloral hydrate occurs in the form of colorless crystals, soluble in water and alcohol, having a sharp acrid taste. Maximum dose, gr. xlv., or ζ iss. pro die. It is a tolerably cer-

tain hypnotic and sedative (but not entirely free from danger) which acts chiefly as a depressant to the cerebral functions, and is therefore better adapted to cases in which the sleeplessness is due to excitability of the intellectual powers than when it is caused by pain, cough, or dyspnoea. Skin eruptions (erythema, urticaria, etc.) are not infrequently caused by it. The symptoms of acute poisoning from very large doses are irregular shallow respirations, weakened heart action, and lowered temperature; chronic poisoning, produced by the long-continued use of the drug in increasing doses (chloral habit) is manifested by catarrhal pharyngitis, nausea, indigestion, skin eruptions, and gradual loss of physical and psychic power. The treatment of acute chloral-poisoning (as also of chloroform-poisoning, *q. v.*) consists in artificial respiration and subcutaneous injections of strychnine (gr. $\frac{1}{30}$ to $\frac{1}{12}$). The contra-indications to the use of chloral are heart and lung affections, long-continued high fever, and ulceration of the intestine.

Internally employed: (1) In doses of gr. xv. (increased, if necessary, to the maximum dose of gr. xlv.) in solution in sleeplessness due to the cause above mentioned.

2. In somewhat larger or full doses in psychic derangements running all the way from nervous excitability up to delirium tremens, puerperal eclampsia, and acute mania (gr. xxx.-xlv. in one dose at the beginning of the attack); also in tetanus.

3. In various other conditions, such as nervous asthma, obstinate hiccough, seasickness (in order to give the organism time, during sleep, to accustom itself to the motion of the vessel), nocturnal pollutions (in small doses), and as an antidote to strychnine-poisoning (initial dose of gr. xxx.-xlv., repeated in smaller amounts).

4. During child-birth when the pains are very severe, after the bag of waters has ruptured, in doses of about 15 grains every fifteen to thirty minutes until four have been taken. The woman then sleeps quietly between the pains and finds them also much reduced in severity. In very impressionable women a few whiffs of chloroform may also be given at the beginning of each pain.

5. In trismus and tetanus neonatorum, and convulsions from teething or due to scarlatinal nephritis (nurslings bear doses of gr. $\frac{1}{2}$; children from three to four years old, gr. iv.;

from five to ten years, gr. viij.); in chorea, in doses of gr. viij. morning and night, or gr. xv. at night, for children of five to ten years, and double the amount for those over ten years old; in laryngismus stridulus; and as a palliative in whooping-cough so long as no secondary changes in the lungs have taken place (gr. v.-xv. a day, in divided doses every two hours, for children from one to ten years of age).

Externally, chloral hydrate in ten-per-cent solution exercises a restraining influence on fermentative changes (lactic-acid fermentation), and is mildly caustic when applied to mucous membranes and to wounds. In diphtheria, painting the parts with a fifty-per-cent solution, afterward reduced, has been recommended. For urticaria a wash is employed of: choral, gr. xlv.; cherry-laurel water, ℥ i.; distilled water, ℥ vi. Warts and corns may be painted with a solution of gr. xx. : ℥ i. of water. Chloral is also given by enema or suppository, in the same dose as for internal administration as a hypnotic; thus, about 30 grains in half a glassful of water, with the addition of six or eight drops of laudanum if desired. In toothache a small grain of it may be wrapped in a pledget of cotton and inserted into the cavity of the tooth.

Chloral should not be employed subcutaneously, on account of the danger of abscess.

℞ Chloralis,
 Camphoræ, āā ℥ i.
 Cocainæ hydrochlor., gr. xij.

M. S. Apply heat until the mixture boils, then soak pledgets of cotton in it and press into the cavity of the tooth. (Toothache from caries.)

℞ Chloralis, 3 i.
 Syr. aurant. cort., 3 vi.
 Aq. destillatæ, 3 x.

M. S. A tablespoonful (15 grains of chloral) at night, and increased if necessary.

℞ Chloralis, 3 iiss.
 Morph. hydrochlor., gr. iss.
 Syr. aurant. cort., 3 xij.
 Aq. destillatæ, ℥ iiss.

M. S. A tablespoonful every hour or two as a nervous sedative in mental disorders, etc.

℞ Chloralis,	3 iss.-iij.
Ceræ flavæ,	3 iss.
Ol. theobromæ,	3 iij.

M. et ft. suppos. No. 6

℞ Chloralis,	gr. iss.-vij.
Mucilag. acaciæ,	3 vij.

M. S. For enema. (Convulsions of children.)

CHLORALUM FORMAMIDATUM.

Chloralamide occurs in the form of colorless crystals, soluble in 9 parts of water, and freely in alcohol. Hypnotic (3 parts chloralamide equal in strength 2 parts of chloral hydrate).

Internally employed in doses of gr. xxx.-xlv. (maximum dose, 3 i.) at night in powder, wafers, or dissolved in water or beer. In insomnia potatorum or in the wakefulness of neurasthenia it induces, in three-quarters to one hour, a deep sleep of several hours' duration without any unpleasant after-effects, such as the feeling of fatigue and depression experienced after the use of sulphonal. It has also been recommended in much smaller doses in nervous diseases, cardiac troubles, phthisis, anæmia, arthritis deformans, syphilis, and lead-poisoning; but more thorough experiments are needed to test its efficacy in these conditions.

CHLOROFORMUM.

Chloroform is taken into the blood through the lungs in the form of gas, and, after a brief primary stage of excitation, paralyzes first the centres for sensation and consciousness, much later the respiratory centres, and ordinarily last of all the cardiac. Only purified chloroform should be employed, as the chemically impure drug is more apt to produce asphyxia. When it is necessary to use a sample of chloroform the purity of which is suspected, it should be shaken up with four parts of water, and then the latter, when it has risen to the top, is drawn off (Nothnagel and Rossbach).

A subcutaneous injection of atropine and morphine (see formula) before the administration of the chloroform hastens the narcosis, makes it more profound, and renders the awakening much more pleasant.

Employment of chloroform by inhalation:

a. As an anæsthetic in surgical and obstetrical operations, and also during labor when the pains are very severe or the woman especially sensitive to them; in the latter case the inhalation shall not be carried to full narcosis, but repeated at the beginning of each pain.

b. In spasmodic asthma, tetanus, puerperal and infantile eclampsia, convulsions, strychnine-poisoning, delirium tremens, angina pectoris, and dyspnoea in pneumonia (inhalation for several minutes of about 30 drops every hour or half-hour). In many cases (hernia, dislocations) it is employed merely to produce muscular relaxation; and it may also be given in scrofulous ophthalmia, when photophobia is present, to facilitate examination.

Special caution should be observed in administering chloroform to nursing infants and the aged, in cases of chronic alcoholism, marked anæmia acute or chronic, obesity, cardiac affections, aneurism, and diseases of the respiratory organs with diminished breathing capacity.

Internally employed in doses of 2 to 5 drops on sugar (maximum dose, ℥ viij.), or in mixture with glycerin or syrup (℥ viij.—xxx. in ℥ i.—dose a teaspoonful), in painful and spasmodic affections of the stomach, in neuralgia, lead colic, seasickness, vomiting of pregnancy and of phthisical patients; also strongly recommended in the cold stage of intermittent fever (as a palliative) and during the apyrexial period (as a remedy), and in cholera; it has recently been employed in the treatment of tape-worm (see formulæ).

Externally employed as a local anæsthetic, pure or mixed with equal parts of olive oil, hyoscyamus, vaselin, glycerin, lard, soap liniment, or alcohol, applied simply to the parts or on cotton; a pledget of cotton moistened with any of these mixtures may be inserted into the cavity of an aching tooth, into the external auditory canal in earache, etc. It is also employed (2:100 water) to arrest the bleeding after the extraction of a tooth.

The treatment of chloroform-poisoning consists in the subcutaneous injection of strychnine in dose of $\frac{1}{12}$ grain, inhalation of nitrite of amyl, artificial respiration the tongue being drawn forward, faradization of the phrenic nerve, insertion of a piece of ice into the rectum, and if necessary tracheotomy.

℞ Chloroformi, ℥ xxiv.
Tr. valerian. æther., ʒ iiss.

M. S. Ten to 20 drops every hour. (Hysterical neuralgias and convulsions.)

℞ Chloroformi,
Ext. aspidii, āā ʒ i.
Emul. ol. ricini, ʒ iij.

M. S. Half this quantity at a dose morning and evening, to cause the expulsion of a tape-worm.

℞ Morph. hydrochloratis, gr. iij.
(Atropinæ sulphatis, gr. ʒ)
Aq. destillata, ʒ v.

M. S. Fifteen to 20 drops by hypodermic injection twenty to twenty-five minutes before the induction of narcosis.

℞ Chloroformi, ℥ xl.
Syr. simpl., ʒ iij.

M. S. One teaspoonful very hour. Shake thoroughly before using. (In the sleeplessness of old age when opium is contra-indicated, and in asthmatic attacks.)

℞ Chloroformi, ℥ xviiij.
Mucil. acaciæ, ʒ iiss.
Aq. destillata, ʒ iv.

M. S. Two tablespoonfuls at a dose. Shake the bottle thoroughly. (Seasickness.)

℞ Chloroformi, ʒ i.
Tr. aconiti, ʒ iij.
Sp. odorati, ʒ ij.

M. S. For external application.

℞ Chloroformi, ʒ v.
Ætheris, ʒ x.

M. S. A cloth moistened with the mixture to be applied over the sacrum. (Gives great relief in labor when the pains are felt with especial vehemence in this region.)

℞ Ext. opii,
Camphoræ, āā gr. viij.
Bals. peruvianæ, gtt. viij.
Mastiches, gr. xv.
Chloroformi, ʒ iiss.

M. S. To be applied on cotton to an aching tooth.

℞ Chloroformi,
Acidi acet., āā ʒ ij.

M. S. To be rubbed on the skin, or applied by means of compresses. (An excellent local anæsthetic.)

℞ Chloroformi, ʒ iv.
Ol. cajuput., ʒ ij.
Camphoræ, ʒ i.
Ol. caryophyll., gtt. iij.

M. S. To be applied on cotton to an aching tooth.

℞ Chloroformi, ℥ xv.
Vitell. ovi unius,
Aq. destillatæ, Oij.

M. et ft. emulsio. S. One-third of this quantity in enema. (Lead colic.)

CHONDRUS.

See Cetraria.

CHRYSAROBINUM.

Pulvis ararobæ, Goa powder, is the purified pith of the stems of *Andira araroba*. It is not identical with chrysophanic acid.

Internally employed as an emetic and cathartic in doses of gr. v. for very young children, gr. viij. for children of twelve years, and gr. xv. for adults. It should be taken on an empty stomach, in which case doses of gr. viij.–x. in alkaline solution or pills will usually suffice. Not to be recommended.

Externally in mixture with vinegar or lemon juice, in ointment (1 to 5 in 25 parts, with the addition of a few drops of vinegar), or in collodion or traumaticin (1:10) in herpes circinata or tonsurans, pityriasis versicolor, and especially psoriasis. It must be employed with care, as it is a local irritant and is liable to excite unpleasant symptoms in parts where the skin is tender and on mucous surfaces (conjunctivitis, etc.); it is better never to use it on the face or hairy scalp.

℞ Chrysarobini, gr. xv.–xxx.
Adipis, gr. xv.
Lanolin, ʒ ij.

M. et ft. unguentum. S. For external use in psoriasis.

℞ Chrysarobini,	gr. xv.
Ol. cadini,	ʒi.
Collodii,	ʒss.

M. S. For external use in chronic eczema with much itching.

CINCHONA.

Antipyretic, antiperiodic, tonic, antiphlogistic, antiseptic, and stomachic. Up to the present time no satisfactory explanation has been given of the therapeutic action of cinchona bark, its preparations and alkaloids, especially quinine. The latter is absorbed by the mucous membranes and subcutaneous tissues, and excreted chiefly in the urine. Given in doses of more than 10 grains it is apt to produce ringing in the ears, deafness, vertigo, and nausea; large toxic doses of ʒi. and more are followed often by collapse in addition to disturbances of sight and hearing and mental hebetude. Small doses increase the rapidity of the pulse and raise the blood pressure, while large doses have the contrary effect. An idiosyncrasy exists in many persons in whom the use of quinine causes an eruption, resembling urticaria, erythema, purpura, or measles, or a high fever. The alkaloid is an active poison to the lower organisms (less injurious to mould fungi and schizomycetes than to the other forms). The long-continued employment of quinine is said to weaken the sexual appetite, and in persons of advancing age to destroy it entirely.

The indications for the use of cinchona, and more especially of quinine and its salts, are the following:

1. In malaria, quinine and its salts are a sovereign prophylactic and remedy. The regular use of the drug in malarious districts affords a certain degree of protection against the disease, but it must be taken in solution and in sufficient dose.

2. In chronic malarial poisoning and in the malarial cachexia, quinine employed for a long period in moderate or large doses (gr. xxx.–xlvi. per diem) not only controls the pyrexial attacks and the periodical neuralgia, but also reduces the enlarged liver and spleen, and brings about a complete cure through improvement in the general nutrition; it also acts in a similar manner in leucocythæmia.

3. In intermittent fever (quotidian or tertian) the remedy is to be given in moderate doses (gr. viij.) two or three times

a day in the apyrexial interval, and in one large dose (gr. xv.-xxiv.) from five to eight hours before the time of the attack. It is of little or no use to give quinine during the fever. In severe forms of the disease large doses should be given at short intervals (up to gr. lxxv. in twelve hours).

4. In remittent fever, the remedy is to be employed in medium doses during the remission.

5. In masked periodical fevers, intermittent neuralgia, periodical headache or toothache, and other forms of recurring pain, the quinine should be administered as in intermittent fever. Irregular masked forms of fever, neuralgias, etc., call for the continued administration of quinine in doses of gr. xv.-xxiv. for weeks at a time.

6. As a general antipyretic, quinine is surpassed in efficiency by the modern synthetic remedies, such as antipyrine.

7. In septicæmia and pyæmia it should be given in large doses (gr. xv. or more), together with generous quantities of wine, as early as possible; it often acts very efficiently in these cases, but is also frequently surpassed by antipyrine.

8. In many nervous and neuralgic conditions, especially neuroses of sensation, even when they are not distinctly periodical, though probably of malarial origin, quinine is often of service.

9. In whooping-cough the drug may be given in not too small doses (gr. iss.-xv. per day according to the age of the patient); here also local applications of quinine, in solution or powder or spray, are useful.

10. Less reliable, yet not to be denied, is the action of quinine as a stomachic tonic to increase the appetite and improve the digestion, as a tonic during convalescence from acute diseases, etc. For this purpose it is given in various forms of tinctures, wines, etc.

Cinchonæ Cortex.—According to the requirement of the U. S. P., cinchona bark must contain at least three per cent alkaloids (two per cent quinine). It is employed usually in the form of a decoction (10 to 20 parts in 150), but not often, as it taxes the digestive powers, being usually replaced by quinine.

Extractum Cinchonæ.—*Internally* employed in doses of gr. viij.-xxx. several times a day in pill or mixture. *Externally* in mouth washes, for local applications, etc.

Tinctura Cinchonæ.—Given in doses of a teaspoonful three times a day in wine, or pure, as a stomachic.

Tinctura Cinchonæ Composita.—Whytt's tincture of bark (elixir roborans) is composed of: cinchona, 6 parts; gentian and orange-peel, each 2 parts; cinnamon, 1 part; macerated in 50 parts of alcohol. Used as a stomachic in doses of ʒ ss.—i.

Huxham's tincture (Tr. Cinchon. Comp., U. S. P.) is made with red cinchona bark, bitter-orange peel, and serpentaria, and is employed for the same purposes as the above, in doses of ʒ i.—ij.

Quinina.—The pure alkaloid is seldom used, being replaced by the salts, whose action, when taken in solution with or followed by a few drops of hydrochloric acid, is more rapid.

Quininæ Bimuriatica Carbamas.—The double hydrochlorate of quinine and urea is a very soluble salt, and is therefore adapted for hypodermic use (gr. xv.—xxx. in ʒ iiss. water).

Quininæ Bisulphas.—*Internally* employed for the same purposes and in the same doses as hydrochlorate of quinine, and on account of its ready solubility is adapted for hypodermic use and also for injection in gonorrhœa.

Quininæ Ferro-citras.—The citrate of iron and quinine (Ferri et Quininæ Citras, U. S. P.) is employed in cases of anæmia and chlorosis in which a tonic is indicated, in doses of gr. iss.—viij. several times a day in powder or pills.

Quininæ Hydrobromas contains about eighteen per cent bromine and seventy-five per cent quinine.

Internally employed in doses of gr. iss.—viij. several times a day, in powder, pill, or solution, in hysteria, neuralgia, and neuroses of the stomach. Also in hypodermic injection for the relief of obstinate hysterical vomiting and other gastric neuroses, and of periodical headaches, neuralgias, etc.

Quininæ Hydrochloras.—A favorite salt of quinine by reason of its ready solubility (in 3 parts of alcohol, and 34 parts of water).

Internally employed in intermittent fever in initial doses of gr. viij. two or three times a day in the apyretic interval, and in one large dose of gr. xv.—xxiv. in wafers for five to eight hours before the paroxysm. For malarial fevers in children, a dose of gr. iss. for each year of life may be given in milk with syrup of orange peel or saccharin. As a general antipyretic

in adults, it may be given in dose of gr. xv.–xlv., but with caution in case of the larger amount.

Quininæ Sulphas is employed like the preceding. The salt is soluble only in 800 parts of water, but may be dissolved readily by the addition of a few drops of dilute sulphuric acid.

Quininæ Tannas contains thirty per cent of quinine. Is but slightly soluble in water, but readily so in alcohol. Employed in doses of gr. iss.–viij. several times a day, in powder or pill, for diarrhœa; also recommended for whooping-cough.

Quininæ Valerianas.—Soluble in 100 parts of water. Employed like hydrochlorate of quinine in the treatment of neuroses.

Quinidina.—Various salts (hydrochlorate, sulphate, tannate) of this alkaloid may be employed in the same way and for the same purposes as the corresponding quinine salts.

Chinoidinum.—A resinous preparation obtained as a by-product in the manufacture of quinine, composed of a mixture of amorphous alkaloids. It is undoubtedly efficacious, and very cheap, and may on this account be used in dispensary and private practice among the poor. Its action is similar to that of quinine, but it must be given in two or three times the dose in pills, powders, or in alcoholic or aqueous solutions (in the latter case a little acid must be added to facilitate its solution).

Cinchonina.—The sulphate of cinchonine is less reliable in its action than the corresponding quinine salt, and must be given in doses half as large again. It is, however, often used for the same purposes in powder or pill.

Vinum Cinchonæ.—Made by adding 100 parts each of tincture of cinchona and glycerin to 300 parts of sherry wine.

A more speedy effect is obtained by giving quinine in solution, or in powder followed by a few drops of hydrochloric acid.

A solution for subcutaneous use is made with hydrochlorate of quinine, 1 part in 5 parts each of water and glycerin; if the solution be warmed before use, no reaction will be excited.

Inhalations of a solution of gr. xxiv. quinine hydrochlorate in $\frac{3}{4}$ x. boiling water are employed in pneumonia with delayed resolution.

℞ Cinchonæ succirub., 3 vi.
 Aurantii cort.,
 Cinnamomi,
 Calami, āā 3 i.
 M. et ft. pulvis. S. One teaspoonful stirred in Hungarian wine three times a day. (In convalescence from acute diseases.)

℞ Cinchonæ, 3 iiss.
 Coq. cum
 Aq. comm., q.s.,
 ad colat. $\frac{3}{4}$ v., et adde
 Vini rubri gallici, $\frac{3}{4}$ iss.
 Syr. cinnamomi, $\frac{3}{4}$ i.

M. S. A tablespoonful every two hours.

℞ Cinchonæ, $\frac{3}{4}$ iij.
 Valerianæ, $\frac{3}{4}$ iss.
 Alcohol, $\frac{3}{4}$ vi.
 Vini albi, Oij.

Macera p. dies 8. Filtra. S. Cinchona wine; one wine-glassful a day.

℞ Decocti cinchonæ (cinchon., 3 iiss.), $\frac{3}{4}$ v.
 Liq. potassii citratis,
 Syr. aurantii cort., āā $\frac{3}{4}$ ss.

M. S. A tablespoonful every three hours. (Pleuritis.)

℞ Quininae sulphatis, gr. xv.
 Acidi sulphurici, q.s.
 Aq. destillatæ, $\frac{3}{4}$ v.
 Syr. aurantii cort., $\frac{3}{4}$ i.

M. S. A tablespoonful every two hours.

℞ Quin. hydrochloratis,
 Ferri reducti, āā 3 ss.
 Ext. gentianæ, q. s.

M. et ft. pil. No. 30. S. Two pills three times a day. (In convalescence from debilitating diseases.)

℞ Quin. hydrobromatis, gr. xv.
 Ætheris, 3 ij.
 Alcohol, 3 ss.

M. S. To be taken at one dose before the attack. (Pernicious fever.)

℞ Quininæ hydrochloratis, gr. iss.-iiss.
 Sodii bicarb., gr. iiss
 Pulv. acaciæ, $\frac{3}{4}$ ss.

M. et div. in chart. No. 10. S. One powder insufflated into the larynx twice a day. (Microbicide.) (A specific for whooping-cough.)

℞ Extr. cinchonæ, gr. xlv.
 Medullæ bovis, $\frac{3}{4}$ vi.
 Ol. jasmini, $\frac{7}{8}$ i.
 Succi limonis,
 Tinct. cantharidis, āā ℥ xxiv.

M. et. ft. unguentum. S. Pomade for the hair.

CINNAMOMUM.

The inner bark of the shoots of the *Cinnamomum zeylanicum* (Ceylon cinnamon) or of the *Cinnamomum Cassia* (Chinese cinnamon).

An *aromatic stomachic*, acting also upon the uterus like, though much less powerfully than, ergot (and probably also on the smooth muscular tissue in general), and as a styptic and astringent. It is employed, therefore, as an adjuvant to remedies for diarrhœa and in the second, non-febrile stage of acute intestinal catarrh, and in torpidity and slight hemorrhage of the uterus, usually in combination with ergot.

Internally given in doses of gr. v.-xx. several times a day in powder, pill, electuary, infusion, and maceration ($\frac{3}{4}$ i.- $\frac{3}{4}$ ss. in $\frac{3}{4}$ v. of wine, water, or milk).

Externally as an ingredient of tooth-powders, catarrh snuffs, and enemata.

Aqua Cinnamomi.—Employed ordinarily merely as a vehicle, especially for solutions of quinine.

Oleum Cinnamomi.—Used to make oil-sugars, alcoholic solutions, and the water.

Syrupus Cinnamomi.—Employed as an adjuvant.

Tinctura Cinnamomi.—Given in doses of $\frac{3}{4}$ i.-ij. several times a day.

Tinctura Aromatica.—Composed of cinnamon, 5 parts; ginger, 2; galanga, cloves, and cardamom, each 1 part; in alcohol, 50 parts. Dose, 20 to 60 drops several times a day.

Pulvis Aromaticus.—Composed of cinnamon, cardamom,

and ginger. Given in doses of gr. v.-xv. several times a day, alone or as a corrigens.

Aqua Aromatica.—A water distilled from cinnamon and various other aromatics.

COCAINÆ HYDROCHLORAS.

Cocaine, the alkaloid obtained from the leaves of *Erythroxy-lon Coca* (*q. v.*), occurs in the form of translucent crystals, colorless and odorless, but having a bitter taste, soluble in alcohol and water; it is present in the leaves in the proportion of about two per cent. The use of cocaine in doses of less than 1 grain promotes a feeling of general well-being, similar to that caused by chewing coca leaves, and when applied locally to the mucous membranes produces local anæsthesia and anæmia, and in the eye dilatation of the pupil. Not infrequently in specially sensitive people, single doses of 1 grain and even less, especially when given hypodermically, give rise to alarming general symptoms, such as pallor, coolness of the surface, a feeling of weakness, gastric disturbance, irregular pulse, and a condition resembling alcoholic intoxication; sometimes also dyspnœa, stupor, or convulsions. Excessive doses or a too long-continued use of the drug may cause a mental and physical deterioration resembling idiocy. This is especially often seen in the case of victims of the morphine habit, who not infrequently are led to substitute cocaine for the morphine. The use of cocaine, and also the deprivation of it in one who has acquired the habit, may cause hallucinations of various sorts. For this reason great care should be taken that the amount of cocaine applied at one time to an absorbent surface should not exceed 1 grain. In acute poisoning the patient should be placed in a horizontal position, and be caused to inhale nitrite of amyl. In chronic poisoning the treatment should consist in the gradual withdrawal of the drug. In the case of a person addicted to morphine, cocaine should never be given in doses of more than 1 grain a day, its use should never be continued for more than six days in succession, and it should never be given hypodermically.

Internally employed in doses of gr. $\frac{1}{4}$ to i. (never more) in solution three times a day in gastralgia, obstinate vomiting, especially of pregnancy, seasickness, stenocardia, not depend-

ent upon actual lesions of the heart, whooping-cough, asthma, the lancinating pains of locomotor ataxia, distressing symptoms caused by deprivation of the drug in morphinomaniacs, depressed conditions, etc. In dyspepsia, gastric and intestinal catarrh, or the diarrhoea of children the effects of cocaine are not so marked.

Externally the action of cocaine as a local anæsthetic when applied to mucous membranes and other absorbent surfaces overshadows all others. It is employed (1) in ten to twenty per cent aqueous solutions prior to small superficial operations, but here it is frequently administered hypodermically *in loco*, as its action when applied to the skin, especially when inflammation is present, is practically nil.

2. In laryngeal examinations and operations, in minor operations upon the ear, the gums, tongue, tonsils, and nasal cavities, as well as the urethra, vagina, and rectum (5 drops of a twenty-per-cent solution contain, of course, 1 grain of the drug.)

3. For use in the eye a two-per-cent solution is of the proper strength; a few drops are introduced into the eye, and this is spread about over the conjunctiva and diluted by rapid winking, thus rapidly overcoming the smarting which the first introduction is liable to excite.

4. For the relief of already existing pains and irritable conditions of the most varied sort, such as toothache (painting the gum with a solution, putting a minute particle in the cavity of the tooth; for the painless extraction of a tooth an injection is made into the gum—see formula), ulcerated tooth, stomatitis, tonsillitis, laryngitis, laryngismus stridulus, whooping-cough, earache, tenesmus, vaginismus, and neuralgias of various kinds, especially of the trigeminus (see formula), in which case the drug is also employed subcutaneously in doses of 20 to 30 drops of a two-per-cent solution. In many of the above-mentioned conditions the effects of cocaine are very transitory and often uncertain.

5. For the relief of the distressing itching and burning associated with many affections of the skin, of insect bites, and of erysipelas of the face and scalp.

6. Urethral injections of a two-per-cent solution before the passage of urine, when scalding is present, and before the use of irritant injections.

7. As an ingredient of pain-producing substances to be employed in subcutaneous or submucous injection, in doses of not to exceed gr. $\frac{1}{3}$.

Cocaine may advantageously be employed by subcutaneous injection (in one to ten per cent solutions, which readily spoil, and may, therefore, be made with the addition of a minute quantity of sublimate) as a local anæsthetic in the majority of the above-named conditions. It must, however, be used with extreme caution, by reason of the not uncommon individual idiosyncrasy of many persons, in consequence of which very alarming symptoms may arise from the exhibition of moderate doses; and furthermore the danger of establishing a cocaine habit must always be borne in mind.

℞ Cocainæ hydrochlor., gr. iss.

Aq. amygdal. amaræ, ʒ iiss.

M. S. Ten to 15 drops several times a day, for gastralgia, vomiting, and pertussis.

℞ Cocain. hydrochlor., gr. iij.

Aq. destillatæ, ʒ iiss.

M. S. For instillation into the eye and injection into the urethra.

℞ Cocain. hydrochlor., gr. v.

Aq. rosæ, ʒ iv.

M. S. for application to the skin in erysipelas, or neuralgia.

℞ Cocain. hydrochlor., gr. iij.-iv.

Ol. theobromæ, ʒ ij.

M. et ft. suppos. No. 4. S. For employment in tenesmus.

℞ Cocainæ hydrochloratis, gr. vi.

Liq. hydrarg. chlorid. corrosiv. (1:10,000), ʒ iiss.

M. S. $\mathfrak{m}v$.-xv. by hypodermic injection. (For local anæsthesia. Cautiously in the treatment of the morphine habit.)

℞ Cocain. hydrochlor.,

Chloralis, āā gr. ss.

Aq. destillat., ʒ xij.

M. S. Two to 3 drops injected into the gum prior to the extraction of a tooth.

CODEINA.

See Opium.

COFFEA.

Internally in decoction of the roasted and ground berry as a stimulant, for the stupor of acute alcoholism and narcotic poisoning, as an antidote in poisoning with various alkaloids, and as a domestic remedy for headache.

Externally as an antiseptic dressing to wounds. Mixed in equal parts with iodoform it masks the disagreeable odor of this substance.

℞ Antipyrin.,	3 iiss.
Sodii bicarb.,	gr. xv.
Saccharini,	gr. iiij.
Infus. coffeæ,	̄v.

M. S. Two or 3 tablespoonfuls a day. (Syrupus Diabeticus.)

See also Caffeina.

COLA-NUT.

The seed of *Sterculia acuminata*, containing about two per cent caffeine and 0.5% theobromine.

Internally employed as a nervine in infusion (̄ iss.-iiij. in ̄ iiij.-x. of water).

Extractum Colæ Fluidum.—Given in doses of ʒ iss.-iiij. several times a day.

COLCHICUM.

An acrid narcotic, acting powerfully upon the stomach and intestinal canal and paralyzing the central nervous system. Death occurs through paralysis of respiration, or, according to some, of the heart.

Internally the powder of the seeds is employed (rarely) in doses of gr. i.-iiij. Its action in acute and chronic gout, as also in rheumatic affections of all kinds, is unreliable.

Tinctura Colchici and Vinum Colchici Seminis.—Made from 15 parts of the powder of colchicum seeds in 100 parts of alcohol or sherry wine. (The *Vinum Colchici Radicis* is made from 40 parts of the powdered root to 100 of sherry wine; dose, ʒ v.-xx.)

Internally employed in doses of ʒ x.-xl. (maximum dose,

3 ij. a day), sometimes with a few drops of laudanum, in gout and rheumatism.

Acetum Colchici.—*Internally* employed in doses of ℥ xv.–3 i. several times a day in saturation with carbonate of ammonium or potassium.

Colchicina.—*Internally* employed in doses of gr. $\frac{1}{4}$ to $\frac{1}{2}$ in solution or pill, from one to three times a day for gout and rheumatism, but with care; it may also be given in hypodermic injection.

℞ Tinct. colchici, 3 ij.
Tinct. opii camph., 3 ss.

M. S. Fifteen drops every four hours. (In acute rheumatism.)

℞ Colchicinae, gr. ss.
Alcoholis, 3 ss.
Aq. destillatæ, 3 iss.

M. S. Five to 10 drops in a tablespoonful of water two or three times a day. (To be stopped if it acts too freely on the bowels.)

℞ Tinct. colchici,
Tinct. guaiaci, āā 3 iij.
Tinct. opii, 3 i.

M. S. Thirty to 40 drops three times a day. (In chronic rheumatism.)

℞ Colchicinae, gr. i.
Pulv. althææ,
Mucil. acaciæ, āā q. s.

M. et ft. pil. No. 30. S. One pill three times a day. (In acute articular rheumatism.)

COLD-CREAM.

See Unguentum Aquæ Rosæ.

COLLODIUM.

A solution of gun-cotton (pyroxylin), 4 parts, in alcohol, 26 parts, and stronger ether, 70 parts.

Externally employed as a protective dressing, to make compression and to hold the edges of a wound in apposition, and combined with iodine as an application to enlarged

glands, orchitis, etc. Collodion may most easily be removed from the skin by washing with ether.

Collodium cum Cantharide.—See Cantharis.

Collodium Flexile.—Made with castor oil, 3 parts, Canada turpentine, 5 parts, and collodion, 92 parts. A softer and more flexible protective for burns, slight inflammations and frost-bites. A five-per-cent solution of salicylic acid (or one-tenth-per-cent solution of sublimate) in flexible collodion is useful in insect bites.

Collodium Corrosivum.—Composed of $\frac{1}{2}$ to 1 part of corrosive sublimate, 4 parts of ether, and 20 parts of collodion. It is employed to remove pigmented spots, mother's marks, etc.

℞ Collodii flexilis, ℥ i.
Terebinth., ℥ xxiv.
Ol. ricini, ℥ viij.

M. S. For painting the parts in erysipelas, zoster, burns, frost-bites, rheumatism, etc.

℞ Collodii, ℥ vi.
Liq. plumbi subacet., ℥ xv.

M. S. To be painted over the parts when bed-sores threaten.

℞ Collodii, ℥ v.
Ferri sesquichlor., āā 3 i.

M. S. A styptic collodion. (Not the collodium stypticum of the U. S. P., which is made with tannin.)

℞ Collodii, ℥ ss.
Morph. hydrochlor., gr. viij.

M. S. Collodium morphinatum. (For external application in neuralgia.)

COLOCYNTHIS.

A *drastic cathartic*, similar in its action to aloes but much more drastic. It is a favorite remedy, in doses of gr. ij.–viij., in powder, pill, or decoction, in dropsical conditions to produce watery stools, in cases in which other resorbents are contra-indicated.

Extractum Colocynthisis.—*Internally* employed in doses of gr. $\frac{1}{4}$ –i., as an intestinal irritant, and gr. i.–v., as a purgative.

Tinctura Colocynthisis.—*Internally* employed in doses of 5 to 20 drops (maximum, 3 i. pro die), in a mucilaginous vehicle, and as an ingredient of diuretic and drastic mixtures.

℞ Tinct. colocynth., ℥ viij.-xv.
 Sacch. albi, gr. lxxv.

M. et div. in chart. No. 10. S. One powder every two hours. (Obstipation and dropsy.)

℞ Ext. colocynth., gr. xv.
 Saponis, ʒ ss.
 Ol. anthemidis infusi, ℥ viij.

M. et ft. pil. No. 30. S. One to five pills at a dose. (Obstipation.)

℞ Ext. colocynth., gr. xv.
 Ext. aloes, ʒ ss.
 Ext. hyoscyami, gr. viij.

M. et ft. pil. No. 30. S. One pill at night, for habitual constipation. (The hyoscyamus is added to prevent griping.)

℞ Tinct. colocynth.,
 Tinct. scillæ, āā ʒ ss.
 Tinct. guaiaci, ʒ iij.

M. S. Twenty drops three or four times a day. (Diuretic.)

COLUMBA.

A mucilaginous bitter which does not affect the stomach, but is constipating.

Internally employed in doses of gr. viij.-xxx. several times a day in powder, but more commonly in infusion or decoction (ʒ ss.-ʒ v.) as a simple bitter in weak digestion; and also in chronic diarrhœa with dyspeptic symptoms, in chronic dysentery, and in intestinal tuberculosis.

℞ Decoct. columbæ, ʒ v.
 Tr. opii, ℥ xv.-xxx.
 Syr. amygdalæ, ʒ v.

M. S. A tablespoonful every two hours, in the diarrhœa of phthisis.

℞ Infusi columbæ, ʒ v.
 Post refriger. adde
 Elixir. aurant. comp., ʒ iss.
 Syr. simplicis, ʒ v.

M. S. One tablespoonful every two hours. (Contains the bitter principle of colombo, but not the mucilaginous portion. The latter is contained in the decoction.)

CONDURANGO.

A *stomachic*. Condurango bark has not maintained the reputation it once enjoyed as a specific for carcinoma of the stomach, yet it is (especially when prepared by maceration) a good stomachic, which improves the appetite and digestion even when cancer of the stomach is present.

Extractum Condurango Fluidum.—*Internally* employed in doses of 10 to 30 drops several times a day.

Extractum Condurango Alcoholicum.—Dose, gr. iss. in pill five to ten times a day. (1 part of the extract is the equivalent of 7 of the crude drug.)

Vinum Condurango.—Prepared by macerating 1 part of condurango in 10 parts of sherry wine for eight days, and then expressing. Dose, one tablespoonful several times a day.

Take of:

Condurango bark, 3 v.

Macerate in

Cold water, $\frac{3}{4}$ viij.

for twelve hours and then boil to $\frac{3}{4}$ v.

Strain and add

Hydrochloric acid, ℥ xxiv.

Syrup of orange-peel, $\frac{3}{4}$ ss.

Dose. One tablespoonful three times a day. (Stomachic for chronic gastric catarrh and loss of appetite.)

℞ Ext. condurango fl., 3 ss.

Chloralis, gr. viij.—xxx.

Syr. aurant. cort., 3 v.

Aq. destillatæ, $\frac{3}{4}$ vi.

M. S. A tablespoonful every two or three hours. (In gastralgia with poor digestion.)

℞ Ext. condurango alcoholici,

Pulv. condurango, āā 3 iss.

M. et ft. pil. No. 80. S. One pill three times a day.

CONIUM.

Paralyzes the motor nerves and later the motor centres, and when locally applied to the sensory nerve-endings quiets pain and irritability; long-continued use weakens the sexual powers. Care must be exercised in its use.

Internally employed in doses of gr. i.-v. (maximum dose, gr. viij., or 3 i. pro die) several times a day in powder, pill, or infusion (one to two per cent) in diseases of the spinal cord with increased reflexes, in neuralgia, pains in the eyes, ears, face, and elsewhere, and as a specific in mastitis (?). It should not be used for neuralgia when anæmia exists.

Externally applied in neuralgia, painful swellings, etc., in infusion or decoction (one to four per cent), ointment (1 part of the extract to 5 to 10 of the excipient) as an eye-salve in scrofulous ophthalmia and blepharospasm, in poultices, or by enema.

Extractum Conii.—Dose, gr. ss.-i. For external use to relieve local pains a plaster of conium may be made.

Coniina.—The alkaloid of conium has been recommended as a substitute for curare, but it should be employed tentatively with the greatest care, and preferably not at all.

Internally given in dose of gr. $\frac{1}{30}$ to $\frac{1}{60}$ in pills, drops, or mixtures in rheumatic and traumatic tetanus. (The chief danger consists in causing paralysis of respiration.)

Coniinzæ Hydrobromas.—*Internally* and subcutaneously employed in doses of gr. $\frac{1}{32}$ to $\frac{1}{6}$ for the same purpose as the preceding.

CONVALLARIA MAJALIS.

Lily of the valley is employed like digitalis—for which, however, it is not in all respects a substitute—in diseases of the heart and kidneys accompanied with dropsy; and also in nervous palpitation of the heart and in epilepsy. (Caution must be used, as the drug has the reputation of markedly influencing the heart's action.)

Internally employed in infusion of the flowers (5 parts to 100 water) in doses of a tablespoonful two or three times a day.

Extractum Convallariæ.—Given in doses of gr. iss.-viij. in powder, or in alcoholic solution (1:4), 25 drops four times a day.

Tinctura Convallariæ.—Employed in doses of 10 drops four times a day.

Convallamarinum.—*Internally* employed in doses of gr. $\frac{1}{2}$ to i. (5 grains a day) to meet the same indications as convallaria, but its use is not advisable.

COPAIBA.

A remedy which tends to check the secretions, but exerting a diuretic action as a result of local irritation of the kidneys; its long-continued administration causes indigestion and sometimes produces a rash resembling urticaria.

Internally employed in doses of 10 to 40 drops, pure or flavored with a few drops of lemon juice or peppermint water, and also in emulsion and pill form. The best mode of administration is in capsules, each containing gtt. viij. of the balsam, either pure or with equal parts of extract of cubeb, and sometimes also with sulphate of iron or iron powder; dose, six to twelve capsules a day. It is best to begin with large doses and then, when improvement follows after several days, to continue the remedy for a week or two in smaller doses.

1. In gonorrhœa after the disappearance of the acute inflammatory symptoms, and less efficacious, though still useful, in chronic catarrh of the bladder, and bronchorrhœa (?). It is also given by injection into the urethral canal in emulsion (5 to 10 parts in 100).

2. For bronchial and pulmonary hemorrhage, in the form of Chopart's mixture (see the formula).

℞ Ceræ albæ, gr. lxxv.
terendo admisce

Copaibæ, ʒ iiss.

Pulv. cubebæ, ʒ ss.

M. et ft. pil. No. 150. S. Six to ten pills, at first twice, then three times a day. (About three boxes in all are required.)

℞ Copaibæ, ʒ ss.

Gum. acaciæ, ʒ ij.

Aq. menth. pip., ʒ iv.

Syr. cinnamomi, ʒ v.

M. S. One tablespoonful every two hours.

℞ Copaibæ,

Syr. bals. tolut.,

Alcohol, āā ʒ i.

Spt. æther. nitrosi, ʒ i.

M. S. One tablespoonful two or three times a day, in hæmoptysis, in which it does service sometimes even in seemingly desperate cases. (Chopart's mixture modified by Wolff.)

℞ Copaibæ,
Tinct. aromatica, āā ʒ ss.

M. S. Twenty to 40 drops three times a day. (Aromatic tincture contains cinnamon, cloves, cardamom, ginger, and galanga.)

℞ Copaibæ, ʒ x.
Sodii carbonat., ʒ v.
(Tr. opii, ʒ i.)
Aq. destill., q.s. ad Oij.

M. S. For injection, mixed with three parts of water, in gonorrhœa.

COTO.

Internally employed in doses of gr. v.–viij. several times a day or in decoction in the treatment of diarrhœa of phthisical patients, of the insane, and of children, and in chronic intestinal catarrh, not as an astringent, but as a remedy promoting absorption. It is, however, seldom employed in either of the above forms, as it irritates the stomach.

Tinctura Coto.—Given in doses of 20 to 50 drops in water or red wine several times a day.

Cotoinum.—A glucoside made from coto, employed internally in doses of gr. ʒ to iss. several times a day as a powder in wafers or capsules, or diffused in water.

Paracotoinum.—Paracotoin is somewhat weaker than the preceding, and is given in doses of gr. iss.–iij. in powder, rubbed up with gr. viij. of sugar, every two hours in cases of simple catarrh of the stomach and diarrhœa.

CREASOTUM.

A clear, slightly yellowish, oleaginous fluid, of a burning taste, almost insoluble in water, but making a clear mixture with alcohol, obtained by distillation from beech-wood tar. It is a mixture of various substances, chiefly creosol and guaiacol, and in general resembles carbolic acid, being like it antiseptic.

Internally employed in doses of ℥ ʒ up to the maximum of ℥ iij. (℥ xv. per day), in gelatin capsules, pills, or oleaginous or alcoholic solution, in abnormal fermentative processes in the stomach or intestine, in carcinoma of the stomach (then often

combined with balsam of tolu, *q. v.*); and is especially recommended in pulmonary tuberculosis, in which affection it can be given for months at a time in large doses, beginning, however, with small ones of ℥ iss. a day and increasing gradually every four or five days up to ℥ xv. or even ℥ xxx. a day, and combined if need be with the tuberculin or cantharidin treatment.

Externally used for the same purposes as carbolic acid. Also given by enema in doses of ℥ iss.-iv.

Aqua Creasoti.—A one-per-cent solution.

Internally employed (rarely) in doses of a teaspoonful in bronchitis, pulmonary gangrene, diabetes, gastric fermentation, diarrhœa, etc.

Externally used as an injection in unhealthy fistulæ, in empyema after thoracentesis, in disinfectant dressings, etc.

Guaiacolum.—A colorless, highly inflammable liquid. It is the most active ingredient of creasote, of a less disagreeable odor than this substance, readily soluble in alcohol, but with difficulty in water.

Internally given in doses of ℥ ss.-iss. each up to ℥ viij.-xv. per day, in gelatin capsules, pills, or alcoholic solution, in pulmonary tuberculosis (see also Iodoform).

℞ Creasoti,	℥ ʒ
Alcoholis,	℥ iv.
Mucil. salep.,	ʒ iv.

M. S. One-half to one teaspoonful every two hours. (Cholera infantum.)

℞ Creasoti (or guaiacoli),	℥ xv.
Tinct. gentianæ,	℥ xl.
Spir. vini rectific.,	ʒ vi.
Vini albi,	ʒ iij.

M. S. A teaspoonful three times a day in a wineglass of water.

℞ Guaiacoli,	℥ xv.-xxx.
Alcohol,	ʒ v.
Aq. destillat.,	ʒ vi.

M. Keep in a colored bottle. S. A teaspoonful to a table-spoonful two or three times a day in a glass of water after meals.

℞ Creasoti, ℥ iss.-iij.
 Aq. menth. pip., ℥ vi.
 Mucil. salep., ℥ i.

M. S. A tablespoonful every two hours. (Vomiting of pregnancy.)

℞ Creasoti, ℥ xv.
 Pulv. althææ,
 Ext. glycyrrh., āā gr. xxij.

M. et ft. pil. No. 30 (gelatin coated). S. One or two pills three times a day. (Phthisis, cancer of the stomach.)

℞ Creasoti, ℥ xv.
 Plumb. acetat.,
 Opii pulv., āā gr. v.
 Ext. glycyrrh., ʒ iss.

M. et ft. pil. No. 50. S. Two pills three times a day. (Phthisis.)

CREOLINUM.

A blackish-brown, syrupy fluid, of an unpleasant tarry odor, prepared from coal, which is reputed not only to keep fresh wounds aseptic, but also to deodorize and render aseptic suppurating and ichorous wounds and to promote healthy granulation and cicatrization. It is also said to arrest parenchymatous hemorrhage, and not to produce any eczematous eruption of the skin. But as the composition of the different preparations in the market is not yet exactly known, and as one case of fatal, and another of transitory, poisoning (production of a scarlatiniform eruption, albuminuria, and dark-colored urine) are known to have taken place, it is well to observe caution in the use of the drug.

Internally it has been employed in doses of gr. v.-xv. in gelatin capsules in cases of very marked fermentative changes in the stomach, and of intestinal parasites; also in tuberculosis, but without any good results.

Externally in a mixture (having a milky appearance) with water ($\frac{1}{2}$ to 1 part in 100) as a lotion and dressing to fresh wounds, for the disinfection of septic wounds in a two to four per cent mixture, and for washing out the bladder in cystitis ($\frac{1}{2}$ -per-cent mixture). It is also recommended for the disinfection of privy vaults.

CROTON-CHLORAL HYDRAS.

See Butyl-Chloral Hydras.

CROTONIS OLEUM.

See Oleum Tiglii.

CUBEBA.

Internally cubeb is employed in doses of gr. xv.—3 iiss. several times a day as a powder in wafers, capsules, pills, or electuary, often combined with copaiba (q. v.) in the treatment of gonorrhœa after the subsidence of the inflammatory symptoms; it is best given only in chronic gonorrhœa, when injections fail to effect a cure, and only where the digestion is unimpaired.

Extractum Cubebæ.—Given for the same purpose as the above in doses of gr. v.—xv. in pills or capsules four or five times a day.

℞ Ext. cubebæ,
Copaibæ,
Ceræ alb. ras., āā 3 i.
Pulv. cubebæ, 3 iij.

M. et ft. pil. No. 100. S. Five pills every three hours. (In gonorrhœa and gleet.)

℞ Extracti cubebæ, 3 i.
Pulv. acaciæ, 3 ss.
Aquæ destill., 3 i.
Magnesii carb., 3 iss.

M. et ft. pil. No. 100. S. Ten pills three times a day. (In gonorrhœa, and especially in gleet.)

CUCURBITA MAXIMA.

See Pepo.

CUPRI SULPHAS.

Internally employed in doses of gr. i.—v. (maximum dose, gr. xv.) as an emetic for adults (for children gr. i.—ij.) in powder or solution, every fifteen minutes until vomiting is produced, in croup, diphtheria, poisoning with phosphorus and narcotics; in the latter case it is given first for its emetic effect, and afterward is continued in smaller doses.

Externally used as a collyrium (gr. iss.—3 v. distilled water), or in substance (blue stone) for touching the conjunctivæ in cases of sluggish chronic inflammation, and in trachoma (applied daily or every other day).

℞ Cupri sulphat., 3 ss.
Sacch. albi, 3 ij.

M. et div. in chart. No. 10. S. One powder every ten minutes until vomiting is produced. (To empty the stomach in cases of poisoning.)

℞ Cupri sulphatis, gr. viij.
Syr. simplicis, ʒ vi.
Aq. destillatæ, ʒ xij.

M. S. A teaspoonful every ten minutes until vomiting occurs, and then every half to one hour. (In croup.)

CUPRI SULPHAS AMMONIATUS.

An *antispasmodic* nauseant. It is given in doses of gr. $\frac{1}{4}$ — $1\frac{1}{2}$ (gr. vi. pro die) in powder, pill, or solution in water or simple syrup (easily decomposed) for epilepsy, chorea, and spasmodic affections in general, and in trigeminal neuralgia occurring in elderly persons with good digestion.

CUPRI SULPHOCARBOLAS.

Recommended to meet the same indications as Zinci Sulphocarbolas (which see).

CUPRUM ALUMINATUM.

Aluminated copper (*lapis divinus*), made from sulphate of copper, alum, and camphor, is an efficient mild astringent, in not too inveterate catarrhs of the mucous membranes, especially of the conjunctiva, employed in the form of pencils, as an eye-powder (1 part to 2 to 5 of sugar), or collyrium (gr. i.—viij. in ʒ i. rose water).

CURARE.

Curare or woorari (South American arrow poison) is derived from several varieties of *Strychnos*, *Cocculus*, and *Paulinia*; it is an antitetic, paralyzing first the motor nerve-

endings in the muscles, and later the motor centres and the motor nerve endings of the respiratory muscles. In case of poisoning, therefore, artificial respiration must be resorted to.

Internally employed in doses of $\frac{1}{64}$ — $\frac{1}{32}$, gradually increased, in aqueous or alcoholic solution, for rheumatic and traumatic tetanus, rabies, epilepsy, and strychnine poisoning. It must be used with the greatest caution, and, on account of the unreliability of the different preparations, only after testing on animals.

Subcutaneously the dose is gr. $\frac{1}{64}$ very cautiously increased up to a total of gr. $\frac{1}{8}$ in the twenty-four hours; for this purpose a solution is used of gr. iss. in \mathfrak{z} iiss. of distilled water to which 1 drop of hydrochloric acid is added.

Endermically a small quantity of a solution of gr. iss. in \mathfrak{z} x. of distilled water is applied to the wound which has given rise to the tetanus.

DATURINA.

Externally employed to dilate the pupil, in drop instillations into the eye of a solution of gr. i. in \mathfrak{m} lxxx. of water acidulated with dilute sulphuric acid. The sulphate of daturine is used for the same purpose and in the same manner.

DECOCTA.

The United States Pharmacopœia directs that decoctions the strength of which is not otherwise specified shall be prepared by adding to 10 parts of the substance, coarsely comminuted, 100 parts of cold water, and boiling for fifteen minutes in a closed vessel; it is then cooled to 113° F. and strained, and enough water is passed through the strainer to make the product weight 100 parts. The caution is added that, in the case of energetic or powerful substances, the strength of the decoction should be specified by the physician.

DEXTRINUM.

See Amylum.

DIGITALIS.

(*Conf.* Scilla, and Strophanthus.)

The leaves of *Digitalis purpurea* (foxglove), which in the fresh state and in powder are nearly one-third more active

than in infusion, as well as the glucosides (digitalin, digitalein, and digitoxin), the employment of which is not to be recommended, are a specific heart poison with a cumulative action. The drug is in general indicated in conditions of protracted cardiac weakness and their consequences. As regards its action three stages may be distinguished: 1. Increased energy of the individual contractions of the heart with the resulting increase in blood pressure and slowing of the pulse (the effect of small doses, gr. ss.-i. of the leaves); 2. Increased frequency of the pulse, and first increase, then lowering of the blood pressure (produced by the administration of larger doses, gr. iss.-iij., continued for a longer or shorter period); 3. The pulse becomes irregular, smaller, and less frequent, and the blood pressure diminishes.

Large doses, or the long-continued administration of smaller ones (cumulative action), lead not seldom to symptoms of poisoning. These are, in the beginning and in the milder form, loss of appetite, nausea, the appearance of specks before the eyes; in more serious cases, dryness of the throat, excessive nausea, vomiting, purging, headache, vertigo, dilatation of the pupils, disturbances of sight and hearing, arhythmic (too rapid or too slow) pulse, lowering of temperature, extreme muscular weakness, and collapse. The treatment of digitalis poisoning consists in the administration of tannin, stimulants, ether, etc. The effect of the drug is noticeable for several days after its administration has been discontinued.

Contra-indications.—A hard pulse, and, for the larger doses, weakness and degeneration of the heart muscle.

Internally employed in doses of gr. ss.-iss. (maximum dose, gr. iij., or gr. xv. pro die), best given in powder in wafers followed by copious draughts of water, or in infusion. The necessary daily dose for an adult is gr. viij., at most gr. xv., which may be continued until 30 to 45 grains in all have been taken, or until either the desired effect is obtained or symptoms of poisoning declare themselves. In the latter case the drug is discontinued until all these symptoms have disappeared, when it is again given, and so on for two or three times. The action of digitalis varies greatly in different individuals.

The *indications* for the administration of digitalis are:

1. Valvular lesions, with very excited heart action, irregu-

lar pulsations, increased apex beat, and dyspnoea; also valvular lesions with weakened heart and resulting dropsy, diminished secretion of urine, dyspnoea, and a rapid, irregular, small, and flabby pulse. (Here quinine and iron are also called for.) Nervous palpitation without valvular lesions, Basedow's disease, simple dilatation of the heart, with venous engorgement, asthmatic difficulty, and emphysema, with dyspnoea and catarrh. Finally weak heart action and circulatory disturbances and their consequences, occurring independently of valvular troubles.

2. As a diuretic in dropsy referable to weakened heart action consequent upon disease of the kidneys.

3. As an antipyretic and antiphlogistic in acute fevers with high temperature and rapid pulse, the use of the drug is indeed recommended, but, and especially in pneumonia, not justly; for digitalis acts very slowly, and small doses are generally useless, while large ones are dangerous because of their weakening effect upon the heart, where paralysis is already threatening, and their tendency to disorder the digestion.

Acetum Digitalis.—Given in doses of 10 to 30 drops several times a day in water or mixed with simple syrup.

Tinctura Digitalis.—*Internally* employed in doses of 5 to 20 drops several times a day in saturation, or mixed with equal parts of bitter almond water, for palpitation of the heart and the catarrhal troubles associated with heart disease; also with equal parts of tincture of squill in dropsy. Maximum dose, ℥ xxiv. (℥ lxxv. pro die).

Tinctura Digitalis Ætherea.—Is much stronger than the preceding, and is therefore used in only about half the dose, either pure or added to diuretic mixtures.

Digitalinum.—Occurs in two forms, amorphous and crystallized, the dose of the former being gr. $\frac{1}{4}$ to $\frac{1}{3}$ two or three times a day in powder or pellets, that of the crystallized gr. $\frac{1}{30}$ to $\frac{1}{10}$, two or three times a day. Amorphous digitalin has been employed subcutaneously in doses of gr. $\frac{1}{20}$ to $\frac{1}{12}$ in glycerin in palpitation of the heart. The use of digitalin is not to be recommended.

Extractum Digitalis.—*Internally* employed in doses of gr. ss.—iij. several times a day (maximum, gr. xv. pro die) in pill or solution to meet the indications above mentioned.

℞ Infus. digitalis, ℥ v.
 Potassii et sodii boro-tart., ʒ iv.-vi.
 (Spt. ætheris nitros., ʒ ss.)
 Syr. simplicis, ʒ vi.

M. S. One to two teaspoonfuls every two hours. (Heart stimulant, and an excellent diuretic.)

℞ Infus. digitalis, ℥ ss.
 Potassii acetatis, ʒ vi.
 Aceti scillæ, ʒ vi.
 Oxymel. scillæ, ʒ xij.

M. S. One teaspoonful every two hours. (Cardiac dropsy, nephritis.)

℞ Pulv. digitalis, gr. xv.
 Pulv. rhei, gr. xlv.
 Ext. gentianæ, q. s.

M. et ft. pil. No. 20. S. One pill every three hours. (Heart diseases.)

℞ Pulv. digitalis,
 Plumbi acetat., āā gr. iij.
 Morphinae hydrochlor., gr. i.
 Sacch. albi, gr. x.

M. et div. in chart. No. 10. S. One powder every hour or two in hæmoptysis.

℞ Tinct. digitalis,
 Aq. amygdal. amaræ, āā ʒ i.
 (Tinct. opii, ʒ i.)

M. S. Twenty drops three times a day. (Palpitation, catarrhal troubles associated with heart disease.)

℞ Digitalini (German), gr. $\frac{1}{2}$
 Alcoholis, q. s.
 Pulv. althææ, ʒ ss.
 Mucil. acaciæ, q. s.

M. et div. in pil. No. 20. S. One pill two or three times a day.

DIURETINUM.

See Theobrominum.

DUBOISIA.

The leaves and extract of duboisia are not used in medicine, but from them is made.

Duboisina.—This is employed like its sulphate.

Duboisinæ Sulphas.—Identical with hyoscyamine and daturine, and isomeric with atropine, but its action is more powerful, though of shorter duration, than that of the latter, and it is also less irritating to the conjunctiva.

Internally employed in alcoholic solution in two-thirds the dose of atropine, gr. $\frac{1}{300}$ to $\frac{1}{75}$ two or three times a day (maximum single dose, gr. $\frac{1}{4}$, or gr. $\frac{1}{20}$ pro die), in the colliquative sweats of phthisis, and also as a mild hypnotic in mania. Duboisine is an antidote to pilocarpine and an antagonist of muscarine.

Externally used as a mydriatic in a one-quarter to one-half per cent solution.

Subcutaneously, in doses of gr. $\frac{1}{300}$ to $\frac{1}{75}$ for the night sweats of phthisis, and in the minimum dose continued for six or seven days in Basedow's disease.

DULCAMARA.

Internally employed in doses of gr. viij.—xxx. several times a day in powder or infusion as an expectorant. It has also been recommended in the treatment of chronic skin diseases, gout, and rheumatism.

Extractum Dulcamaræ.—*Internally* given in doses of gr. iij.—xxiv. in pill or solution.

ELÆOSACCHARA.

Oil-sugars are made by triturating \mathfrak{xxv} . (25 drops) of a volatile oil with 3 xij. of pulverized sugar.

ELIXIR GLYCYRRHIZÆ, SEU PECTORALE.

See Ammonii Anisati Liquor.

ELIXIR ROBORANS WHYTII.

See Cinchona (Tinctura Composita).

EMPLASTRA.

The various plasters are employed according to their composition and mode of preparation:

1. For surgical use in keeping the edges of wounds and

granulating surfaces in apposition, retaining dressings in place, and making compression.

2. As a protective application to the skin.

3. As excipients of medicinal substances whose action on the skin is desired.

The officinal plasters (U. S. P.) are: *E. ammoniaci*, *ammoniaci cum hydrargyro*, *arnicæ*, *assafœtidæ*, *belladonnæ*, *capsici*, *ferri*, *galbani*, *hydrargyri*, *ichthyocollæ* (court plaster), *opii*, *picis burgundicæ*, *picis canadensis*, *picis cum cantharide*, *plumbi* (*diachylon*), *resinæ* (adhesive plaster), and *saponis*.

EMULSIONES.

Emulsions are milky fluids in which the insoluble active substance (oily or resinous) is held suspended and diffused through the liquid in very fine subdivision, by means of some mucilaginous substance.

Seed-emulsions, when not otherwise specified, are made with 1 part of the finely ground seed in water, enough to make, after straining, 10 parts.

Oil-emulsions are made from 2 parts oil, 1 part gum arabic, and 17 parts of water. If an oily emulsion (*emulsio oleosa*) is prescribed it is made with almond oil instead of water (*German pharmacopœia*).

EPHEDRINA.

An alkaloid obtained from *Ephedra vulgaris*, the hydrochlorate of which produces mydriasis in instillations of 1 or 2 drops of a ten-per-cent solution.

ERGOTA.

The sclerotinum of *Claviceps purpurea*, a fungus replacing the grain of *Secale cereale* or rye (*Secale cornutum*). Should not be kept in fine powder, but should always be freshly prepared from the coarsely broken grains, and in no case should be kept in stock more than a year. It causes contraction of the peripheral arteries and of smooth muscular tissue generally. Its action upon the uterus appears to be due in part to an induced anæmia of the uterine centre in the cord and in part to a direct influence upon the uterine muscle. It may act injuri-

ously upon the child in utero by interfering with the foetal circulation, when it has been given in such doses that the uterus undergoes no relaxation between the pains.

Large doses (3 i. and more) cause acute poisoning, manifested by nausea, vomiting, salivation, colic, and diarrhœa, dyspnœa, numbness, and formication of the extremities, convulsions, and collapse. Chronic poisoning, sometimes arising from an admixture of ergot in rye flour, is shown by ataxic symptoms, cramps of various forms, and psychoses; also cachectic symptoms with gangrene of the peripheral parts. The treatment of acute poisoning consists in the production of vomiting and purging, and the administration of tannin internally and nitrite of amyl by inhalation; for chronic poisoning, warm baths, narcotics, and a nourishing diet.

Internally employed in doses of gr. v.-viij. up to the maximum of gr. xv. (gr. lxxv. pro die) in powder, less frequently in pills or suspension, and occasionally also in infusion or decoction.

1. In dystocia from ineffectual pains (*conf.* Opium) in doses of gr. viij.-xv. every fifteen or thirty minutes, but never before full dilatation of the os, and only in cases of head presentation and normal pelvis. (Beware in cases of placenta prævia.)

2. In retained placenta from insufficient uterine contraction, and also as a prophylactic, given just at the completion of labor, to prevent atonic post-partum bleeding; further, during the puerperal period, to favor involution of the uterus.

3. In internal hemorrhages (lungs, stomach, intestine), but here the hypodermic method of administration is preferable.

4. In paralysis of the bladder in doses (especially if it is to be long continued) of gr. iss.-v. several times a day in powder or infusion. It is still more efficacious if given in the form of injection (4 grains of the extract) in the previously emptied bladder.

The action of ergot, which has been so favorably spoken of, in heart troubles, diseases of the spinal cord, intestinal catarrh, dysentery, whooping-cough, etc., is at least uncertain.

Subcutaneously ergotin is employed (*a*) in the treatment of aneurism, varicose veins, and varicocele, an injection being made between the skin and the wall of the vessel every other day.

b. Injected into the abdominal wall to cause a reduction in size of uterine fibroids, or more commonly to arrest hemorrhage excited by their presence.

c. In atony of the bladder and hypertrophy of the prostate.

Extractum Ergotæ.—*Internally* employed in doses of gr. iss.–viij. in pill or solution; subcutaneously gr. i.–iiss. or more (see formula). The place where the injection has been made usually remains swollen and painful for several days.

Extractum Ergotæ Fluidum.—*Internally* and subcutaneously employed in doses of 10 to 20 drops or more. It is well borne by the stomach.

Ergotinum.—Bonjean's ergotin, a purified aqueous extract of ergot (official in the B. P.). Denzel's is the preparation most used in Germany. It is well borne by the stomach. Used to arrest profuse menstruation (see formula).

Tinctura Hæmostyptica.—The Fritsch-Denzel hemostyptic tincture is employed in the treatment of profuse menstruation of young girls, in chlorosis, at the climacteric period, and after childbirth, in doses up to two tablespoonfuls a day. One teaspoonful of the tincture represents 6 grains, a tablespoonful 24 grains of ergot.

Tinctura Ergotæ.—Employed in doses of 15 to 50 drops (of a ten-per-cent tincture) with tincture of cinnamon.

Cornutina.—An alkaloid obtained from ergot, which causes spasm and contraction of the uterus, and has been employed in doses of gr. $\frac{1}{2}$ to $\frac{1}{8}$. Acidum ergoticum is less efficacious as an ebolic, and is said to lower arterial pressure and act as a paralyzant of the spinal cord.

Acidum sphacelicum is a third constituent of ergot, which is said to act directly upon the pregnant uterus, and also to cause gangrene. Of these three only cornutine has been employed, but the action of none of them is as yet sufficiently known.

℞ Infus. ergotæ (gr. lxxv. ergot), . . . $\frac{3}{4}$ iv.
 (Plumbi acetat., gr. viij.)
 Syr. simplicis, $\frac{3}{4}$ v.

M. S. One tablespoonful every two hours. (Without the acetate of lead for inefficient pains; with it in hemorrhage from the bladder, and night-sweats, in the latter two or three tablespoonfuls at night.)

- ℞ Extr. ergotæ,
 Quin. sulphat., āā ʒ ss.
 Pulv. digitalis,
 Ext. hyoseyami, āā gr. iij.
 M. et ft. pil. No. 20. S. Five to ten pills a day. (Hæmo-
 ptyxis and metrorrhagia.)
- ℞ Extr. ergotæ, gr. xxiv.
 Acidi tannici, ʒ ss.
 Syr. simplicis, ʒ i.
 Aq. destillatæ, ʒ vi.
 M. S. A tablespoonful every hour. (Hæmaturia.)
- ℞ Extr. ergotæ,
 Acidi tannici, āā gr. xx.
 Extr. opii, gr. v.
 Ext. glycyrrhizæ, q. s.
 M. et ft. pil. No. 20. S. One pill every two to three hours.
 (Hæmoptysis.)
- ℞ Extr. ergotæ, gr. xl.
 Alcohol,
 Glycerini,
 Aq. destill., āā ʒ i.
 M. S. For hypodermic injection. (Eight to 15 drops.)
- ℞ Ergotini, ʒ ss.
 (Acid. carbol. liquefacti, ℥ iij.)
 Aq. destillatæ, ʒ iiss.
 M. S. For hypodermic injection in doses of 8 to 15 drops.
- ℞ Extr. ergotæ, gr. l.
 Pulv. digitalis, ʒ ss.
 Pulv. et extr. gentian., q. s.
 M. et ft. pil. No. 50. S. Two or three pills every two or
 three hours. (Hemorrhage from the lungs or uterus; aortic
 insufficiency?)
- ℞ Ergotini,
 Ergotæ, āā gr. l.
 M. et ft. pil. No. 100. S. Six pills a day.
- ℞ Ergotini,
 Extr. hydrastis inspiss.,
 Ext. gossypii inspiss., āā gr. l.
 M. et ft. pil. No. 100. S. Three times a day.

ERYTHROXYLON.

The leaves of the Erythroxyton Coca. A stimulant and tonic.

Internally employed (rarely) in doses of gr. v.–xv. several times a day in powder, infusion, or decoction as a stimulant tonic. Chewing coca leaves (as practised by the natives of some portions of South America) is said to remove the sensations of hunger, thirst, and fatigue, to give the power of great and long-continued exertion, and to impart a sense of well-being.

Extractum Erythroxyli Fluidum.—*Internally* employed in doses of ʒ ss.–ij. in mixtures.

Tinctura Erythroxyli.—*Internally* employed for whooping-cough in doses of 6 to 10 drops for infants up to the age of three months, 10 to 15 drops for infants from four to fifteen months old, and 20 to 25 drops for older children.

(See Cocainæ Hydrochloras.)

ESERINÆ SALICYLAS AND SULPHAS.

See Physostigma.

EUCALYPTUS.

Antiperiodic, antiseptic, and anticatarrhal.

Internally employed in the dose of ʒ iiss. pro die in powder, infusion, or decoction, in intermittent fever and all periodic affections attended with enlargement of the spleen; in daily dose of ʒ i. in catarrhal troubles as an expectorant.

Externally in powder or infusion as a disinfectant application; as a mouth-wash and gargle in stomatitis and sore throat; by injection, in the form of infusion, in fistulas, gonorrhœa, leucorrhœa, and coryza; and in rectal injection for dysentery and ulceration of the rectum. The leaves are smoked, or burned like nitre paper, for the relief of asthma.

Extractum Eucalypti Fluidum.—*Internally* employed in doses of ʒ xv.–ʒ i. pure or in mixture in intermittent fever during the apyrexial period, and also in chronic bronchial catarrh with offensive expectoration. In pertussis it is given in doses of 2 to 4 drops every three hours for children one to four years old. It is especially recommended in croup, after

emesis has been produced, in teaspoonful doses of a mixture of ʒ i. in ʒ i. of simple syrup.

Externally applied, in dilution, as a dressing to wounds.

Tinctura Eucalypti.—Employed like the preceding in doses of about twice the size.

Oleum Eucalypti.—*Internally* employed in doses of gtt. iij.—xv. several times a day (ʒ i. pro die) in pills, capsules, or oil-sugar for the above-mentioned indications.

Externally used to impregnate antiseptic dressings in an emulsion (oil of eucalyptus, 3 parts; alcohol, 15 parts; water, 115 parts); or in the manufacture of gauze (1 part oil of eucalyptus to 3 parts each of resin and paraffin). Oil of eucalyptus is said to mask the odor of iodoform.

For inhalations an emulsion of the oil in mucilage and water is used, or a mixture of ʒ ss. each of ol. eucalypti and ol. templini (*Pinus Pumilio*) with gtt. x. of ol. lavandulæ. An inhalation of 10 to 15 drops in a vessel of hot water is employed in pulmonary gangrene and putrid bronchitis.

Eucalyptolum.—Eucalyptol is a thin, bright yellow oil obtained by distillation of the preceding over caustic potash.

Internally employed in doses of gtt. iij.—xv. pure on sugar or in pills or capsules, to meet the indications above given, and also in small doses as a stimulant.

Externally as a disinfectant, and for the relief of pain; a few drops applied on flannel, or a liniment (1 part to 5 of olive oil; 1 part to 1½ glycerin and 2 soap or 6½ alcohol).

An antifermentative mixture is made of 1 part each of tincture of eucalyptus and alcohol, and 6 parts of salicylic acid.

EUONYMUS.

The bark of *Euonymus atropurpureus*, employed as a cholagogue cathartic in diseases of the liver.

Extractum Euonymi.—Employed in doses of gr. i.—v. in pill, with extract of belladonna, after eating, and followed by a saline cathartic the following morning.

Extractum Euonymi Fluidum.—Given in doses of a teaspoonful after the noon-day, and if necessary the evening, meal.

Euonyminum.—A resinous bitter principle obtained from the bark, which is given in doses of gr. i.—v. for the same purposes as the extract. It is said to be less irritant to the in-

testine than podophyllin, but to be a powerful heart poison in large doses.

EXALGINUM.

Exalgin (methylacetanilid) is a crystalline body readily soluble in hot water and alcohol, but sparingly so in cold water. An analgesic remedy.

Internally employed in doses of gr. iv.–viiij. from one to three times a day, as may be needed, in powder or solution (a dose of 4 grains of exalgin is equivalent to 15 gr. antipyrine or a hypodermic injection of $\frac{1}{4}$ grain morphine), for headache, migraine, trigeminal neuralgia, toothache, earache (abscess of the ear), the lancinating pains of tabes, etc. It is less efficacious in rheumatism, sciatica, severe hysterical pains, and psychic disturbances. It is not uncommon to find produced, fifteen to thirty minutes after a dose of exalgin has been taken, transitory vertigo and a sensation as if intoxicated, specks before the eyes, tinnitus aurium, etc., and also sweating, cyanosis, and a skin eruption.

℞ Exalgin,	. . . . .	gr. xl.
Spt. menth. pip.,	. . . . .	ʒ i.
Syr. aurant. cort.,	. . . . .	ʒ i.
Aq. destillatæ,	. . . . .	ʒ iv.

M. S. One tablespoonful morning and evening.

FERRUM.

The iron which is contained in the blood (about 45 grains in the blood of a healthy individual) is necessary for the formation of the red corpuscles (hæmoglobin), and as it is continually being lost, must be continually replaced; this is usually effected through the iron contained in the food, which should be in the amount of 8 to 15 grains a day. But when the destruction of the red blood-corpuscles is too great to be made good in this way, the medicinal employment of iron is indicated. It must be remembered, however, that only a small proportion of the iron introduced into the stomach is absorbed, whatever preparation may be used; the greater part passing away as an insoluble sulphate in the stools which it stains a blackish-green or black. It is, therefore, advisable to change the preparation from time to time until that one which

is most easily digested in the particular case is found, and also always to give only small doses, not more than $1\frac{1}{2}$ grain several times a day.

The conditions necessary to obtain good results from the use of iron are, long-continued administration, only during the time of digestion, and combined with a nourishing diet.

Iron baths are useless, since the drug is not absorbed through the skin. But the drinking of chalybeate waters, especially a "cure" at some chalybeate spa, is strongly to be recommended, not only because iron waters are usually well borne, but also because their use is attended ordinarily by dietetic conditions favorable to good nutrition.

For subcutaneous use the citrate of iron, and the pyrophosphate with citrate of sodium or ammonium, in ten-per-cent solution, are the best, since they are followed by only transitory pain and do not cause abscess.

The use of iron is contra-indicated, or should be undertaken with great caution, in inflammatory and feverish conditions, in the so-called tuberculous habit, and when there is a tendency to frequent nose-bleed and other hemorrhages in pulmonary phthisis; in organic valvular lesions of the heart; catarrhal gastritis (not, however, in atonic dyspepsia); diarrhœa; and for some days before appearance of the menstrual flow, in cases in which it is apt to be profuse.

Indications for the use of iron (substances containing tannic acid should be avoided when iron is being taken):

1. The so-called anæmic and cachectic conditions, especially chlorosis, following the loss of blood (except hæmoptysis), or the anæmia caused by severe fevers; anæmic and cachectic dropsy; amyloid degeneration (combined here with iodine); so-called scrofula and rickets associated with anæmia; amenorrhœa.

2. Various neuroses when they rest upon an anæmic foundation; hysteria, epilepsy, etc.

From the great number of iron preparations, many of which are entirely superfluous, we select here only those most used and most to be commended (both officinal and non-officinal), and among them the astringent and styptic preparations and those employed as antidotes.

FERRI ACETATIS LIQUOR.

Contains about five per cent of iron. It is not much used except to make the following preparation.

Tinctura Ferri Acetatis Ætherea (Klaproth's Tincture of Iron).—Composed of 1 part each of alcohol and acetic ether, and 8 parts of solution of acetate of iron, containing about 4 parts of iron in 100. It is given in doses of 20 to 60 drops several times a day, in water or syrup, for chlorosis, etc.

FERRI ALBUMINATI LIQUOR.

Internally employed as a mild and readily absorbed chalybeate, in doses of 5 to 20 drops for children, one-half to one teaspoonful for adults, three times a day in half a glass of warm milk. It is also strongly recommended in gastric ulcer.

FERRI BROMIDI LIQUOR.

Contains ten per cent of iron, and is given in doses of π i.-iv. every three or four hours in dysmenorrhœa, chronic diarrhœa, leucorrhœa, priapism, and pollutions.

℞ Liq. ferri brom.,	3 iiss.
Syr. aurant. cort.,	℥ i.
Aq. destillatæ,	℥ ij.

M. S. One tablespoonful in the morning, and two or three at night. (Frequent erections and pollutions in anæmic patients with gonorrhœa.)

℞ Liq. ferri brom.,	℥ ss.
Ferri pulv.,	gr. iss.

Evap. in baln. vapor. ad reman. π lxxx.

Acaciæ,

Pulv. glycyrrhizæ, āā q.s.

M. et ft. pil. No. 100. (Each pill contains $\frac{1}{4}$ grain of bromide of iron.)

FERRI CARBONAS SACCHARATUS.

Contains ten per cent of iron, and is readily absorbed in doses of gr. iij.-vii. in powder or pastilles.

Massa Ferri Carbonatis.—Vallet's mass, composed of sulphate of iron, carbonate of sodium, clarified honey, and

sugar. It may be made up into pills, with powdered althæa and water, each containing gr. $\frac{1}{3}$ of iron, and given in doses of five pills three times a day. A very mild preparation.

Pulvis Aerophorus Martialis.—Composed of 1 part saccharated carbonate of iron in 10 parts effervescing powder; to be taken in doses of one teaspoonful in half a pint of water.

℞ Ferri carb. sacch.,
 Sacch. albi,
 Sodii bicarb., āā 3 iss.
 Pulv. myrrhæ,
 Pulv. rhei, āā 3 i.

M. et ft. pulvis. S. Take as much as can be lifted on the tip of a knife-blade, three times a day. (Chronic catarrhal troubles.)

℞ Ferri carb. sacch., 3 i.
 Extr. glycyrrh., gr. xv.

M. et ft. pil. No. 30. S. Two to five pills three times a day.

FERRI CHLORATI LIQUOR.

Solution of ferrous chloride, containing ten per cent of iron, may be given internally in doses of 5 to 20 drops several times a day in syrup or wine. Externally it is used for baths, in the proportion of 2 to 4 ounces for each bath. Employed in the preparation of the following.

Tinctura Ferri Chlorati Ætherea.—Bestuscheff's tincture, composed of 1 part solution of ferrous chloride, 2 parts of ether, and 7 parts of alcohol. Given in doses of 10 to 40 drops several times a day, in aromatic water, syrup, white wine, or mixture, for anæmia, chlorosis, hysteria, etc.

FERRI CHLORIDUM.

Ferric chloride is an orange-yellow crystalline preparation, soluble in water and alcohol. It is employed to make—

Liquor Ferri Chloridi.—An astringent and styptic. Employed internally in repeated doses of 2 to 8 drops in a mucilaginous vehicle in hemorrhages of the stomach and intestine, in smaller, greatly diluted doses for long-continued use as a simple chalybeate in anæmia and chlorosis, and in doses of 5 to 10 drops three times a day against enuresis in children.

Externally as a uterine injection (3 i.— $\frac{3}{2}$ ij. of water) in traumatic hemorrhage and metrorrhagia; and also in septic conditions of the puerperal uterus, with foul-smelling lochia, when the iron is to be followed by antiseptic injections for several days to remove all the clots. It is employed in diluted form as a nasal injection in epistaxis; and undiluted as an injection for varicose veins, aneurisms, and goitre, but this is a very dangerous procedure. The undiluted solution is employed as an application to frost-bites and warts. In persistent hæmoptysis inhalations of a one to four-per-cent solution have been employed.

Tinctura Ferri Chloridi.—The muriated tincture of iron, prepared by adding 35 parts of liquor ferri chloridi to 65 parts of alcohol and allowing the mixture to stand in a covered vessel for three months, is preferable to the liquor for internal use. It is given internally in doses of 5 to 30 drops three times a day to meet the indications given above for the solution of the chloride of iron.

Gossypium Hæmostaticum.—Absorbent cotton is dipped in water, thoroughly squeezed, and then dipped in solution of the chloride of iron, and again compressed so as to expel as much as possible of the fluid. It is employed as a styptic application to small bleeding wounds.

℞ Tinct. ferri chloridi,	3 ss.
(Tinct. opii,)	gtt. x.)
Syr. aurant. cort.,	3 v.
Aq. melissæ,	$\frac{5}{2}$ v.

M. S. A tablespoonful every two hours. (Hæmoptysis, hemorrhage of the stomach, and intestinal hemorrhage in typhoid fever.)

℞ Liq. ferri chloridi,	$\frac{3}{4}$ i.
Glycerini,	3 ij.
Ol. bergamot.,	gtt. xx.

M. S. For painting the feet in bromidrosis.

℞ Tinct. ferri chloridi,	gtt. x.
Glycerini,	3 ij.
Aq. destillatæ,	$\frac{3}{2}$ ij.

M. S. A dessertspoonful every two hours. (Gastro-intestinal catarrh of children.)

℞ Liq. ferri chloridi, gtt. x.-xv.
 Tragacanthæ, q.s.

M. et ft. bacillus. S. A pencil one-half to three-quarters of an inch in length to be introduced into the cervix in cases of uterine hemorrhage.

FERRI CITRAS.

Ferri Citras Effervescens. Ferri et Ammonii Citras.—

These three preparations, mild and readily absorbed, are employed in the same manner and to meet the same indications.

Internally in doses of gr. iss.-x. from two to four times a day in pill, powder, or solution.

For hypodermic use the citrate only is employed in ten-per-cent solution.

℞ Ferri citratis, gr. xl.
 Syr. aurant. cort.,
 Aq. destillatæ, āā ʒ iss.

M. S. One tablespoonful three times a day.

℞ Ferri citratis, ʒ ss.
 Sodii bicarb.,
 Sacch. albi, : āā ʒ iiss.

M. et div. in chart. No. 10. S. One powder three times a day.

℞ Ferri citrat. effervesc., ʒ iss.
 Quininæ hydrochlor., gr. lxxv.
 Pulv. rhei, q.s.

M. et ft. pil. No. 90. S. Two to four pills three times a day. (Chlorosis.)

FERRI ET POTASSII TARTRAS.

Internally employed in doses of gr. v.-x. several times a day in pills or solution. A very pleasant artificial chalybeate water is made by dissolving 15 grains of tartrate of iron and potassium and 75 grains each of bicarbonate of sodium and tartaric acid in a quart bottle of water, or by adding 8 grains to a bottle of Seltzer water. For iron baths, 10 to 12 ounces may be dissolved in each bath.

℞ Ferri et potassii tartr., ʒ iss.
 Ext. glycyrrhizæ, ʒ i.
 Mucil. acaciæ, q.s.

M. et ft. pil. No. 60. S. Three or four pills three times a day. (Anæmia and chlorosis.)

FERRI ET QUININÆ CITRAS.

See Quininæ Ferro-Citras, under Cinchona.

FERRI ET SODII PYROPHOSPHAS.

Internally employed in doses of gr. ij.-v. several times a day in pill or solution (gr. xv.-xxx. in ʒ iij. of water with simple syrup). It is recommended as one of the best and most easily assimilated of the iron preparations. It is usually exhibited in the form of an artificial chalybeate water (with 1 grain of iron in every 5 ounces).

℞ Ferri et sodii pyrophos., gr. xxiv.
 Aq. aurant. flor., ʒ x.
 Syr. simplicis, ʒ iss.

M. S. A wineglassful morning and evening.

℞ Ferri et sodii pyrophos.,
 Cacao ab oleo liberat.,
 Sacch. albi, āā gr. xl.
 Mucil. acaciæ, q.s.

M. et ft. pil. No. 50. S. Three pills half an hour before each meal.

FERRI IODIDUM.

Should always be freshly prepared by evaporation of the liquor ferri iodidi.

Internally employed in doses of gr. i.-ij. (gr. viij. pro die) in pills, in syphilis, scrofula with anæmia, Bright's disease, and malarial cachexia.

Externally in ointment (2 parts in 10 parts of lard), and in baths ʒ vi.-xij. per bath.

Liquor Ferri Iodidi Saccharati.—Made with water 50 parts, iodine 41 parts, and enough powdered iron to give a greenish color to the solution, which when filtered contains fifty per cent iodide of iron.

Internally employed in doses of 5 to 10 drops several times a day.

Syrupus Ferri Iodidi.—Contains ten per cent of the iodide of iron. Given in doses of 15 to 40 drops several times a day pure, in simple syrup, or in mixture, to anæmic, scrofulous, or syphilitic children.

- ℞ Ferri iodidi sacch.,
 Sacch. lactis, āā gr. lxxx.
 Mucil. acaciæ, q. s.
 M. et ft. pil. No. 100. S. Five pills three times a day.
- ℞ Syr. ferri iodidi, ʒ iv.
 Syr. simplicis, ʒ iij.
 M. S. A teaspoonful to a tablespoonful three times a day.
- ℞ Iodi,
 Pulv. ferri,
 Mel. despumat., āā gr. lxxx.
 Pulv. glycyrrh., ʒ ij.
 M. et ft. pil. No. 100. S. One to five pills three times a day.
- ℞ Syr. ferri iodidi, ʒ i.
 Syr. simplicis, ʒ iss.
 Aq. destill., ʒ iiiss.
 M. S. A teaspoonful to a tablespoonful three times a day.

FERRI LACTAS.

An easily assimilated preparation, given in doses of gr. iss.–xii. in powder or pills.

- ℞ Ferri lactatis,
 Elaëosacch. cinnamomi, āā gr. xlv.
 M. et div. in chart. No. 10. S. One powder morning and evening after meals.
- ℞ Ferri lactatis, ʒ ss.
 Myrrhæ, gr. xv.
 Ext. gentianæ, q. s.
 M. et ft. pil. No. 50. S. Two pills three times a day.
 (Amenorrhœa, chlorosis, bronchiectasis.)
- ℞ Ferri lactatis, ʒ ss.
 Extr. aloes,
 Pulv. rhei, āā ʒ i.
 M. et ft. pil. No. 100. S. Three pills morning and evening.
 (Chlorosis with constipation.)

℞ Ferri lactatis,
 Ext. glycyrrh., āā gr. lxxx.
 M. et ft. pil. No. 100. S. Two to five pills three times a day.

FERRI OXIDUM SACCHARATUM.

A red, sweet-tasting powder, containing three per cent iron, given pure in doses of gr. viij.—xlv. a day to marasmic, scrofulous, anæmic children; and as a tonic for children and adults during convalescence from exhausting diseases, where the digestion is poor.

Syrupus Ferri Oxidi Solubilis.—Contains one per cent iron. Employed, like the preceding, as a tonic in doses of $\frac{1}{2}$ to 2 drachms a day. As an antidote to arsenical poisoning in doses of a teaspoonful every fifteen minutes.

FERRUM PEPTONATUM DIALYSATUM.

Readily assimilated. Contains eighty per cent iron and twenty per cent peptone. Given in doses of gr. iss.—viij. in pills.

Ferrum Peptonatum Siccum.—Is employed like the preceding.

Liquor Ferri Peptonati.—Given in doses of 5 to 20 drops three times a day.

FERRI PHOSPHAS.

Recommended in the treatment of rachitis, in doses of gr. ij.—viij. three times a day.

FERRI POMATI EXTRACTUM.

A very soluble preparation, made by digesting iron filings in the pulp of 'sour apples. Containing seven to eight per cent iron. It should not be given with alkaline salts or strong acids. Dose, gr. v.—x. several times a day in pills or solution.

Tinctura Ferri Pomati.—Composed of 1 part extractum ferri pomati and 9 parts aqua cinnamomi (the latter contains ten per cent alcohol). Given in doses of 10 to 60 drops in bitter tincture several times a day. It is easily assimilated, but special care must be taken of the teeth during its use.

℞ Extr. ferri pomati,
 Pulv. cinchonæ, āā gr. lxxx.

M. et ft. pil. No. 100. S. Six pills three times a day.

℞ Tinct. ferri pomati, ʒi.
 Tinct. rhei, ʒiiss.
 Aq. amygdal. amaræ, ʒss.

M. S. One teaspoonful three or four times a day.

FERRUM PULVERATUM.

Pulverized iron (Limatura Martis), containing at least ninety-eight per cent iron, is given in doses of gr. iss.-v. (ʒ ss. a day) in aromatic powder or pills.

℞ Ferri pulv.,
 Pulv. calami,
 Pulv. cinnamomi, āā ʒi.

M. et div. in chart. No. 20. S. One powder three times a day.

℞ Ferri pulv., ʒi.
 Pulv. cinnamomi, ʒss.
 Extr. cardui bened., q.s.

M. et ft. pil. No. 60. S. Three or four pills three times a day.

FERRI PYROPHOSPHAS.

A readily assimilated preparation given in doses of gr. iss.-viiij. A chalybeate water may be made by dissolving 2 to 10 grains in a quart bottle of carbonated water.

A ten-per-cent solution of pyrophosphate of iron with citrate of ammonium is recommended for subcutaneous use.

FERRUM REDUCTUM.

Occurs in the form of a very fine powder, the most easily digestible and in so far the best preparation of iron.

℞ Ferri reducti, ʒss.
 Pulv. cinchonæ,
 Elæosacch. menth. pip., āā ʒiiss.

M. et div. in chart. No. 20. S. One powder morning and night.

℞ Ferri reducti,	gr. xl.
Seminis cacao ab oleo liberati,	
Sacch. albi,	āā gr. lxxx.
Mucil. acaciæ,	q.s.

M. et ft. pil. No. 100. S. Two to five pills three times a day.

FERRI SULPHAS.

Ferrous sulphate, soluble in 2 to 8 parts of water, is a favorite remedy in chlorosis. It is given in doses of gr. i.-iv. several times a day in powder, pills, or pastilles. It is also used in baths in the proportion of $\frac{2}{3}$ i.-ij. to each bath.

Ferri Sulphas Exsiccatus.—Dried sulphate of iron is like the preceding, but is more constant and concentrated, and should therefore be employed in half the dose, namely, gr. ss.-ij.

Ferri Sulphas Crudus.—Commercial sulphate of iron is employed for the disinfection of privy vaults, etc. One pound dissolved in about three pints of water suffices for the disinfection of five to ten cubic feet of the contents of a vault. Six drachms in 8 ounces of water suffices for the average daily fecal discharges of one individual. The so-called Vienna disinfectant solution consists of 6 ounces of crude sulphate of iron and 3 ounces of commercial carbolic acid in 2 quarts of water.

Liquor Ferri Subsulphatis.—Monsel's solution, solution of basic ferric sulphate, is employed as a styptic.

Liquor Ferri Tersulphatis.—The solution of normal ferric sulphate is used in the manufacture of many of the other iron preparations, among others the

Ferri Oxidum Hydratum cum Magnesia.—A brownish homogeneous mass made by shaking a mixture of magnesia in water with a solution of tersulphate of iron, used as an antidote in arsenical poisoning. It should be freshly prepared, and the U. S. Pharmacopœia directs that the magnesia mixture and solution of iron always be kept in hand for that purpose. It is given in doses of a teaspoonful to a tablespoonful every fifteen to thirty minutes.

Pilulæ Aloes et Ferri.—Composed of one grain each of purified aloes, dried sulphate of iron, and aromatic powder, made up with confection of rose.

℞ Ferri sulph.,
 Sacch. albi, āā ʒ iiss.
 Potass. carb., gr. lxxv.
 Magnesiae,
 Pulv. althææ, āā gr. viij.
 Glycerini, q.s.
 M. et ft. pil. No. 150. S. One to three pills three times a day.

℞ Ferri sulph.,
 Potass. carb., āā ʒ ss.
 Tragacanthæ, ʒ ss.
 M. et ft. pil. No. 100. Bland's pills. Dose two, then three or four pills three times a day. (Chlorosis. When constipation is present powdered jalap and soap may be substituted for the tragacanth.)

℞ Ferri sulph. exsiccati, gr. xv.
 Sodii bicarb., gr. xlv.
 Sacch. albi, ʒ v.
 M. et div. in chart. N. 10. S. One powder three times a day in a glass of sweetened water.

℞. Ferri sulph.,
 Magnesii carb., āā ʒ iiss.
 Pulv. glycyrrh.,
 Ext. glycyrrh., āā q.s.
 M. et ft. pil. No. 100. S. Two to four pills three times a day after meals. (Chlorosis.)

℞ Acidi tartarici, ʒ viij.
 Sodii bicarb., ʒ vi.
 Ferri sulph. exsic., gr. xviiij.
 Sacch. albi, ʒ xxvi.
 M. bene, optime siccatos. S. One teaspoonful to a tablespoonful in water. (Chalybeate effervescent water.)

℞ Ferri sulph. exsic., gr. viij.
 Pulv. aërophor., ʒ iiss.
 M. et div. in chart. No. 10. S. One powder in a glass of water. (An artificial iron-water.)

FRANGULA.

Buckthorn bark is a laxative, of very tolerable taste, similar in its action to senna, but more suitable for long-continued use, which is especially recommended in hemorrhoids. If de-

sired, the patient himself can prepare, very cheaply, a decoction from two tablespoonfuls of the ground bark in two cupfuls of water to which may be added a little pomegranate, etc.

Take of:

Buckthorn bark, 6 drachms.

Boil in ordinary water, q.s.,

Strain, and evaporate down to . . . 6 drachms.

Add

Alcohol, 5 drachms.

Dose: one teaspoonful in a glass of sweetened water at night.

(A pleasant laxative.)

℞ Sodii sulphatis, ʒ v.

Decoct. frangulæ (frangul., ʒ vi.), . . . ʒ v.

M. S. A wineglassful morning and evening. (Chronic constipation.)

FUCHSINUM.

Internally recommended in doses of gr. ss., gradually increased to gr. iv. (gr. viij. pro die) in powder, pill, or mixture, several times a day, in nephritis and albuminuria. (Care must be taken that the drug is not contaminated with arsenic.)

℞ Fuchsini puri, gr. xv.

Sacch. albi, ʒ i.

M. et div. in chart. No. 10. S. Two to four powders a day.

FUCUS CRISPUS.

See Cetraria.

FUNGUS CHIRURGICORUM.

Surgeon's agaric, *Polyporus fomentarius* (not impregnated with saltpetre), is employed externally to arrest bleeding.

FUNGUS LARICIS.

See Agaricus Albus.

GALLA.

Nut-gall is an astringent like tannin. The crude drug is seldom used, or at most in infusion or decoction (5 to 15 parts in 100) as a mouth-wash, gargle, or enema.

Tinctura Gallæ.—*Internally* employed in doses of ʒ ss.–ij., several times a day, as an astringent in hemorrhage from the lungs or kidneys, chronic cystitis, diarrhœa, etc.

Externally applied, pure or diluted, in epulis, stomatitis, tonsillitis, etc. Mixed with tincture of iodine, equal parts, it is used for painting frost-bites.

GAMBOGIA.

See Cambogia.

GELSEMIUM.

The root of *Gelsemium sempervirens*, yellow jasmine, is a narcotic sedative in doses of gr. iv. (gr. xv. pro die). It should be prescribed with caution, since, as in the case of morphine and cocaine, a habit is easily acquired which it is difficult to overcome.

Extractum Gelsemii Fluidum.—(Is poisonous in doses of gtt. viij.–xxx.) Internally employed in doses of ℥ ¼ to vi. several times a day in the treatment of trigeminal neuralgia, toothache, and also pruritus, and eczema attended with much itching. It has likewise been employed, like veratrum, in fevers, and irritable bladder and difficult micturition.

Tinctura Gelsemii.—Internally used in doses of gtt. v.–xxx., sometimes combined with equal parts of tincture of colchicum, three or four times a day in trigeminal neuralgia, pruritic eczema, etc. Care must be used, as the strength of the preparation is liable to variation.

GENTIANA.

A pure bitter. Employed in dyspepia in aqueous or vinous infusion (3 to 10 parts in 100), decoction, or powder, as a stomachic.

Pieces of the dry root, cut to a proper size and shape, and smoothed, may be used like laminaria to dilate the cervical canal, as they swell when moistened. In order to remove the yellow coloring matter they may be first soaked in water, and then dried again before using.

Extractum Gentianæ.—Employed in doses of gr. v.–xxx. several times a day in pills or mixture.

Tinctura Gentianæ.—(One part to 5 parts diluted alcohol.) Dose: 20 to 60 drops or more several times a day.

Tinctura Gentianæ Composita.—Composed of gentian, 8 parts; bitter orange peel, 4 parts; cardamom, 2 parts; diluted alcohol sufficient to make 100 parts. Dose: ʒ i.-ij.

Tinctura Amara.—Composed of 3 parts each of gentian and centaury, 2 parts bitter orange peel, and 1 part each un-ripe orange and zedoary, in 50 parts of diluted alcohol.

Internally employed in doses of one-half to one teaspoonful several times a day.

GLONONINUM.

See Nitroglycerinum.

GLYCERINUM.

Soluble in all proportions in water and alcohol, but insoluble in ether, chloroform, and the fixed oils.

Internally employed in trichinosis (after active catharsis by means of the compound infusion of senna) in doses of a tablespoonful every hour, to the amount of ʒ v.-vij. of pure glycerin in the day. At the same time high rectal injections should be given, first of pure water and then of equal parts of glycerin and water. Conjoined with this large doses of brandy or other alcoholic preparation should be taken.

The use of glycerin in laryngeal and other forms of catarrh, digestive disorders, tuberculosis, and diabetes mellitus has not met the expectations of its advocates.

Externally used as a protective, non-drying, application in scaly eczema, gangrenous ulcers, and small-pox pustules (diluted with 2 parts of water); in the form of ear-drops, especially in deafness dependent upon dryness of the external auditory canal, etc.

A wash of equal parts of glycerin and lactic acid is employed in prickly heat. (See formula below.)

It is used in the preparation of many fluid extracts, and is a good permanent solvent of extracts, alkaloids, tannin, and the soluble metallic salts.

Employed in enema (ʒ ss.-i.) or better, in suppositories, in simple constipation, especially when associated with gastric disturbances; it causes an evacuation of the bowels within fifteen to twenty minutes.

Unguentum Glycerini.—Prepared by mixing 10 parts of starch, 15 of water, 100 of glycerin, 2 of tragacanth, and 5 of

alcohol. Is used as a constituent for many salves, but is less readily absorbed through the skin than lard, or especially lanolin; also employed alone as an application to eczema and other skin affections and to variolous pustules.

Glyceritum Vitelli.—Glyconin, or glycerite of yolk of egg, is made of 55 parts glycerin and 45 parts fresh yolk of egg (10 parts of laudanum may be added if desired). It forms an easily removable protective in burns, erysipelas, sore nipples, and various cutaneous affections.

℞ Sodii boratis, ʒ i.
 Ung. glycerini, ʒ v.
 Aq. rosæ, ʒ ss.
 Ol. rosæ, gtt. i.
 Alcoholis absoluti, gtt. xv.

M. S. Glycerite of rose water. (Sore nipples, frost-bites, excoriations, etc.)

℞ Ammonii chloridi, ʒ i.
 Aq. destillatæ, ʒ x.
 Glycerini, ʒ v.
 Aq. amygdal. amaræ, ʒ ij.

M. S. One teaspoonful every hour, in acute catarrh of the larynx and pharynx.

℞ Acidi tannici, ʒ i.
 Glycerini, ʒ iv.

M. S. To be applied on tampons in acute and chronic vaginitis.

℞ Ammonii chloridi, ʒ i.
 Acidi hydrochlor., ℥ lxxv.
 Glycerini, ʒ i.
 Tinct. benzoini, ʒ iiss.
 Aq. rosæ, ʒ iij.

M. S. To be applied morning and evening with a brush to prickly heat.

℞ Zinci oxidi,
 Acidi tannici, āā gr. xv.
 Glycerini, ʒ ss.

M. et adde

Tinct. benzoini, ʒ ss.
 Camphoræ, gr. xv.

M. S. Liniment for parts deprived of the epidermis.

GLYCYRRHIZA.

Contains grape sugar and is reputed to be an excellent remedy to "cut the phlegm" in bronchitis.

Internally employed, without any fixed dose, in infusion (3 iiss.-v. in $\frac{3}{5}$ vi.), powder, or as a tea in the

Species Pectorales.—Composed of, iris, 1 part; tussilago (farfaris), 4 parts; verbascum and anise-seed, each 2 parts; licorice-root, 3 parts; and althæa, 8 parts.

Extractum Glycyrrhizæ.—Employed as a constituent of pills and mixtures; dose gr. xv.-xxx.

Syrupus Glycyrrhizæ.—Frequently employed as an adjuvant and to disguise the taste of many bad-tasting remedies.

Pulvis Glycyrrhizæ Compositus.—A laxative and expectorant. Composed of senna, 18 parts; fennel-seed, 8; washed sulphur, 8; licorice, 16; and sugar, 50 parts. For children as much as can be taken on the tip of a knife-blade, and for adults one-half to one teaspoonful, as a mild laxative, especially in hemorrhoids.

Elixir Glycyrrhizæ.—Extract of licorice, solution of anisated ammonia, each 10 parts; fennel water, 30 parts. Given in doses of 20 to 30 drops, pure or in water, several times a day (also with laudanum added) as an expectorant in irritable cough.

GOA PULVIS.

A powder obtained from cavities in the wood of *Andira araroba*, containing Chrysarobin (*q.v.*), and like it employed externally in the treatment of cutaneous parasites, various skin diseases, etc.

℞ Pulv. Goa,	3 iv.
Paraffin. liq.,	$\frac{3}{5}$ ij.
Acidi acetici,	3 ij.

M. S. To be rubbed on the skin twice a day after a bath with soap and water.

℞ Pulv. Goa,	3 i.
Collodii flexilis,	3 v.

M. S. To be applied with a brush in psoriasis circumscripta.

GOSSYPII RADICIS CORTEX.

Abortifacient and hæmostatic, similar to ergot. It may be given in powder in doses of gr. iij.–viiij., in decoction (ten per cent) or better under the form of

Extractum Gossypii Fluidum.—*Internally* employed in doses of ℥ xv.–lxxv. ($\frac{3}{4}$ ss. pro die) from one to three times a day in metrorrhagia. It produces uterine contractions.

GOSSYPIUM HÆMOSTATICUM.

See under Ferri Chloridum.

GRANATUM.

An anthelmintic, employed in the treatment of tape-worm, but is inferior to brayera (kooso). The fresh bark is more active than the dry. (For the preliminary dietetic treatment see Brayera.) It is taken in the morning in decoction according to the formula and directions given below.

Pelletierinæ Sulphas.—The sulphate of an alkaloid derived from pomegranate bark.

Internally employed to the amount of gr. v.–viiij., or more if caution be used, in divided doses during one hour, in syrup or wafers. The treatment before and after should be the same as when brayera is given. Vertigo, vomiting, and other toxic symptoms may be produced in the case of children or debilitated adults.

Pelletierinæ Tannas.—Employed like the sulphate, but in about double the dose.

Take of:

Powdered pomegranate, . . . 6 to 12 drachms.

macerate for twelve hours in

Distilled water, $\frac{1}{2}$ pint.

then boil down to, 6 ounces.

and add

Syrup of ginger, 12 drachms.

To be taken in the course of one hour, and followed immediately by a dose of castor oil. (It not infrequently causes nausea and vomiting.)

GRINDELIA.

The leaves and flowering tops of *Grindelia robusta*. Employed to make the following.

Extractum Grindeliæ Fluidum.—*Internally* employed in doses of 20 to 40 drops or more, in water, for the relief of obstinate asthma.

℞ Ext. grindeliæ fl.,	$\frac{3}{4}$ ss.
Potassii iodidi,	3 iiss.
Syr. aurant. cort.,	3 v.
Aq. destillatæ,	$\frac{3}{4}$ iiss.

M. S. One teaspoonful three times a day.

GUAIACUM.

Internally employed in decoction of $\frac{3}{4}$ i. to a pint of water, taken through the day. Is also used as a constituent of anti-syphilitic teas (*Species lignorum*).

Externally its chief application is in the preparation of aromatic astringent tooth-washes.

Resina Guaiaci.—Employed in doses of gr. v.–xv. three or four times a day in powder, electuary, pill, or emulsion. It is employed as a diuretic and diaphoretic, for steady use, in inveterate forms of syphilis, gout, rheumatism, obstinate skin eruptions, lupus, and dropsy. Its action is similar to that of sarsaparilla. It is not well borne when there is a tendency to congestion.

Tinctura Guaiaci.—Given in doses of 20 to 60 minims several times a day.

Species Lignorum.—Composed of 5 parts of guaiac, 3 of lappa root, and 1 each of sassafras and licorice. Two tablespoonfuls are added to 6 glasses of water and boiled down to 4; and of this the half is taken warm in bed in the morning, the rest cold at night, in order to obtain a diuretic effect. If a cathartic action is desired, about $\frac{1}{6}$ part of senna leaves is added.

Take of:

Guaiac wood coarsely scraped,	1 ounce.
boil in sufficient water down to,	6 ounces;
just before the end of the boiling add	
Senna leaves,	1 drachm.
Licorice root,	2 drachms.
Fennel seed,	1 drachm.

Strain, and consume in the course of one day.

℞ Resin. guaiaci,
 Pulv. rhei,
 Aloes, āā ʒi.
 Extr. colocynth., gr. x.
 M. et ft. pil. No. 100. S. Three pills in the morning.

GUAIACOLUM.

See Creasotum.

GUARANA.

A dried paste of the crushed seeds of *Paullinia sorbilis*. Contains, besides tannic acid, gum, and a fixed oil, about five per cent caffeine. A nervine and astringent.

Internally employed in doses of gr. viij.-xl. in powder, several times a day, for hemicrania; it is also used for diarrhœa in children.

Extractum Guaranae Fluidum.—May be used instead of the powder in doses of 8 to 40 drops.

℞ Guaranae, ʒi.
 (Quin. hydrochlor., gr. xij.)
 (Morph. hydrochlor., gr. ʒ)

Div. in chart. No. 4. At the beginning of a hemicrania take one powder, and then a second at the end of from one to three hours, or more if necessary.

℞ Guaranae,
 Sacch. albi, āā gr. xl.

M. et div. in chart. No. 5. S. To be taken in the course of twenty-four hours. (Diarrhœa, chronic intestinal catarrh, dyspepsia.)

HAMAMELIS.

The root and leaves of *Hamamelis virginica* (witch hazel). The crude drug is not employed in medicine, but is used to make the following:

Extractum Hamamelis Fluidum.—A tonic and astringent.

Internally in doses of one to two teaspoonfuls several times a day in hemorrhages of all kinds; in hæmoptysis in doses of 20 to 40 drops several times a day; in diarrhœa and in blennorrhœa.

Externally, mixed with equal parts of glycerin and a little starch, as an application to bleeding piles; also employed in skin diseases, especially eczema and pruritus, and in cutaneous inflammations.

HELENINUM.

Antiseptic.—A colorless and odorless crystalline substance, derived from *Inula* (elecampane), insoluble in water but readily soluble in hot alcohol, ether, and fixed oils.

Internally employed in doses of gr. $\frac{1}{3}$ to v. several times a day (gr. xv. pro die) in powder or alcoholic solution, in malaria, but more especially recommended in tuberculosis, whooping-cough, chronic bronchitis, and catarrhal diarrhœa.

Externally applied to foul ulcers as an antiseptic.

Alantolum.—*Internally* employed in the same way, and to meet the same indications, as helenin, but sufficient data are wanting to establish its value.

HOMATROPINA.

See Belladonna.

HYDRARGYRUM.

The mercurials, which can only exert their systemic and resorbent effects by forming readily soluble albuminates in combination with the albumin of the organism, find their chief application in the treatment of syphilis; then in the destruction of micro-organisms, vegetable and animal parasites, here more especially the bichloride; further as purgatives and diuretics, calomel; and finally as antiphlogistics and resorbents in inflammatory affections of various sorts and of various organs. In regard to the last-named action their value is very questionable, and they are but seldom used at the present time. Also in regard to external applications (blue ointment) to effect the resorption of already formed, but not suppurating, inflammations (lymphangitis) and exudations, the therapeutic field of mercury has become very restricted.

On the other hand, as regards the treatment of syphilis, mercury was formerly, and in a measure still is, regarded almost as a specific. The action of the drug in the different forms of this disease may be formulated as follows:

The simple, milder forms of syphilis (roseola, condylomata,

etc.) may be treated without mercury, but they disappear much more quickly and permanently when the drug is employed. Mercury can certainly cause the primary lesion (indurated chancre) to disappear, still secondary symptoms often enough follow, and many experienced syphilographers therefore recommend that the remedy be not used for hard chancre, in order to save the organism the debilitating effects of repeated mercurialization. Nevertheless, a hard chancre can be quickly cured, and the induration dissipated, by the application of gray ointment.

In the tertiary forms mercury is less efficient than iodine, but it is nevertheless urgently indicated when speedy help is demanded in the case of syphilitic disease of an important organ; as in iritis, severe forms of laryngeal syphilis, cerebral troubles, etc. Very often in especially severe cases, the threatening symptoms, which have persisted in spite of the most active non-mercurial treatment, will rapidly disappear under mercurialization. Furthermore, many observers state that the tertiary symptoms disappear less rapidly under mercury than under iodine, but for that reason more certainly and more permanently.

The mercurial treatment of syphilis is either not to be attempted at all or to be employed with great caution in cases of serious digestive disturbances, marked anæmia or (non-syphilitic) cachexia, scrofula, tuberculosis, or scorbutic affection; and care must be used in its application in cases of chronic alcoholism, in pregnancy, and finally when gangrenous ulceration, or ulceration that threatens to become gangrenous, is present.

General Considerations Concerning the Employment of Mercury in Syphilis.

For *internal* use those preparations are to be preferred which may be the longest continued without injury to the digestive organs. This is more particularly the case with those preparations which must be converted into assimilable forms in the stomach and intestinal canal than with those which are already in shape to be absorbed before administration.

For *external* application the preferable modes are inunctions, sublimate baths, and subcutaneous injections (bichloride, albuminate, peptonate, and calomel), then vaporization and

suppositories (blue ointment); the last-named methods find their special application in cases of extensive exanthemata and where the condition of the stomach and intestinal tract forbids the internal administration of mercury.

The mercurial treatment should be continued not only until all the symptoms have completely disappeared, but also for a certain time after. Ricord used to require every syphilitic patient to take iodide of mercury for six months and iodide of potassium also for six months. Other syphilographers interrupt the treatment repeatedly for one month in every three or four, and then begin again.

Cautions.—In all forms of mercurial treatment the greatest attention must be paid to keeping the buccal cavity clean, and on the first appearance of stomatitis the mercury must be stopped, and a mouth wash of chlorate of potassium, or some other astringent solution, must be used. A still safer method, when inunction is being practised, is to use a mouth wash of this kind during the entire course of treatment.

Salivation, as is well known, is more apt to occur in those who live in small and badly ventilated rooms, from inhalation of the fumes of mercury when inunctions are practised, when constipation is present, if the care of the skin is neglected, and after taking cold.

The diet during a course of mercurialization should be ample and nutritious; vegetables which cause flatulence, fruit, and all foods containing vegetable acids should be avoided. Beverages containing soda are also to be avoided. The use of milk is to be recommended. For weak persons a little beer or wine is allowable, but tobacco must be forbidden.

Mercurial poisoning of mild degree passes away under the treatment above indicated. Severe acute poisoning calls for the use of the stomach-pump or an emetic (apomorphine) to empty the stomach, and the exhibition of freshly precipitated sulphide of iron as an antidote; also milk in abundance, albumen, cathartics, opiates, and stimulants. For chronic poisoning, the prophylactic measures above mentioned, a good nutritious diet, fresh pure air, warm (sulphur) baths, and iodide of potassium.

PREPARATIONS OF MERCURY.

HYDRARGYRUM.

Internally exhibited metallic mercury is not absorbed, and is therefore never given to produce a systemic effect, but only occasionally as a mechanical help in desperate cases of intestinal occlusion, from three to ten ounces, or even one or two pounds, being swallowed for this purpose. It is to be avoided, when peritonitis or hernia is present, and its results are always problematical.

Unguentum Hydrargyri.—The recently introduced molinum (*q.v.*) has been recommended as an excellent excipient for this ointment in place of lard.

Externally employed by friction and in plasters:

1. To obtain local effects. A piece the size of a small bean may be applied several times a day in cases of glandular inflammation, mastitis, parotitis (with care); from $\frac{1}{2}$ to 1 drachm rubbed on the skin from four to six times a day in croup and inflammatory processes such as pneumonia, pleurisy, and peritonitis; in felon, orchitis, pseudo-erysipelas; in variola to abort the pustules; in furuncles and carbuncle, a cloth spread with the ointment is applied over the phlegmon and left there, while the skin around it is rubbed every two hours with a piece the size of a pea.

To promote resorption and dissipation of exudative products without pus-formation in inflammations of all sorts, but is seldom so employed at the present time. (When the local applications in cases of iritis, epididymitis, etc., actually produce good results, it is allowable to assume a syphilitic foundation for the trouble.)

As a certain parasiticide, especially in phthiriasis capitis and vestimentorum.

As an adjuvant in the treatment of lupus.

(The action of the ointment is increased by the addition of corrosive sublimate—gr. i.—iss. in ʒ vi.—red precipitate, iodine and iodide of potassium, turpentine, camphor, etc.; and weakened by the addition of other ointments, hyoscyamus, opium.)

2. To produce a systemic effect, the inunction method is especially valuable in secondary syphilis. The patient rubs on the skin (using a piece of leather or a glove) for from

fifteen to thirty minutes every day from 45 to 75 grains of blue ointment. This he does for eight days, selecting a new part of the body each day, thus: 1, the right leg; 2, the left leg; 3, right thigh; 4, left thigh; 5, right arm; 6, left arm; 7, chest; 8, abdomen. By means of a bath before the rubbing, or a sweat after, the absorptive power of the skin is increased. The part to which the ointment has been applied is protected by a flannel bandage. Before each application the body should be washed with soap and water, and throughout the course the greatest cleanliness, especially as regards the mouth, should be observed. After every meal the teeth should be carefully picked and brushed and a mouth-wash and gargle containing chlorate of potassium should be used. If the gums are already a little "touched," they should be painted about the roots of every tooth with tincture of myrrh applied with a fine brush. Then the mouth-wash is again to be used at bed-time. The food should be of the most nourishing kind, with a glass of beer or wine and plenty of milk. The bowels must be moved at least once a day, to effect which some mineral water may be given, if necessary. At each recurrence of the eruption (as well as in the first roseola) iodide of potassium is given, and the mercurial course repeated in the same way or perhaps rather less energetically. The best time of the year for the inunction treatment is the spring and summer. If it must be undertaken in the winter care must be taken by the patient after the "cure" is over, not to expose himself to the raw air, and he had better remain in bed.

Contra-indications to the inunction treatment are to be found only in general acute eczema and large cutaneous wounds.

Emplastrum Hydrargyri.—Contains 30 parts of mercury, 10 each of olive oil and resin, and 50 of lead plaster. Its effects are best seen in the case of the initial lesion and in cutaneous ulcers and gummata of the periosteum.

Oleum Cinereum.—Composed of 3 parts each of mercury and lanolin and 4 parts of olive oil. Employed subcutaneously in doses of gr. iv. once a week as a mild syphilis "cure."

Sapo Mercurialis.—Composed of $33\frac{1}{2}$ grains of mercury and $66\frac{3}{4}$ grains of potash soap. It is recommended as a substitute for mercurial ointment, as being cleaner and more easily rubbed in, but otherwise has no special advantage.

Massa Hydrargyri.—Blue pill contains 33 parts of mercury, 5 of licorice, 3 of glycerin, 25 of althæa, and 34 of honey of rose. It is given in doses of gr. i.—xv.

HYDRARGYRUM AMMONIATUM.

White precipitate is employed only externally, and resembles in action the red precipitate, but is preferred to the latter in parasitic and other diseases of the skin, in eczema, and in eye-diseases, applied in the form of the officinal ointment.

Unguentum Hydrargyri Ammoniatum.—Contains ten per cent of ammoniated mercury.

℞ Ung. hydrarg. ammon., 3 i.
Ung. paraffini, 3 iij.

M. S. To be rubbed over small areas in tinea capitis, the parts being first thoroughly cleansed.

℞ Hydrarg. ammon.,
Bismuthi subnitr., āā 3 i.
Ung. glycerini, 3 iv.

M. S. To be applied every two or three days. (Psoriasis, pigmented spots on the skin, prickly heat, chloasma hepaticum, etc.)

HYDRARGYRUM CARBONICUM OXIDATUM.

Internally employed in doses of gr. $\frac{1}{3}$ in pill, beginning with one pill a day and gradually increasing to six pills.

HYDRARGYRI CHLORIDUM CORROSIVUM.

Corrosive sublimate, bichloride of mercury, occurs in the form of white, translucent, crystalline pieces, which may be made into a white powder by rubbing, and on the application of heat melts and becomes volatilized. It is soluble in 16 parts of cold, and 3 of boiling, water, 3 of alcohol, and 4 of ether.

Internally employed in doses of $\frac{1}{12}$ to the maximum of gr. $\frac{1}{3}$, in pills with argilla (not more than $\frac{1}{12}$ grain to the pill) once or twice a day after meals, in syphilis.

Subcutaneously an injection may be given every day or every other day of a one-half to one per cent aqueous solution, but the albuminate or peptonate is preferable.

Externally employed in weak solution, 1 grain to the quart,

as an injection in gonorrhœa; for the vagina a 1:2,000 solution may be used; for washing out the conjunctival sac a solution of gr. ij.-v. to the quart is strong enough. Used as a gargle and by inhalation (1:1,000) in sore-throat and laryngitis, but especially in diphtheria (gr. i.-ij. in $\frac{3}{4}$ vij. for children one to twelve years old) for gargle, gentle pencilling, and inhalations once in about every three hours. Employed also in baths in skin diseases, and as a caustic (see Collodium).

For lotions, mouth washes, and sprays, 1 part in 100 of a 1:1,000 solution is used, or the same proportion of a solution of 1 part each of corrosive sublimate and common salt (and 5 parts of tartaric acid) in 1,000 of ordinary water. The addition of the chloride of sodium prevents the precipitation of the bichloride in undistilled water and does not weaken the solution for disinfectant and surgical purposes; the tartaric acid is said to render the solution less irritating and more certain. In obstetrical practice a solution of 1:2,000 is employed as a disinfectant to the external genitals and vagina; for washing out the puerperal uterus a solution of 1:5,000 is strong enough, and care must be taken that it all flows away readily and is not retained in the uterus. Towels and tampons should be dipped in a 1:1,000 solution and then dried. For impregnating cotton, gauze, wood-wool, moss, etc., a solution is made of 5 parts of corrosive sublimate (5 of chloride of sodium), 250 of glycerin, 500 of alcohol, and 750 of distilled water, with perhaps one-third of a grain of fuchsin to the pint if it is desired to give it a special distinguishing color. Three pints of this solution will suffice for about forty-five yards of mull or a proportionate weight of cotton. Catgut, silk, drains, and sponges are kept in a 5-per-mil. solution of sublimate for ten to twelve hours; and before being used are laid in a 1:1,000 sublimate, or three-per-cent carbolic acid solution; the instruments also are placed in the carbolic solution. The hands are washed with alkaline soap, then with alcohol, and finally dipped into a 1:1,000 sublimate solution.

Lotio Flava.—Yellow wash is made by adding 30 grains of corrosive sublimate to the pint of lime water; it is applied (after shaking the bottle) to dressings for syphilitic ulcers, etc.

Hydrargyri Bichloridum Albuminatum.—To diluted and carefully filtered white of egg a solution of corrosive sublimate (5:1,000) is added in such proportion that all the albu-

minate of mercury is held in solution. This preparation and also the Hydrargyri Bichloridum Peptonatum are used both internally and subcutaneously (gr. $\frac{1}{12}$ to $\frac{1}{6}$), and for the latter purpose are better than the simple watery solution.

Liquor Hydrargyri Bichloridi Carbamidati.—Prepared by dissolving 15 grains of corrosive sublimate in $3\frac{1}{2}$ ounces of hot water containing 8 grains of urea (m xv . represent gr. $\frac{1}{4}$ of the bichloride.) It is recommended as a mild preparation, especially adapted for painless hypodermic use, in the treatment of syphilis.

Unguentum Acre.—Composed of bichloride of mercury, cantharides, and solution of chloride of antimony, each 1 part, and resin cerate, 4 parts.

℞ Hydrarg. chlor. corros., gr. iss.-iij.
Aq. destillatæ, $\frac{5}{3}$ viss.

M. S. For inhalation, in angina, syphilitic pharyngitis, and diphtheria.

℞ Hydrarg. chlor. corros., gr. i.
Argillæ, gr. xlv.
Aq. destillatæ, q.s.

M. et ft. pil. No. 30. S. One pill morning and night, gradually increased.

℞ Hydrarg. chlor. corros., gr. iss.
Sodii chloridi, gr. viij.
Aq. destillatæ, 3 iiss.

M. solv. terendo, filtr. S. For subcutaneous injection in dose of m viij . in the back or buttocks, gradually increasing to m xv .

℞ Hydrarg. chlor. corros., gr. viij.-xv.
Solve in
Ætheris, 3 i.

Adde
Collodii, 3 v.

M. S. Sublimate collodion. (As a caustic for pigmented spots, birth-marks, etc.)

℞ Hydrarg. chlor. corros., gr. iss.
Sodii chloridi, gr. v.-xv.
Aq. destillatæ, 3 iiss.

M. S. For hypodermic use, in dose of m xv . every second day.

℞ Hydrarg. chlor. corros., gr. iss.-iij.
 Tinct. benzoini, ʒ iiss.
 Aq. rosæ, ʒ vi.

M. S. Lotion for use in acne rosacea and disseminata, and in prickly heat.

℞ Hydrarg. chlor. corros., gr. vij.
 Glycerini, ʒ vi.

M. S. For touching syphilitic ulcers in the mouth and throat.

℞ Hydrarg. chlor. corros., ʒ i.
 Sodii chloridi, ʒ ij.
 Acidi tartarici, ʒ v.
 Aq. destillatæ, ʒ iiss.

M. Keep in a yellow-glass bottle and label Poison. S. Five-per-cent sublimate solution for use in making solutions. (Twenty drops contain 1 grain of the bichloride.)

℞ Hydrarg. chlor. corros., gr. xv.
 Solut. peptonat. aq., ʒ xiiss.
 Sodii chloridi, gr. xlv.

M. et ft. solutio et filtra. S. For hypodermic use. (In every 15 drops of the solution there is $\frac{1}{3}$ grain of bichloride.)

HYDRARGYRI CHLORIDUM MITE.

Calomel occurs in the form of an impalpable powder, and for this reason is preferred for use in the eyes.

Internally employed best as a powder mixed with sugar in wafers; and during its use salty food and the medicinal employment of chlorine water should be avoided.

1. As a laxative in doses of gr. iij.-xv. for adults, gr. $\frac{1}{4}$ to iss. for children, often combined with jalap or rhubarb.

2. In typhoid fever, up to about the ninth day, in strong individuals, when there is considerable fever and not much intestinal disturbance, it has been given in doses of gr. vij. from two to four times in the twenty-four hours; but this is now abandoned by many.

3. In summer diarrhœa of children and cholera infantum, due to digestive disturbances, calomel is given in small repeated doses of about $\frac{1}{12}$ to $\frac{1}{2}$ grain. In cholera (gr. $\frac{1}{12}$ to $\frac{1}{2}$) the action of the drug is very uncertain.

4. In syphilis, especially in small children, where the remedy must be used for an extended period, it may be given in doses of gr. $\frac{1}{2}$ to iss. three times a day. In adults, but not in children, $\frac{1}{2}$ gr. opium may be added.

5. As a diuretic in œdema and dropsy of heart disease, also of cirrhosis of the liver, in doses of gr. iij. three times a day for three or four days, combined, if desired, with gr. $\frac{1}{2}$ opium or also with digitalis. If the desired result is not obtained, the treatment may be repeated in a week, and if it then fails the remedy may be abandoned. In exudative processes (pleurisy and the like) the diuretic action of calomel is ordinarily unsatisfactory or *nil*.

Externally.—(a) Applied once a day, pure or mixed with equal parts of sugar and $\frac{1}{2}$ part of powdered opium, in opacities of the cornea, scrofulous ophthalmia, and herpes of the cornea, during the use of which iodine in any form is to be avoided, to prevent the formation of a caustic iodide of mercury; and also in syphilitic ulcers and growths of the larynx and pharynx, and upon sluggish ulcers.

(b) Broad condylomata, dusted with calomel, after being previously painted with a solution of chloride of sodium, are quickly resorbed.

(c) For parenchymatous injection in syphilis. For the cure of a moderately severe syphilis 6 grains of calomel in four injections usually suffice; they are to be made in single doses of gr. i.—iss. thrown deeply into the gluteal region in the muscular tissue or the loose connective-tissue layer just above the fascia, alternately in the two sides at intervals of one or two weeks. The parts should be gently massaged after each injection. The syringe should be provided with a strong, gold-plated needle with wide lumen, made thoroughly aseptic with carbolic acid. A solution made according to the formula given below, or the strongly recommended calomel oil (ten per cent), may be used. Special care of the mouth is necessary.

Lotio Nigra.—Black wash is made by adding 30 grains of calomel to 10 ounces of lime water. It is used as an application to syphilitic ulcers.

[The use of calomel which has long been mixed with sugar or carbonate of magnesium should be avoided, as it is thereby transformed into corrosive sublimate.]

℞ Hydr. chlor. mitis, 3 i.
 Sodii chloridi, gr. xv.
 Aq. destillatæ, 3 x.

M. S. For parenchymatous injections into the gluteal region, in dose of ℥ viij.-xv.

℞ Hydrarg. chlor. mitis, gr. i.-ij.
 Sacch. lactis, 3 i.

M. et div. in chart. No. 10. S. One powder every three hours. (Summer diarrhœa and cholera infantum.)

℞ Hydrarg. chlor. mitis, gr. ix.-xxij.
 Pulv. opii, gr. ix.
 Sacch. albi, 5 ss.

M. et div. in chart. No. 30. S. One powder morning and evening. (Syphilis in adults. For children each dose of calomel should be $\frac{1}{30}$ to $\frac{1}{6}$ gr., and no opium should be given.)

℞ Hydrarg. chor. mitis, gr. i.-ix.
 (Pulv. jalapæ, gr. xvij.-xxx.)
 Sacch. albi, 3 i.

M. et div. in chart. No. 6. S. One powder every two hours. (Laxative for children.)

℞ Hydrarg. chlor. mitis, 3 ss.
 (Pulv. digitalis, gr. v.-viiij.)
 Sacch. albi, 3 i.

M. et div. in chart. No. 10. S. One powder three or four times a day for three or four days. (Diuretic in cardiac dropsy.)

℞ Hydrarg. chlor. mitis, gr. xv.
 Pulv. opii, gr. v.
 Ext. glycyrrh., q s.

M. et ft. pil. No. 20. S. One pill morning and evening until all the syphilitic symptoms have entirely disappeared.

HYDRARGYRI CYANIDUM.

Internally employed in doses of gr. $\frac{1}{2}$ to $\frac{1}{4}$ (maximum dose, gr. $\frac{1}{3}$, or gr. $1\frac{1}{2}$ pro die), in aqueous solution, pill, or powder, more especially in diphtheria occurring in older children. Its action here is questionable, but it has been recently recommended.

Externally in solution of 1 or 2 parts to a thousand as a

gargle in diphtheria and syphilitic ulcers of the throat, and on dressings.

Subcutaneously injected in dose of gr. $\frac{1}{12}$, it is said to be as effective as corrosive sublimate and never to cause salivation—but this is questionable.

℞ Hydrarg. cyanidi, gr. iij.
 Aq. menth. pip., ʒ xiij.
 Aq. destillatæ, ʒ iiss.
 M. S. One teaspoonful every hour, day and night.

HYDRARGYRUM FORMAMIDATUM.

Externally recommended as an application to the initial lesion of syphilis in solution of $2\frac{1}{2}$ parts to a thousand.

Subcutaneous injections of ℥ viij.-xv. of a one-per-cent aqueous solution (corresponding to gr. $\frac{1}{12}$ to $\frac{1}{6}$ of corrosive sublimate), once a day for thirty days, are especially recommended in syphilis, as the preparation does not coagulate albumin, is quickly taken up into the circulation, and is excreted by the kidneys, and furthermore causes little local irritation.

HYDRARGYRI IODIDUM RUBRUM.

Binioidide of mercury is a scarlet-red powder, soluble in 130 parts of cold, and 20 of boiling, alcohol, but insoluble in water.

Internally employed in doses of $\frac{1}{12}$ to $\frac{1}{3}$ (the maximum), often with the addition of iodide of potassium, in alcoholic solution or pills, in inveterate forms of syphilis and scrofula, in lupus, etc. It should not be given with sulphur or chlorine salts or with bases.

Externally applied in the form of ointment (gr. i.-x. in gr. c. of lard) to scrofulous, syphilitic, and carcinomatous ulcers; and in solution (gr. iv.-ʒ xiiss. of water, with ʒ ss. of iodide of potassium) on a brush to syphilitic ulcers of the soft palate and pharynx.

℞ Hydrarg. iodidi rubri, gr. iss.
 Potass. iodidi, ʒ ss.
 Aq. destillatæ,
 Syr. simplicis, āā ʒ iis.

M. Keep in yellow glass bottle. S. Fifteen to 30 drops three times a day.

℞ Hydrarg. iod. rubri, gr. viij.
 Pulv. althææ,
 Sacch. albi, āā ʒi.
 Mucil. acaciæ, q.s.

M. et ft. pil. No. 100. S. One to three pills three times a day.

HYDRARGYRI IODIDUM VIRIDE.

Internally the protiodide of mercury is employed in doses of gr. $\frac{1}{8}$ to i. (maximum, gr. iij. pro die) in powder or pill, but is no better for syphilis than calomel or corrosive sublimate, since the action of the iodine can hardly be taken into account.

HYDRARGYRI OXIDUM FLAVUM.

Internally employed in doses of gr. $\frac{1}{12}$ to $\frac{1}{8}$ (maximum dose, gr. $\frac{1}{2}$, or gr. iss. pro die) once or twice a day in powder or pill.

Externally applied in powder or ointment in parasitic skin diseases. Its action is similar to that of corrosive sublimate, but less intense. It is employed in eye-salves.

HYDRARGYRI OXIDUM RUBRUM.

Employed like the preceding.

Unguentum Hydrargyri Oxidi Rubri.—Made with 1 part of red precipitate to 9 parts of ointment. Employed as an application to sluggish granulations where a strong irritant is indicated.

Unguentum Ophthalmicum.—Composed of one part red precipitate ointment to 9 parts of vaselin.

Employed in chronic blepharitis marginalis, vascular keratitis, and opacities of the cornea.

Unguentum Ophthalmicum Compositum.—This is stronger than the preceding, and is made after the following formula:

℞ Hydrarg. oxidi rubri, gr. xlv.
 Zinci oxidi,
 Camphoræ, āā gr. xv.
 Cera flavæ, gr. lxxv.
 Adipis, ʒvi.
 M. S. Unguentum Ophthalmicum Compositum.

HYDRARGYRI SALICYLAS.

Strongly recommended for intra-muscular injections, suspended in oil or liquid vaselin (1:10) in syphilis, in doses of gr. iss. every four days, or two injections of the same amount every eight days.

Thymolated mercury is employed in the same way and in the same dose as the salicylate.

HYDRARGYRI SOZOIODOLAS.

See Soziodolum.

HYDRARGYRI SULPHO-ICHTHYOLAS.

See Ichthyolum.

HYDRARGYRI TANNAS.

Internally employed in doses of gr. $\frac{1}{3}$ to $\frac{1}{2}$ for children, gr. iss.-ij. for adults, in powder with sugar of milk in three doses after meals. A mild, very slightly laxative antisypilitic remedy. It may be given with tannin gr. i. or opium gr. $\frac{1}{3}$ when there is a tendency to diarrhœa.

℞ Hydrarg. tannat., gr. lxxv.
 Pulv. glycyrrh.,
 Ext. glycyrrh., āā q.s.

M. et ft. pil. No. 100. S. Two pills three times a day.
 (Secondary syphilis.)

℞ Hydrarg. tannatis, gr. xv.
 Acidi tannici, ʒi.
 (Pulv. opii, gr. i.)
 Sacch. lactis, ʒi.

M. et div. in chart. No. 10. S. To be used when there is a tendency to diarrhœa.

HYDRASTIS.

A *hæmostatic*. The crude drug (rhizome of *Hydrastis canadensis*) is seldom used, but instead of it one of the following preparations.

Extractum Hydrastis Fluidum.—*Internally* employed in doses of 15 to 20 drops three or four times a day, pure in water, or in a mixture with Malaga wine and syrup of cinna-

mon, in too frequent or profuse menstruation at any time of life, but especially at puberty and the climacteric. In these cases and in uterine hemorrhage following endometritis it is almost always successful, but it is less certain in its effects in bleeding associated with uterine fibroids, in hæmoptysis, and epistaxis. Hydrastis does not produce uterine contractions, and for that reason it is less speedy in its effects than ergot, and it is therefore advisable to give the remedy, which also acts as a tonic and digestive, not only during the menstrual period, but also for several days before.

Extractum Hydrastis.—*Internally* employed less frequently than the preceding, in doses of about 12 grains a day, in pill form because of its unpleasant taste.

Tinctura Hydrastis.—*Internally* employed, like the fluid extract, in doses of ʒ ss.—i. several times a day.

Hydrastinæ Hydrochloras.—*Internally* employed in doses of gr. ss.—iss. in powder or pill for the same purposes as the fluid extract of hydrastis, and also as a succedaneum for quinine in intermittent and typhoid fevers; in doses of gr. iss.—v. it is reputed to be a mild cholagogue laxative, useful in constipation associated with digestive disturbances and jaundice, but it is here an uncertain remedy.

Subcutaneously employed in doses of 15 drops of a ten-per-cent solution in water in uterine hemorrhage due to endometritis or fibroid tumors.

Berberinæ Sulphas.—This is another alkaloid extracted from hydrastis, which resembles hydrastine in dose, action, and indications.

℞ Hydrastinæ hydrochlor., gr. xv.

Solve in

Aq. destill. fervent., ʒ iv.

Aq. aurant. flor.,

Syr. toltutan., āā ʒ i.

M. S. Ten to 20 drops every two to four hours.

℞ Berberinæ sulph., gr. xv.

Solve in

Aq. dest. fervent., ʒ v.

Adde

Vini malacensis,

Syr. cinnamomi, āā ʒ i.

M. S. Fifteen to 25 drops every two to four hours.

HYDROQUINONUM.

An antipyretic and antizymotic.

Doses of 12 to 15 grains reduce the temperature about 1° F., but only for a very short period and with sweating, and frequently an equally rapid rise accompanied with a chill follows. Larger doses often cause vertigo, ringing in the ears, rapid respiration, and cardiac weakness. The remedy must, therefore, be used with caution.

Internally employed in doses of gr. iij.-xij., in solution, powder, or capsules, in all febrile conditions, acute rheumatism, pneumonia, typhoid fever, and tuberculosis. The internal use of the drug can, however, be dispensed with.

Subcutaneously it has been given in doses of 15 drops of a freshly-prepared ten-per-cent solution.

Externally used in one or two-per-cent solution as an injection in gonorrhœa, and on compresses in gonorrhœal ophthalmia; also applied in ointment, 1:30.

HYDROXYLAMINUM HYDROCHLORICUM.

Occurs in the form of colorless crystals soluble in water, alcohol, and glycerin.

Externally recommended in a solution of gr. iss. in ʒiij. each of glycerin and alcohol in psoriasis, pityriasis versicolor, lupus, mycosis tonsurans, sycosis parasitaria, and other mycotic diseases of the skin, as a substitute for pyrogallic acid and chrysarobin. The diseased parts, previously washed with potash soap, are painted from three to five times a day with the above solution. (The remedy is extremely irritating to the skin when applied in stronger solutions; therefore care must be exercised in its use.)

HYOSCYAMUS.

Resembles belladonna in its action, and is, like it, employed for the relief of irritable cough and possibly neuralgia.

Internally given in doses of gr. ss.-v. (maximum dose, gr. viij., or gr. xxiv. pro die) several times a day in powder, pill, or infusion.

Externally in cataplasms, gargles, and enemas.

Extractum Hyoscyami.—*Internally* employed in doses of gr. $\frac{1}{4}$ up to the maximum of gr. iij., in pill, solution, tincture, or emulsion, as a quieting and antispasmodic remedy, more especially in diseases of the respiratory organs.

Externally used as a local application in toothache, in enemas or suppositories (gr. ss.—ij. each), as a collyrium (gr. viij.—xv. in 3 vi.), an eye-salve (gr. viij.—xxx. in 3 iiss. vaselin), in other ointments, and in plasters (ten to twenty-five per cent).

Extractum Hyoscyami Fluidum.—*Internally* employed like the preceding in doses of 5 drops.

Oleum Hyoscyami.—(Four parts of hyoscyamus, 3 parts alcohol, and 40 parts olive oil.)

Externally employed as an analgesic liniment, pure or mixed with equal parts of chloroform. Also given in enema in doses of 80 drops.

Unguentum Hyoscyami.—A ten-per-cent ointment employed externally for the same purposes as the oil.

Hyoscyamina.—Identical with duboisine, and similar in its action to atropine, though apparently somewhat more powerful.

Internally employed in doses of gr. $\frac{1}{8}$ to $\frac{1}{3}$ (gr. $\frac{1}{12}$ pro die) in powder or pill for neuralgia, paralysis agitans, chorea, and senile and mercurial tremor.

Externally applied in solution (gr. i. in 3 vi. water with gtt. x. alcohol) in the eye as a mydriatic.

Subcutaneously in initial doses of gr. $\frac{1}{12}$, increased to $\frac{1}{8}$ if necessary, in maniacal conditions where morphine is not tolerated.

Hyoscinæ Hydrobromas.—*Hypnotic.*

Internally employed in doses of gr. $\frac{1}{800}$ to $\frac{1}{120}$ in powders, pills, or aqueous solution in spasmodic conditions and neuralgias of every kind, in chorea, paralysis agitans, epilepsy, and in excitable conditions and sleeplessness of the insane; also recommended in the night sweats of phthisis and spermatorrhœa. It is an exceedingly powerful poison, and must therefore be employed with great caution in very minute doses.

Subcutaneously employed to meet the same indications (see formula).

Hyoscinæ Hydrochloras; Hyoscinæ Hydriodas.—These two salts are similar in all respects to the hydrobromate of hyoscine.

℞ Extr. hyoscyami, gr. viij.

Solve in

Aq. destillatæ, ʒ v.

Vini antimonii, ʒ v.

Extr. glycyrrh., ʒ i.

M. S. One tablespoonful every two hours.

℞ Extr. hyoscyami, gr. xv.

Aq. amygdal. amaræ, ʒ v.

M. S. Ten to 20 drops in water or pectoral tea three or four times a day.

℞ Pulv. hyoscyami,

Ext. hyoscyami, āā gr. xxij.

M. et div. in pil. No. 30. S. One pill three times a day. (To quiet an irritable cough.)

℞ Antimonii pentasulphidi,

Extr. hyoscyami, āā gr. xl.

Pulv. glycyrrh., q.s.

M. et ft. pil. No. 50. S. One pill every two or three hours. (For a dry, irritable cough.)

℞ Hyoscinae hydrochlor., gr. $\frac{1}{6}$

Aq. destillatæ, ʒ xvij.

Syr. aurant. cort., ʒ vij.

M. S. One teaspoonful once or twice a day. (Equivalent to gr. $\frac{1}{160}$.)

℞ Hyoscinae hydrochlor., gr. $\frac{1}{6}$

Aq. destillatæ, ʒ iiss.

M. S. From 5 to 10 drops in water, milk, or wine; also by hypodermic injection in dose of gtt. iij.-vij. (containing gr. $\frac{1}{300}$ to $\frac{1}{120}$.)

HYPNONUM.

Hypnone or acetophenone is a hypnotic remedy, obtained by distillation of a mixture of benzoate and acetate of calcium. It is a colorless, oily fluid, slightly caustic, and having a sharp taste and smell, only slightly soluble in water and glycerin, but readily so in the fixed oils.

Internally given in doses of 2 to 4 drops in gelatin capsules (each containing $\frac{1}{2}$ drop of hypnone in almond oil) it is said to produce a quiet, deep sleep in from one-half to three-

quarters of an hour. It is used in insomnia due to mental excitement, especially in hard drinkers, where it is reputed to surpass chloral and paraldehyde in efficacy. The hypnotic action is uncertain and there is no analgesic effect, yet the remedy is usually quieting. Care must be employed, as the remedy markedly lowers the excitability of the vagus, reduces the blood pressure, and alters the respiratory rhythm.

Subcutaneously it has been injected in solution in almond oil (1 part to 2). The remedy can be dispensed with.

JABORANDI.

See Pilocarpus.

ICHTHYOLUM.

A tarry substance, containing sulphur, of a disagreeable odor, obtained, near Seefeld in the Tyrol, by distillation from a bituminous schist containing the fossil remains of fishes. From it is obtained sulpho-ichthyolic acid, the foundation of the following most frequently used of the preparations of ichthyol.

Ammonii Sulpho-ichthyolas.—It is this preparation which is commonly called ichthyol. It is a reddish-brown, clear fluid of syrupy consistence, soluble in water and in a mixture of alcohol and ether, of an unpleasant bituminous odor, which is obtained by the neutralization of free sulpho-ichthyolic acid by stronger ammonia.

Hydrargyri Sulpho-ichthyolas.—Obtained by replacing the base in 10 parts of sulpho-ichthyolate of sodium with 3 parts of corrosive sublimate. Seldom used.

Lithii Sulpho-ichthyolas, Sodii Sulpho-ichthyolas, Zinci Sulpho-ichthyolas.—These three preparations are obtained by neutralizing free sulpho-ichthyolic acid with lithium carbonate, caustic soda, and oxide of zinc respectively.

Internally employed, especially the ammonium and lithium salts, in doses of gr. iv.–xv. in capsules or sugar-coated pills, in chronic rheumatism, and chronic catarrhal diseases of the stomach and lungs—here as a specific; in nephritis and dropsy, catarrhal cystitis, chronic gonorrhœa, Bright's disease, and diabetes; and also as an adjuvant in cases in which it is externally applied.

Externally employed in ointment (gr. xlvi.– $\frac{3}{4}$ i.) made with

vaselin, paraffin ointment, lanolin, or lard, in liniment with the addition of cumarin or vanillin to disguise the odor, in cotton, and in soap, in the treatment of acute and chronic articular rheumatism, neuralgias, sciatica, and lumbago; in peri- and para-metric exudations; for frost-bites, burns, and varicose veins; in various skin diseases, such as psoriasis, eczema (especially of the hands), acne (red nose); and it has also been recently recommended in applications of two-per-cent strength in facial erysipelas.

Inhalations of a spray of sulpho-ichthyolate of ammonium ʒiv.-v. in one or two quarts of water, once or twice a day, have been recommended. in coryza, influenza, bronchial catarrhs attended with fever, and sore throat; but their value is questionable.

℞ Ammon. sulpho-ichthyol., ʒ iiss.
 Ol. olivæ,
 Liq. calcis, āā ʒ ij.

M. S. For application in eczema and other skin diseases. (Shake the bottle before using.)

℞ Ammon. sulpho-ichthyol., ʒ iiss.
 Ol. ricini, ʒ v.
 Alcohol, ʒ ij.

M. S. Mop the scalp with a sponge dipped in the solution twice a day, and then apply wadding. (For painful scalp in rheumatism.)

℞ Ammon. sulpho-ichthyol.,
 Aquæ destillatæ, āā ʒ iiss.
 Lanolini, ʒ i.

M. S. Apply twice a day to rheumatic joints (when painful) and cover with cotton.

℞ Ammon. sulpho-ichthyol.,
 Ol. terebinthinæ, āā ʒ ss.

M. et ft. linimentum. S. To be applied in erysipelas and chilblains.

℞ Ammon. sulpho-ichthyol., ʒ i.
 Adipis, ʒ iiss.
 Lanolini, ʒ ss.

M. et ft. unguentum. S. For external use in prurigo, psoriasis, acne, and burns.

INFUSA.

The U. S. Pharmacopœia directs that infusions, the strength of which is not otherwise specified, shall be prepared by pouring 100 parts of boiling water upon 10 parts of the substance, coarsely comminuted, in a vessel provided with a cover; the vessel is then covered tightly and allowed to stand for two hours, after which the infusion is strained and enough water passed through the strainer to make the infusion weigh 100 parts. In the case of substances which are strong enough to have a fixed dose, the quantity to be used should be distinctly specified by the physician.

INGLUVINUM.

Recommended to meet the same indications and in the same dose as pepsin, which it resembles in action, but too little is yet known about it, and more experience in the use of the remedy is desirable.

INULA.

See Heleninum.

IODOFORMUM.

(Contains 96.7% iodine with carbon and hydrogen.) Lemon-yellow, shining scales, or a more or less fine crystalline powder, almost wholly insoluble in water, soluble in 50 parts of cold, and 10 parts of boiling, alcohol, in 5.2 parts of ether, and readily soluble in glycerin. It has a very penetrating saffron-like odor, which may be more or less well masked by cumarin (gr. i. in gr. xv. iodoform), equal parts of tonka bean, roasted coffee, balsam of Peru, oil of eucalyptus, or menthol in the proportion of gr. i. with 1 drop of oil of lavender to gr. xv. iodoform; to remove the odor from the hands and clothing spirit of lavender has been recommended. Many people, even physicians, are often attacked with acute exanthemata, eczema, or erythema, when brought in contact even in the slightest degree with iodoform, apparently due to an idiosyncrasy as regards iodine; in others the employment of iodofom, sometimes even in small amounts, but usually in rather large quantities of from 3 drachms to 3 ounces, causes genuine toxic symptoms, usually of a nervous character, such as headache, insomnia, mental disturbance from mere ill-humor up to actual

delirium, hallucinations of persecution, maniacal attacks, coma, etc. Care is therefore necessary in the use of iodoform in large quantities on extensive fresh wounds and wide areas of serous surfaces, in the aged more especially, and those suffering from heart disease; and carbolic acid should not be employed at the same time as iodoform. When symptoms of poisoning are present, all iodoform remaining in the wound should be carefully washed away with a weak solution of some of the alkaline carbonates (avoid oil), alkalies (bicarbonate of sodium, $\frac{3}{4}$ vi.) given internally, and morphine hypodermically, if required.

Internally employed (but not at all advisable) in doses of gr. $\frac{1}{4}$ to $\frac{1}{2}$ (maximum dose, gr. iij., or gr. xv. pro die) several times a day in pill, powder, or ethereal solution, in neuralgia, diabetes, scrofulous affections, goitre, etc.

Externally used, it diminishes secretion, quiets pain, favors granulation, and acts as a deodorant. It is applied, pure or mixed with sugar, in powder to fresh wounds in order, under a permanent dressing, to keep them aseptic; to burns and suppurating wounds and ulcers, bed sores (here also as an ointment, gr. viij.-xv. in $\mathfrak{3}$ iiss. of lard or vaselin), scaly eruptions of the skin (1 part to 10 of glycerin ointment), soft and hard chancres and especially commended in the treatment of tuberculous processes, where it is applied by being blown into the sinuses and openings leading into tuberculous joints, and in tuberculosis of the peritoneum, larynx, fauces, and nose. Recently a mixture of 1 part iodoform, 5 parts guaiacol, and 10 parts olive oil has been recommended for injection deep under the skin of the back (a daily injection of \mathfrak{m} xv.-xlv. of the mixture) in pulmonary tuberculosis and pleuritic exudations, and is said to act very well without exciting any toxic symptoms other than a little colic and diarrhœa. It is also employed as a snuff in ozæna, in bacilla (equal parts of iodoform and cacao butter) for introduction into the urethra in the treatment of gonorrhœa, into the cervical canal, and into fistulas. Mixed with glycerin (ten per cent) it is used for impregnating vaginal tampons for the treatment of endometritis and leucorrhœa; with oil or glycerin (ten per cent) for injection into tuberculous abscesses and joints; with collodion (sometimes combined with tannin) in the treatment of various skin diseases, enlarged glands, and as a dressing to small wounds; and finally as iodoform gauze (ten to twenty per cent).

Subcutaneously strongly recommended as especially efficacious in the treatment of secondary and early tertiary syphilis.

Iodoformum Bituminatum.—Iodoform which has been rendered odorless by treatment with tar, and employed in the same way and for the same purposes as iodoform itself.

℞ Boli albi,
Ol. olivæ, āā ʒ i.

M. bene, et adde
Liq. plumbi acetat., ʒ v.
Iodoformi, ʒ ij.-iv.
Caffææ tostæ pulv., q.s.

M. et ft. pasta. S. A most excellent application to burns.

℞ Iodoformi, ʒ ss.
Ung. glycerini, ʒ v.

M. S. To be applied at night. (Scaly eruptions of the skin.)

℞ Iodoformi, gr. xv.
Glycerini, ʒ i.
Aq. destillatæ, ʒ iij.

M. S. For washing out the bladder in cystitis.

℞ Iodoformi, ʒ ss.
Caffææ tost. pulv., gr. xv.
Lanolini, ʒ iv.
Adipis, ʒ ss.

M. S. Odorless iodoform ointment. (For application to enlarged glands and skin eruptions.)

℞ Iodoformi, ʒ ss.
Bals. peruv., ʒ i.
Ol. theobromæ,
Ceræ albæ, āā gr. xlv.
Magnesiæ, ʒ ss.

M. et div. in suppos. No. 12. S. For hemorrhoids, and in carcinoma of the uterus, bladder, or rectum.

℞ Iodoformi, gr. xij.
Ol. ricini,
Ol. menth. pip., āā ʒ xij.
Collodii, ʒ i.

M. S. For external use.

℞ Iodoformi, gr. xlv.

Glycerini, ʒ iiss.

M. S. For hypodermic injection in syphilis, beginning with ℥ xv. and increasing to ℥ xl. (equivalent to gr. v.-xij. of iodoform).

℞ Iodoformi, ʒ ij.

Glycerini, ʒ iiss.

M. Shake thoroughly before using. S. Two and one-half to 5 drachms to be injected at one time, every week or fortnight, into tuberculous joints or abscesses, from four to eight injections in all being given. The joint should be kept quiet for some time after the injection has been made.

IODOLUM.

An odorless powder, containing 89% iodine, readily soluble in ether and hot alcohol. A substitute for iodoform, which it resembles in its therapeutic, and also in its toxic, action.

Internally employed in doses of gr. iss.-iij. or more, in pill, in the treatment especially of syphilis, goitre, and other affections as a succedaneum of iodide of potassium.

Externally in the same manner and dosage, and for the same purposes, as iodoform. It is especially recommended for insufflations several times a day, in tuberculous laryngitis, as it has no odor, is non-irritant, does not affect the appetite, and is therapeutically effective.

The formula above given for prescribing iodoform can be employed for iodol, simply substituting this for the iodoform.

IODUM.

Soluble in 5,000 parts of water, 10 parts of alcohol, 33 parts of glycerin, and readily soluble in ether, chloroform, and aqueous solutions of iodide of potassium.

Internally employed very seldom in doses of gr. $\frac{1}{12}$ (maximum gr. i., or iij. pro die) in solution for the same indications as when externally used; as an addition to cod-liver oil in the proportion of gr. iss. in ʒ ij.-iij.; and finally in poisoning with mercury, lead, copper, strychnine, etc.

Externally almost solely in combination with iodide of

potassium in the form of Lugol's solution (see formula below), and still more commonly as—

Tinctura Iodi.—*Internally* employed (rarely) in doses of 1 to 10 drops (maximum) pure or diluted with aromatic waters in vomiting of pregnancy, arthritis deformans (8 to 10 drops three times a day), tertiary syphilis, malaria, cholera, and cholera nostras (1 to 2 drops every ten to fifteen minutes).

Externally applied pure (strongly counter-irritant) or diluted with alcohol—

1. For painting over the skin in cases of very superficial acute or chronic inflammation (to promote resorption of the exudative products), especially in felon, phlegmon, pleurisy (of very questionable utility here); in vaginitis, applied as the speculum is being withdrawn; also in acute and chronic rheumatism and arthritis deformans; and finally in many syphilitic, scrofulous, and parasitic skin diseases.

2. The most successful employment of tincture of iodine, seldom pure but more often diluted with solution of iodide of potassium, is in the form of injection into fistulous tracts and other pathological cavities in order to excite an adhesive inflammation; also after removal of the fluid in hydrocele (caution is necessary), ovarian cysts, empyema, echinococcus cysts, more particularly of the liver, hydrarthrosis, ganglion, etc.

3. By parenchymatous injection to effect the reduction of hypertrophied lymphatic glands, of enlarged prostate (through the rectum), and especially in goitre (when it is simply hyperplastic and not cystic or aneurismal), beginning with 5 minims of the pure tincture and gradually increasing to 15. (The decrease in size of the goitre in many cases is accompanied with a peculiar form of cachexia, differing materially from iodism, resembling the cachexia strumipriva.)

The use of iodine in large doses, and even in small ones, not seldom causes coryza, acne, and other skin eruptions, conjunctivitis, salivation, cough, and digestive disturbances.

For iodine poisoning, especially the swallowing of tincture of iodine, boiled starch, albuminous solutions, and sulphite of sodium should be given in large quantities, and the treatment proper for gastro-enteritis instituted.

4. In addition to the above, iodine is also used by inhalation in syphilitic affections of the larynx and pharynx.

℞ Iodi, gr. ss.
 Potass. iodidi, ʒ ss.
 Aq. destillatæ, ʒ xij.

M. S. For injections, after puncture of the sac, in hydrocele, etc.

℞ Tinct. iodi, gtt. vi.
 Potass. iodidi, ʒ iss.
 Aq. destillatæ, ʒ iv.

M. S. One tablespoonful three times a day. (Vomiting of pregnancy.)

℞ Iodi, gr. ss.-i.
 Potass. iodidi, gr. viij.-xv.
 Aq. destillatæ, ʒ i.

M. S. For inhalations in syphilis of the larynx and pharynx.

℞ Tinct. iodi,
 Tinct. gallæ,
 (or Tr. aconiti), āā ʒ iiss.

M. S. To be painted over the parts, in periostitis (of the maxilla) and epididymitis.

℞ Iodi, gr. xv.
 Potassii iodidi, ʒ ss.
 Aq. destillatæ, ʒ i.

M. S. Lugol's solution of iodine.

IPECACUANHA.

Internally employed: 1. As an emetic (especially in laryngeal diphtheria and false croup) which can be given to children and debilitated persons, and when diarrhœa is present. For robust adults it may be employed (often in combination with tartar emetic) in doses of gr. v.-xv. in powder, suspension, or as an infusion (ʒ ss.-i. in ʒ v.) every ten or fifteen minutes. (Tannin is an antidote when too much has been taken.)

2. Empirically as a solvent expectorant in bronchial catarrh (initial doses, gr. ʒ to i. every hour, later every two to three hours; or in infusion, gr. viij.-ʒ v.); especially recommended for debilitated persons and children in any stage of the disease when the expectoration is dry and scanty.

3. In diarrhœa and dysentery, combined with opium, in

doses of gr. $\frac{1}{6}$ to i. several times a day in powder or in an infusion of gr. viij. in $\frac{5}{3}$ v. The action of ipecac here is doubtful, and whatever good effects are observed are probably referable to the opium.

Syrupus Ipecacuanhæ.—May be given to small children as an emetic in doses of a teaspoonful, and to older children as an expectorant in bronchial irritation, usually as a constituent of other mixtures.

Tinctura Ipecacuanhæ, Vinum Ipecacuanhæ.—These are employed as a substitute for the infusion, as an adjuvant in expectorant, and possibly stomachic, mixtures and tinctures. Dose, pure, 5 to 20 drops several times a day; emetic dose, 60 drops.

Pulvis Ipecacuanhæ et Opii.—Dover's powder (see Opium).

Emetina.—*Internally* the alkaloid is employed as an emetic in doses of gr. $\frac{1}{12}$ to $\frac{1}{6}$, repeated once or twice if necessary, in powder or solution. (It is strongly irritant, and easily produces gastritis.)

℞ Pulv. ipecac., gr. xl.
 Ant. et potass. tartr., gr. iss.
 Amyli, gr. xxx.

M. et div. in part. No. 4. S. Emetic powders, one to be taken every ten to fifteen minutes until vomiting is produced, and then warm chamomile tea to be drunk. The addition of starch increases the action and also restricts it to the stomach.

℞ Pulv. ipecac., gr. xv.
 Pulv. glycyrrh., $\frac{2}{3}$ ss.
 Ft. infus. cum
 Aq., $\frac{2}{3}$ v.

Adde
 Ammon. chloridi, gr. lxxx.
 Vini antimonii, 3 iiss.

M. S. One tablespoonful every hour, as an expectorant.

℞ Pulv. ipecac., gr. viij.
 Extr. krameriaë,
 Extr. columbæ, āā gr. xxiv.
 Extr. trifol. fibrin. (marsh trefoil), 3 ss.

M. et ft. pil. No. 50. S. Four or five pills every two hours. (Diarrhœa.)

℞ Pulv. ipecac., ʒ ss.-i.
 Antimon. et pot. tartr., gr. iiij.
 Oxymel. scillæ, ʒ i.
 Aq. destillatæ, ʒ ij.

M. S. A teaspoonful to a tablespoonful (the bottle being shaken) every ten to fifteen minutes until the desired effect is produced.

℞ Pulv. ipecac., gr. ij.
 Ammon. chloridi,
 Pulv. glycyrrh.,
 Sacch. albi, āā ʒ i.

M. et ft. chart. No. 10. S. One powder every two hours, as an expectorant.

℞ Pulv. ipecac.,
 Pulv. opii, āā gr. viij.
 Pulv. cascarillæ, ʒ i.

M. et div. in chart. No. 10. S. One powder three times a day. (Diarrhœa.)

JALAPA.

A drastic cathartic.

Internally employed: as a local stimulant in doses of gr. i.-v. several times a day; as a mild purgative in doses of gr. v.-viij.; as a drastic cathartic in doses of gr. viij.-xxx. at once, or the same amount in fractional doses at short intervals. For children it is given as a cathartic in doses of gr. iss.-v. in powder, pill, or electuary.

Resina Jalapæ.—Contains the active principles of the root. It is given in half the dose of the latter.

Sapo Jalapinus.—Composed of resin of jalap and soap, each 4 parts, and dilute alcohol, 8 parts, evaporated down to 9 parts. It is the mildest preparation of jalap, and is employed especially when it is desired to administer the remedy for a long period, in doses of gr. viij.-xxx. alone in pill form, or combined with other laxatives.

℞ Resinæ jalapæ, gr. viij.-xv.
 Hydrarg. chlor. mitis, gr. iv.
 Sacch. albi, gr. xxx.

M. et div. in chart. No. 5. S. One powder every two hours, as a purgative.

℞ Pulv. jalapæ,	3 iiss.
Pulv. rhei,	
Elæosacch. limonis,	ãã gr. lxxv.
Potass. bitartratis,	
Sulph. loti,	ãã 3 v.

M. et ft. pulvis. S. A teaspoonful three times a day.
(Hemorrhoids.)

℞ Extr. aloes,	
Extr. rhei,	
Sapon. jalap.,	ãã 3 ss.
Extr. glycyrrh.,	q.s.

M. et ft. pil. No. 40. S. One or two pills morning and evening.

℞ Pulv. jalapæ,	
Pulv. rhei,	ãã gr. xv.
Podophyllini,	gr. vi.
Extr. belladon.,	gr. iiij.
Extr. taraxaci,	q.s.

M. et ft. pil. No. 40. S. One or two pills at night.

JEQUIRITY.

The seeds of the *Abrus precatorius*.

Externally employed in infusion or cold maceration for three to twenty-four hours (gr. viij.-xv. in ʒ iiij.) as an application (by means of a camel's-hair brush) to the conjunctiva in long-standing cases of trachoma, but only when it is associated with extensive cicatricial formation of the palpebral conjunctiva and keratitis pannosa. The remedy excites an inflammation of the conjunctiva which begins within a few hours and gradually increases, reaching its maximum on the second or third day.

JUGLANS.

The inner bark of the root of *Juglans cinerea*, butternut. A bitter astringent.

Internally employed in infusion or decoction (10 or 20 parts in 200) as a tea in the morning instead of coffee, in scrofula when associated with digestive disturbances and a tendency

to diarrhœa; or it may be given after maceration for two days in wine.

It may be used in baths ($\frac{3}{5}$ x.-xv. of a decoction to each bath).

Extractum Juglandis.—Official in the U. S. Pharmacopœia; given in doses of gr. v.-xv.-xxx.

JUNIPERUS.

Internally employed as a diuretic in combination with synergistic remedies, in doses of a tablespoonful of an infusion (15:200), in dropsy. It is also sometimes used in maceration in beer, wine, or spirits. Also in species (*q.v.*); usually more as a domestic remedy.

It should not be employed when inflammatory diseases of the kidneys are present.

Externally used as spray inhalation, and as an addition to aromatic baths ($\frac{1}{3}$ to $\frac{1}{2}$ pint of the infusion in three pints of water).

Spiritus Juniperi.—(One part juniper berry in 4 parts alcohol.)

Internally employed in doses of 20 to 60 drops in water or wine, or as a constituent of other mixtures.

Externally used by embrocation in œdemas, etc., and in compresses.

Oleum Juniperi.—*Internally* employed in doses of 3 to 6 drops several times a day, in ethereal solution, capsules, or pill form, as an anthelmintic, and in the treatment of diseases of the skin.

Externally applied pure or in ointments (1:5) in chronic skin diseases, rheumatism, arthritis, etc.

Succus Juniperi Inspissatus.—An inspissated juice of fresh juniper berries. Given in doses of a teaspoonful three or four times a day pure (sweetened with sugar) and as an ingredient (20 to 50 parts in 200) of diuretic mixtures and electuaries, especially in renal dropsies of children.

℞ Infus. juniperi (juniperi, 3 iiss.), ℥ v.
 Liq. potass. acetat.,
 Oxymel. scillæ, āā ℥ ss.
 (or Succu juniperi, ℥ ss.)
 M. S. A tablespoonful every two hours. (Diuretic.)

℞ Fruct. juniperi, ʒ i.
 Sem. petroselini,
 Rad. levistici, āā ʒ ss.
 M. et ft. species. S. Diuretic tea.

KAIRINUM.

Antipyretic. A white, odorless, crystalline powder, synthetically formed from quinolin, soluble in 6 parts of cold water and 20 parts of alcohol.

Internally employed in doses of gr. viij.-xv. in capsules or wafers, it rapidly and markedly lowers the temperature, but the latter rises again in a short time, accompanied with a chill, and this, together with the unpleasant incidental effects, such as headache, vomiting, sweating, albuminuria, cyanosis, and collapse, has led to the almost complete abandonment of the drug. Its action in intermittent and relapsing, and also in yellow fever, is uncertain at best.

KAMALA.

A brick-red powder without odor or taste.

Employed as an anthelmintic in tænia, in doses of ʒ iiss.-iv. as a powder in wafers, rubbed up with water, or in wine or meat broth, taken in two doses from one-half to one hour apart, in the morning. Children under four years bear gr. xx. very well, and those over eight years of age gr. xxx.-xlv. It is slightly laxative. It is also given in the form of an alcoholic extract and of a resin, in electuary or tablets, but the preparation should not be too old.

℞ Kamalæ,
 Brayeræ,
 Aspidii, āā ʒ ss.
 Mel. despumat., ʒ v.
 Aq. anisi, ʒ iij.
 M. S. Two teaspoonfuls every two hours for children.

℞ Kamaæl, gr. xl.
 Tamarindi,
 Syr. limonis, āā q.s.
 M. et ft. electuarium. S. To be taken in two doses.

KAOLINUM.

A soft white powder, a decomposition product of granite and other rocks containing feldspar. It is employed as an excipient in pills containing nitrate of silver and permanganate of potassium, and also in ointments.

KAVA-KAVA.

The powdered root of *Piper methysticum*.

Internally recommended in infusion or decoction (3 i.-iss. in $\bar{3}$ iij.-v.) as a diaphoretic and in gonorrhœa with orchitis and cystitis; but it has not been sufficiently used to determine its value.

Extractum Kavaæ.—*Internally* employed in doses of gr. iss. several times a day (gr. x.-xij. pro die) in pills.

Extractum Kavaæ Fluidum.—*Internally* employed in doses of 15 to 30 drops several times a day, in water, to meet the indications above mentioned.

KEPHIR.

Kephir is milk in which a vinous fermentation has been brought about by means of a ferment contained in kephir-seed from the Caucasus (see also "sour milk" under Lac), and which, according to Munk and Uffelmann, contains 3.8% albumin, 2% each of fat and sugar, 0.9% lactic acid, 0.8% alcohol, and 0.55% salts. It is in a state of continuous fermentation, and therefore of constant change as regards both its composition and its medicinal action; so that fresh kephir of the first two days, which is used especially in cases of disease of the thoracic organs, is moderately laxative, while that three or four days old has a binding effect in diseases of the abdominal viscera. But it varies not only according to the duration of the vinous fermentative process, but also according to the kind of cow's milk used, whether raw or boiled, creamy or skimmed, pure or diluted with water. It resembles kumyss in its action, and is to be regarded purely as a dietetic article, like milk itself, only being more easily assimilated than the latter. In kephir the casein is peptonized and dissolved; in kumyss, undissolved.

Good kephir should foam like beer, should be no more acid than thick fresh milk, should not separate into a clear and a turbid layer, but should for the first few days have the consistence of good cream, and only later begin to grow more fluid.

This pleasant, slightly alcoholic, acidulated, and carbonated kephir is especially indicated in cases of weak digestion when it is desired to improve the nutrition and when the use of ordinary milk is not possible or desirable. The amount to be taken varies according to the individual and according to his condition, and may be from one to six soda-water bottles full a day. The "cure" should begin with about 10 ounces and rise gradually to three pints or more, a glass being sipped before and after meals, the patient in the mean while walking about or taking some other form of gentle exercise.

KERATINUM.

A substance obtained by removing the portion of horn shavings soluble in pepsin and hydrochloric acid, and dissolving the residue in ammonia or acetic acid. It is used for coating pills which are intended for solution only in the alkaline fluids of the intestinal canal, and not in the acid gastric juice. Such are pills containing alum, nitrate of silver, anthelmintics, arsenic, bismuth, acetate of lead, phosphorus, mercury, tannin, etc.

KINO.

A styptic.

Internally employed in doses of gr. iij.-xxij. in powder, in the treatment of diarrhoea, dysentery, and hemorrhages.

Externally used as a styptic powder, and in tooth-powders; dissolved in dilute alcohol for application on compresses, injections, mouth washes, enemas, etc.

KOUSSO.

See *Brayera*.

KRAMERIA.

Rhafany. An astringent, containing about twenty per cent of tannic acid, and given to meet the indications of this drug.

Internally employed in doses of gr. viij.-xv. several times a day in powder, pills, or decoction of ten-per-cent strength.

Externally in five to fifteen per cent decoction as a gargle, mouth wash, or by enema.

Extractum Krameriaë.—*Internally* employed in doses of gr. viij.-xxiv. several times a day in pills and mixture for the same purposes as the crude drug.

Tinctura Krameriaë.—Dose: ʒ ss.-ij. several times a day.

℞ Decocti krameriaë (krameriaë, ʒ iiss.), ʒ v.
 Tinct. opii, ℥ xv.-xxx.
 Syr. amygdalæ, ʒ i.

M. S. A tablespoonful every hour or two. (Diarrhœa.)

℞ Decocti krameriaë (krameriaë, ʒ ss.), . . . ʒ vi.
 Tinct. myrrhæ, ʒ i.
 Spts. cochleariaë, ʒ vi.

M. S. Mouth-wash.

℞ Decocti salep., ʒ iiss.
 Tinct. krameriaë, ʒ ss.-i.
 Syr. foeniculi, ʒ iiss.

M. S. A dessertspoonful every hour. (Diarrhœa in children.)

KUMYSS.

A fermenting, strongly carbonated drink, obtained originally from the milk of mares of the Kirghiz steppes, but now from other sorts of milk. According to Munk and Uffelmann, kumyss prepared from mare's (or cow's) milk contains (the proportions of cow's-milk kumyss are in parentheses): Albumin, 2.2% (3.25); fat, 2.12% (2.07); sugar, 1.53% (1.81); lactic acid, 0.9% (0.7); alcohol, 1.72% (1.9); carbonic acid, 0.8% (0.8); salts, 0.29% (0.52). It is employed in quantities of one or two bottles a day as a good and easily digestible nutrient material for poorly nourished, anæmic, cachectic, and phthisical (but only well-to-do) patients. It is readily taken and renders good service.

LAC.

Milk is frequently not well borne by adults, and some individuals have an idiosyncrasy which makes it intolerable to them, although this can often be overcome by taking a little

bicarbonate of sodium after it or mixing it with arac or brandy (milk punch). When it is well borne, taken in not too large quantities at a time, it constitutes an excellent food, since it contains all the essentials for human nutriment; nitrogenous substances, casein and albumin, 4 to 4.3%; fat (butter), 3 to 3.8%; carbohydrates (sugar of milk), 3.7%; and salts, 0.6%. (Ass' milk contains: albumin, 1.8 to 2%; fat, 1.5%; carbohydrates, 6.5%; salts, 0.3%. Goat's milk: albumin, 3.7%; fat, 4%; carbohydrates, 4.4%; salts, 0.5%. The first is richer in sugar than cow's milk; the last, in fat and casein. Goat's milk is therefore not suitable for a "milk cure" in persons with weak digestion.)

Boiled cow's milk, an excellent food under all circumstances, is recognized to be the most natural, and therefore the best, substitute for mother's milk. Most cow's milk, even when the freshest, has an acid reaction. In order to render it suitable for an infant's food it should be neutralized with bicarbonate of sodium, by means of which also (with the addition of a little gum arabic) a less lumpy coagulation is obtained. The milk of tuberculous cows, of animals far advanced in pregnancy, and of those fed on distillery mash, on green fodder, or potatoes is injurious. Cow's milk may be made more closely to resemble human milk by dilution with water, or 1 part to 3 of thoroughly cooked oatmeal or barley water, and the addition of a little milk, sugar, and cream. (See also below, under Biedert's Artificial Cream Mixture.)

Milk is one of the best, and at the same time most easily obtainable, antidotes in poisoning by caustic metallic substances.

Full Milk Diet.—Milk, sweet and sour, is used as the sole food, in addition to which only a little white bread is allowed. More than two to three quarts cannot be taken without injury for a "cure" extending over many months, as larger quantities may lead to the production of dilatation of the stomach. It is therefore advisable to give a little meat with alkalies during a long-continued course.

Half-Milk Diet.—The patient takes three or four times a day, or at least morning and evening, one-quarter to one pint of milk, in addition to a moderate allowance of white meat, etc.; acid and fatty foods or those producing flatulence, vegetables, and alcoholic beverages being forbidden. It is advisable

to combine the milk with Seltzer or Vichy water, or liquor calcis.

Lac Condensatum (condensed milk) is a tolerable substitute for fresh cow's milk, which can also be used for infants. For the first few days it may be given in dilution of 1 part in 18 of water, gradually raised to 1 part in 12, but never stronger. After the fifth month it is not suitable for use as the sole food. A disadvantage of condensed milk is found in the large amount of cane sugar which it contains.

Biedert's Artificial Cream Mixture is a paste made of albuminate of potassium, butter, equal parts of milk and cane sugar, and the salts contained in human milk, in such proportions that when thinned with water it makes a milk corresponding to No. 1 in the table given below. The addition of a few spoonfuls of cow's milk increases the value of this mixture, and by gradually adding more and more can bring the child gradually to a diet of natural milk.

Biedert and Ritter recommend the following cream mixtures for the nourishment of infants, the figures at the left-hand side indicating the age in months for which the corresponding mixture is best suited:

Cream.	Milk.	Water.	Sugar of Milk.	
1. 4 ounces.	— ounces.	12 ounces.	4 ounces.	} Six even teaspoonfuls.
2. 4 “	2 “	12 “	4 “	
3. 4 “	4 “	12 “	4 “	
4. 4 “	8 “	12 “	4 “	
5. 4 “	12 “	12 “	4 “	
6. — “	16 “	8 “	2½ “	Four do.

To be freshly mixed morning and evening and immediately boiled. Cane sugar is usually just as well borne as milk sugar.

Lac Ebutyratum (buttermilk), sweet or sour, is milk with but little fat (albumin, 3%; fat, 1.3%; carbohydrates, 3%; salts, 0.55%) and is employed as a cooling laxative, and also sometimes, like milk itself, as a “cure” continued for several weeks in diseases of the stomach and phthisis, often as a domestic remedy. Sour and not perfectly fresh buttermilk readily induces digestive derangements and diarrhœa.

Sour milk (albumin, 4%; fat, 3%; sugar, 4%) is used as an article of food, and is also highly recommended as a remedy in acute summer diarrhœa in children and adults, dyspepsia,

loss of appetite, chronic affections of the stomach and intestinal canal, scurvy, etc. It is quickly prepared by adding 8 to 10 parts of boiled sweet milk to sour milk. If it is frequently shaken up there is made, instead of a simple mixture of the separated constituents (cream, whey, and serum), a creamy fluid which is identical with kephir; so that the ordinary lactic-acid bacillus is the kephir ferment.

Serum Lactis Dulce (whey), made by adding 1 part of rennet wine to 200 parts of milk, is milk deprived of its butter and casein, a watery solution of milk sugar and salts with a little of the abstracted constituents remaining. (Albumin, 0.5%; fat, 0.3%; carbohydrates, 3.6%; salts, 0.5%.)

When consumed in large quantities, whey probably hastens metabolism, and acts as a mild laxative and diuretic; and when taken warm is useful, like warm drinks in general, in bronchial catarrh. Its nutrient value is almost *nil*, and it may, when taken in too large quantities, cause digestive disturbances.

"Whey cures," practised amid pleasant scenery and in mild regions (really fresh-air cures), are of great utility in the early stages of respiratory diseases and consumption, but without any doubt the actual curative value of the whey is greatly overestimated.

Serum Lactis Acidum (sour whey) is more decidedly laxative, as it is made with 1 part of bitartrate of potassium to 100 parts of milk, instead of with calves' rennet.

Serum Lactis Aluminatum (alum whey), made by adding 1 part of alum to 100 parts of milk, is used when there is a tendency to diarrhoea and intestinal hemorrhage.

Serum Lactis Martiatum (iron-whey) is best prepared by means of tablets of ferrated rennet.

Serum Lactis Tamarindinatum (tamarind-whey) is made by adding 1 part of tamarind pulp to 25 parts of boiling milk, and is employed as a drink when there is a tendency to constipation.

LACTUCARIUM.

The inspissated milky sap of *Lactuca virosa*.

Internally employed in doses of gr. ss.-iij. several times a day (maximum dose, gr. v., or gr. xv. per day) in pills or emulsion. It acts similarly to, though less actively than, opium. To obtain a hypnotic effect, doses of gr. viij.-xxx. are necessary.

Extractum Lactucarii.—*Internally* employed in doses of gr. ss.-ij. (maximum daily dose, gr. xxxv.) like the preceding.

LAMINARIA DIGITATA.

The stems of *Laminaria Cloustoni*, which swell in water, and are used instead of sponge-tents to dilate the cervical canal.

LANOLINUM.

A fat (containing twenty-three to twenty-five per cent of water) obtained from sheep's wool, which is used as a basis for ointments (softer if mixed with fifteen to thirty per cent of lard), and promotes the absorption through the skin of medicinal substances incorporated with it. It is neutral, does not turn rancid, prevents the formation of scales, and represses secretion. It can take up several times its own weight of water. It is also employed as a cosmetic in cases of scaling, thickening, roughness, and chapping of the skin (see formulæ). It does not, however, like the vaselin salves, produce softness of the skin.

Lanolinum Anhydricum.—A clear, yellow fat obtained by boiling lanolin with water, of which it takes up during the boiling 180% of its weight (afterward being deprived of all its water), which forms the only ointment that will adhere to mucous membranes. It is used for the skin in those cases in which it is desired to avoid all moisture.

℞ Lanolini, ʒ ss.
Ol. theobrom., gr. lxxx.

M. et ft. unguentum.

℞ Lanolini, ʒ iiss.
Sodii boratis, gr. xv.
Aq. rosæ, ʒ iiij.

M. et ft. lotio.

℞ Lanolini, ʒ iv.
Paraffin. fluid., ʒ i.
Vanillin., gr. i.
Ol. rosæ, gtt. i.

M. et ft. unguentum.

These three are well suited for cosmetic use in the case of scurfy, rough, thickened, or chapped skin.

℞ Acid. salicylici,	3 ss.
(or Acid. borici,)	3 i.)
Adipis,	3 i.
Lanolini,	3 ss.
M. S. For external use.	
℞ Iodoformi,	3 ss.
Lanolini anhydr.,	3 v.
M. S. Iodoform-lanolin salve.	

LICHEN ISLANDICUS.

See Cetraria.

LINUM.

Flaxseed or linseed. The ground seed is used to prepare poultices.

Oleum Lini.—*Externally* employed, mixed with equal parts of lime water (Carron oil), for burns.

LIPANINUM.

Prepared by a process of saponification from olive oil, of which it has the appearance and taste, containing six per cent free oleic acid.

Internally recommended as an easily digestible substitute for cod-liver oil. Patients take it readily.

LIQUOR AMMONII ACETATIS.

Spirit of Mindererus. See Ammonii Acetas, and the other ammonium salts.

LIQUOR CALCIS.

See Calx.

LIQUOR FERRI ACETATIS.

See Ferri Acetas, and the other iron preparations

LIQUOR POTASSII ARSENITIS.

See Acidum Arseniosum.

LIQUOR SODII SILICATIS.

See Sodii Silicas.

LITHARGYRUM.

See Plumbi Oxidum.

LITHII BROMIDUM.

Internally employed in doses of gr. iij.–vii. several times a day, best in solution, in neuroses, hysteria, insomnia (gr. iij.); in epilepsy (gr. viij.–xlv.). It is said to surpass the other bromides in the treatment of epilepsy, but this may be doubted.

LITHII CARBONAS (BENZOAS, HIPPURAS, CITRAS,
SULPHAS).

Internally employed according to the special indications of each (*e.g.*, the benzoate and hippurate when there is uric acid in excess) in doses of gr. i.–vii. several times a day, in powders or pastilles, also in artificial carbonated waters, or with wine (gr. ij.– $\frac{3}{4}$ iij.) in gout and urinary calculi (uric-acid diathesis), and in herpetic diseases.

Externally in lotions and fomentations as a solvent of small topi in chronic gout (gr. xv.– $\frac{3}{4}$ iij. of water), and as injections into the bladder to dissolve uric-acid calculi (gr. xlv.– $\frac{3}{4}$ iij.).

In solutions of gr. xv.–xxx. in $\frac{3}{4}$ vi. of water it is used in gargles and spray as a solvent of diphtheritic and croupous membranes.

℞ Lithii carbonatis, gr. xl.
Sacchari albi, $\frac{3}{4}$ xij.

M. S. As much as can be taken on the tip of a knife-blade several times a day in a wine-glass of water.

℞ Lithii carbon., gr. xv.
Aq. destillatæ, $\frac{3}{4}$ v.
Ext. glycyrrh., $\frac{3}{4}$ i.

M. S. One or two tablespoonfuls every two hours.

LITHII IODIDUM.

Internally recommended in doses of a tablespoonful four to five times a day of a solution of $\frac{3}{4}$ i. in $\frac{3}{4}$ vi., in articular rheumatism.

LITHII SALICYLAS.

Internally employed in doses to gr. iss.–vii. several times a day (up to $\frac{3}{4}$ i. pro die), in solution or powder, in acute, sub-acute, and chronic articular rheumatism when salicylate of

sodium fails to relieve the pain and other symptoms. It contains more salicylic acid than the sodium salt, with less toxic effects, and the presence of the lithium increases its therapeutic action. It is used, and hippurate of lithium also, in doses of gr. xv. (3 iiss. a day) as a specific in true gout, the so-called arthritis urica, at the same time with Ems, Vichy, Seltzer, and other mineral waters; and in doses of gr. xv. a day in Apollinaris water for long-continued use in uric-acid gravel.

LITHII SULPHO-ICHTHYOLAS.

See Ichthyolum.

LOBELIA.

Employed (rarely) in decoction (3 ss.-iiss. in ʒ iij. water) in spasmodic affections of the vagus nerve, asthma, cardialgia, etc. Usually given in the form of the tincture.

Tinctura Lobeliæ.—Given in doses of 10 to 20 drops (maximum dose, ʒ lxxv. a day), usually in mixture with tincture of opium, as a narcotic (like tobacco), in various forms of asthmatic and dyspnoic paroxysms, and sometimes with good results.

LUPULINUM.

An antaphrodisiac and bitter.

Internally employed in dyspeptic conditions in doses of gr. ij.-xv. in powder, pill, alcoholic solution (dietetically consumed in beer); but especially used as an antaphrodisiac in doses of gr. v.-viiij. in powder or pill, in nymphomania, pollutions, etc., and in all conditions of irritation and increased excitability of the genital apparatus.

Extractum Lupulini.—*Internally* employed in the above-mentioned indications in doses of 5 to 15 grains several times a day in pill form.

℞ Lupulini,
 Extr. lupulini, āā gr. xv.
 Camphoræ, gr. iiss.

M. et ft. pil. No. 10. S. One or two pills at night. (Sexual irritability, frequent pollutions, etc.)

℞ Lupulini,	3 iss.
Camphoræ,	gr. xv.
Extr. taraxaci,	q.s.

M. et ft. pil. No. 90. S. Six pills from one to three times a day, in cases of increased sexual irritation, too frequent pollutions, etc.

LYCOPODIUM.

The fine sporules of *Lycopodium clavatum*, rich in a fixed oil.

Internally employed in suspension in water ($\frac{3}{4}$ ss.— $\frac{3}{4}$ v.) in irritable conditions of the urinary organs, but of no more use than the fats in general.

Externally, pure or with about $\frac{1}{4}$ part of oxide of zinc, as a dusting powder for moist eczema, herpes zoster, and intertrigo, and also as a covering for pills.

LYSOLUM.

A distillation product of tar, occurring in the form of an oily fluid, having an odor very like carbolic acid and creolin, and is a more powerful antiseptic, while being less toxic, than either of these substances.

Externally employed in solution of \mathfrak{m} iss.—iv. in distilled water for syringing out the ear in otorrhœa and especially for softening plugs of wax and epithelium in the external auditory canal; in 0.3% solution for washing out the uterus and on dressings for wounds (three per cent for septic wounds); and in two-per-cent solutions for disinfection of the skin. In otomycosis (*aspergillus nigricans*) the meatus may be filled twice a day, for ten minutes at a time, with an alcoholic solution of lysol. It is also recommended, by reason of its cheapness, for the disinfection of the product of an abortion, stools, furniture, soiled clothes, rooms, etc.

MACIS.

See Myristica.

MAGNESIA.

Calcined magnesia is, like the carbonate of magnesium (*q.v.*), a laxative, stronger (for children), however, than the latter, in doses of gr. v.—xx.; it is also employed as an antacid

in doses of gr. iss.-viiij., and as an absorbent for carbonic acid gas in meteorism. The long-continued internal use of magnesia has been repeatedly recommended for warts. Given as a thin milk in 20 to 30 parts of water, and in about 20 times the amount of the poison swallowed, it is an antidote in poisoning by arsenious, sulphuric, nitric, hydrochloric, acetic, and oxalic acids, or by corrosive sublimate or the salts of copper (not an antidote to phosphorus), and is one of the constituents of the antidote for arsenic (see Ferri Sulphas).

Trochisci Magnesiae.—Made with chocolate, and contain $1\frac{1}{2}$ grains each.

℞ Magnesiae,	3 ij.
Aq. destillatae,	℥ v.
Aq. aurant. flor.,	℥ i.
Sacch. albi,	℥ ss.

M. S. Shake the bottle before using. Given in doses of a tablespoonful every hour, it is mildly laxative and antacid. (Similar to milk of magnesia.)

℞ Magnesiae,	℥ viij.
Aq. destillatae,	℥ x.

M. S. Four to six tablespoonfuls every ten minutes in poisoning by any of the above-mentioned substances. (Magnesia in Aqua, or Magnesia Hydrica.)

MAGNESII BOROCITRAS.

Boracites, obtained from a native borate found near Stassfurt.

Internally employed in doses of a tablespoonful every two hours of a solution of ℥ i.-ij. in ℥ iv. of water with ℥ v. of simple syrup; or of as much as can be heaped on the tip of a knife-blade of a powder made with equal parts of sugar, several times a day; or a solution of the borocitrate with bicarbonate of sodium in a quart of water may be taken as a mineral water. It is employed in vesical troubles of various kinds, but especially in gravel and renal or vesical calculi.

℞ Magnesii borocitratis,	℥ ij.
Sacch. albi,	℥ iv.
Ol. limonis,	gtt. iv.

M. et ft. pulvis. S. A tablespoonful daily in water.

MAGNESII CARBONAS.

Antacid and absorbent. In order to reduce the volume of the ordinary carbonate of magnesium, as also of calcined magnesia, it may be moistened, dried, compressed, and again powdered, whereby washed magnesium carbonate is obtained.

Internally employed in doses of gr. iiij.–vi. several times a day in powder, effervescent powder, lozenges, electuary, or in suspension, in abnormal acidity of the stomach and intestinal canal combined with constipation; and also in smaller doses in acid diarrhoea which disappears with the removal of its cause. It is also given as an antidote in cases of poisoning with the substances mentioned under Magnesia.

Externally as a tooth powder, and as a dusting-powder in intertrigo.

Pulvis Magnesiae cum Rheo.—Composed of carbonate of magnesium, 12 parts; oil-sugar of fennel, 8 parts; and powdered rhubarb, 3 parts. Employed as an antacid and laxative, for children in doses of as much as can be taken on the end of a knife-blade, and for adults a teaspoonful, several times a day.

℞ Infusi rhei (3 iiss. rhei), $\frac{2}{3}$ v.
Magnesii carbonatis, 3 iiss.
Syr. rhei, $\frac{3}{4}$ i.

M. S. A tablespoonful every hour until the bowels move.
Shake the bottle.

℞ Magnesii carb., 3 i.
Aq. menth. pip., $\frac{3}{4}$ iij.
Syr. aurant. cort., $\frac{3}{4}$ ss.

M. S. Shake the bottle, and give a tablespoonful every two hours. (In heartburn.)

℞ Magnesii carb., 3 ss.
Testæ præpar., 3 i.
Carbonis pulv., 3 ij.
Pulv. calami, 3 i.

M. et. ft. pulvis. S. Tooth powder.

MAGNESII CITRAS.

A pleasant tasting but not very soluble salt.

Internally employed in water, or better in lemonade, as a pleasant, mild laxative, especially for lying-in women.

Magnesii Citras Granulatus.—Composed of : citrate of magnesium, 11 parts; citric acid, 48 parts; bicarbonate of sodium, 37 parts; and sugar, 8 parts. Occurs in the form of coarse white granular masses which, added to water, are dissolved, with the formation of carbonic acid in large quantity, and form a pleasant acid fluid.

Internally employed in doses of a teaspoonful to a tablespoonful, dissolved in water, several times a day, as an agreeable laxative in catarrh of the stomach, or in small quantities as a refreshing beverage.

MAGNESII LACTAS.

Given in doses of gr. viij.—xxx. several times a day, or in a single dose of ʒ iiss.—ij., in powder or solution, as a laxative.

MAGNESII SALICYLAS.

Recommended in typhoid fever in doses of ʒ ss.—iss. per day, and as a laxative in doses of ʒ iss.—ij.

MAGNESII SULPHAS.

Epsom salt. *Internally* employed in doses of one to two tablespoonfuls ($\frac{2}{3}$ ss.—i.) alone in water or as an ingredient of laxative mixtures. It is contained in natural bitter waters, such as Friedrichshall, Püllna, Hunyadi János, etc.

℞ Magnesii sulphatis, ʒ xij.
Sodii bicarbonatis, ʒ ij.
Acidi tartarici, ʒ iss.

M. S. One or two teaspoonfuls in a glass of water at night. (A laxative powder.)

℞ Magnesii sulphatis, ʒ v.
Sodii sulphatis, ʒ iiss.
Sodii bicarbonatis, gr. xlv.
Acidi tartarici, gr. xxx.

M. S. To be taken dissolved in a half-pint of water. (Laxative.)

Magnesii Sulphas Exsiccatus.—The preceding with the water of crystallization driven out. It is given internally in three-quarters the dose of the ordinary sulphate.

MAÏDIS STIGMATA.

Corn-silk. Internally recommended in decoction (3 iss.-iv. in ℥ iij.), or in a fluid extract (Extractum Maidis Fluidum) in doses of 10 to 20 drops several times a day, up to 3 i. pro die, in hot water, as a remedy for vesical catarrh, renal colic, gravel, etc. It is also said to possess an action similar to that of ergot.

MANGANI SULPHAS.

Internally employed in doses of gr. iss.-viii. three or four times a day, or in larger doses of ʒ ss.-i. taken in divided portions within a few hours (which, however, ordinarily causes vomiting or bilious stools), in solution, powder, or pills, as a remedy in chlorosis and jaundice.

Externally applied in ointment (1 part to 5 or 10) as a resolvent in stiff joints following gout or rheumatism, in contusions, neuralgias, and scrofulous bone tumors.

MANNA.

The concrete exudation of *Fraxinus ornus*, containing Mannit.

Internally employed to relieve irritation in doses of ʒ i.-iiss. several times a day, and as a laxative in doses of ʒ ss.-ij. (children ʒ iss.-vi.) in divided doses, in solution or electuary. For children it may also be given in boiled milk.

Syrupus Mannæ.—Given in doses of three or four teaspoonfuls for children.

℞ Mannæ,	. . . . .	ʒ iss.
Aq. font.,	. . . . .	ʒ v.
Sodii tartr.,	. . . . .	ʒ i.
Elæosacch. limonis,	. . . . .	ʒ v.

M. S. A tablespoonful every hour, as a laxative for adults.

℞ Mannæ,	. . . . .	ʒ ss.
Aq. fœnic.,	. . . . .	ʒ iss.
Liq. ammon. anisati,	. . . . .	℥ xij.

M. S. Two teaspoonfuls every hour. (A mildly laxative expectorant for children.)

MATICO.

Internally employed in doses of gr. viij.-xxx. several times a day in powder or electuary; also in infusion (℥ iiss.-℥ i. in ℥ iij. water) for hemorrhages, and more frequently for gonorrhœa.

Externally in infusion as an injection for the urethra or vagina.

Oleum Matico.—Dose: $\frac{1}{2}$ to 1 drop several times a day.

Extractum Matico.—Dose: gr. xv. in capsules three times a day.

Extractum Matico Fluidum.—Dose: ℥ ss.-i. three times a day. These three preparations are employed to meet the same indications as the crude drug.

MELISSA.

An aromatic carminative. Is employed like peppermint, and may be given in infusion (℥ i.-iv. in ℥ v., with ℥ xv.-xxx. of laudanum) in doses of a tablespoonful in diarrhœa and cholera nostras.

Spiritus Melissa Compositus.—(Melissa flowers, 14 parts; orange peel, 12; nutmeg, 6; cinnamon and clove, each 3; alcohol, 150; and water, 250.)

Internally given in doses of 20 to 60 drops as a nervine, antispasmodic (in colic), and carminative.

Externally used as a derivative.

MENTHA PIPERITA.

Peppermint. (*Mentha crispa*, crisped mint, is employed in Europe in place of the *Mentha viridis*, spearmint, of the U. S. Pharmacopœia. It is less active and less pleasant-tasting than peppermint.)

Employed as an aromatic carminative in cardialgia, flatulent colic, and diarrhœa, usually in an extemporaneously prepared tea (often with tincture of opium), and by enema. Externally used in aromatic compresses.

Oleum Mentha Piperita.—*Internally* employed as an ingredient of aromatic mixtures and tinctures; as a corrective of bad-tasting remedies; in oil-sugars, etc.

Externally applied by rubbing for the relief of headache (so-called "Chinese remedy").

Aqua Menthæ Piperitæ.—A frequently used vehicle.

Spiritus Menthæ Piperitæ.—Essence of peppermint. One part oil of peppermint in nine parts alcohol.

Mentholum.—Peppermint camphor, the principal ingredient of oil of peppermint. An antineuralgic and local anæsthetic. It is more commonly used in combination with chloral, camphor, thymol, benzoic acid, etc.

Internally employed in doses of gr. iij.—viii. six times a day, on account of its burning taste only in wafers or pills, in many forms of gastric and intestinal catarrh, and in abnormal fermentation occurring in the stomach or intestines; in cardialgia, colicky pains, vomiting, especially in gall stones (see formulæ), as an antispasmodic and sedative. It has also been recommended as a microbicide in cholera, and lately in pulmonary and laryngeal tuberculosis, in the latter case in the form of injection into the larynx (menthol 1 part, to olive oil 10 parts).

Externally employed in alcoholic solution, ointment, liniment, or in twenty-per-cent oily solution in furunculosis of the external ear; also in gelatin rods for introduction into the nasal cavities; and in the form of menthol cones, rubbed over the painful parts several times a day, for the relief of facial neuralgia and migraine. Its action in this case is enhanced if mixed with thymol or camphor, or in the form of benzoated menthol. It is used for pruritus, the parts being gently dabbed with a cloth dipped in a solution of menthol gr. xx.—xxx. in alcohol or olive oil ʒ xij., to relieve vulvo-vaginitis of young married women (see formula), and as a snuff for coryza (see formula).

℞ Mentholi,	. . . . .	gr. xv.
Ext. valerianæ,		
Ext. belladonnæ,	. . . . .	āā ʒ ss.
Vaselini,	. . . . .	ʒ i.

M. et ft. unguentum. Pledgets of lint of successively increasing diameter are smeared with the ointment and introduced into the vagina. (Vulvo-vaginitis of newly married women.)

℞ Mentholi, gr. iij.
 (Cocain. hydrochlor., gr. iss.)
 Caffeæ tostæ,
 Sacch. albi, āā gr. lxxv.

M. et ft. pulvis. S. Catarrh snuff.

℞ Mentholi, gr. xv.
 Ol. olivæ, ℥ vi.
 Spt. vini gall., ʒ v.
 Vitell. ovi, No. ij.

M. S. To be taken in two portions in the course of an hour, in gall stones. For the after-treatment, salicylate of sodium should be given, and also high rectal injections.

℞ Mentholi, ʒ ss.
 Sacch. albi,
 Acaciæ, āā gr. xv.
 Ung. glycerini, q.s.

M. et ft. pil. No. 20. Each pill contains gr. iss. of menthol.

℞ Mentholi, gr. xv.
 Alcohol, ʒ v.
 Syr. simpl., ℥ i.

M. S. A teaspoonful every hour. (Vomiting of pregnancy.)

℞ Mentholi, ʒ ss.
 Ol. olivæ, ℥ xv.
 Lanolini, ʒ ij.

M. et ft. unguentum. S. For external use in migraine.

℞ Mentholi, ʒ i.
 Ol. olivæ,
 Liq. calcis, āā ℥ i.

M. et ft. linimentum. S. For burns.

METHACETINUM.

Recommended as an antipyretic for children, in doses of gr. iij.-v. in powder several times a day; but it has not yet been tried sufficiently to determine its value.

METHYLACETANILID.

See Exalginum.

METHYLALUM.

Hypnotic and sedative. A colorless fluid, with an odor like chloroform, soluble in water and alcohol.

Internally employed as a hypnotic in doses of ℥ xv.—xlv. in ℥ v. water.

Subcutaneously in doses of ℥ xv. of a ten-per-cent aqueous solution in delirium tremens.

It produces general anæsthesia when inhaled in the quantity of ℥ iss.—ij. in solution.

Externally employed to relieve pain, in ointment or liniment (℥ i.—iiss. to ℥ i.).

It has also been recommended by subcutaneous injection as an antidote in strychnine-poisoning.

METHYLENI BICHLORIDUM.

Methylene has been employed as an anæsthetic by inhalation, like chloroform, but it is more volatile than the latter, and also more expensive. The narcosis so produced is said to be without the stage of excitement seen when chloroform is used, and the substance is effective in about half the quantity.

MOLLINUM.

A soft soap (caustic potash, forty parts; fat, one hundred parts; glycerin, thirty parts). It is a good base for mercurial, iodine, and iodide of potassium ointments.

MORPHINA.

See Opium.

MORRHUOLUM.

See Oleum Morrhuæ.

MOSCHUS.

Stimulant nervine, antispasmodic, restorative.

Internally employed in doses of gr. $\frac{1}{3}$ —iss. for children under one year, gr. iss.—viij. for adults, in powder mixed with sugar, and in emulsion—

1. In collapse in diseases of the most varied sort, but may be replaced by alcoholic stimulants, ether, or camphor, etc.

2. In convulsive affections in children, especially laryngismus, and in hysterical convulsions, but possesses no particular advantage over asafœtida and valerian.

Tinctura Moschi.—(Ten parts of musk in 45 each of alcohol and water.)

Internally employed in doses of ℥ xx.–lx. every two or three hours; also subcutaneously in half the amounts for the same purposes as musk itself.

℞ Moschi,
 Camphoræ, āā gr. iiss.–viiij.
 Sacch. albi, ʒ ss.

M. et div. in chart. No. 5. S. One powder every two hours. (Restorative.)

℞ Moschi, gr. iiij.
 Acaciæ, ʒ ss.
 Aq. fœnic.,
 Syr. simpl., ʒāā ʒ i.
 Liq. ammon. anisat., ℥ xv.

M. S. A teaspoonful every hour or hour and a half. (For convulsions in a child of about six months.)

MUCILAGINOSA.

Gums are precipitated from watery solutions by alcohol, and are converted by the mineral acids, and partially also by the digestive fluids, into grape sugar; as such, and also directly, they are absorbed and thus possess some nutritive value (in fevers). They are employed therapeutically as a protective in diarrhœas, acute inflammatory conditions of the digestive and urinary tracts and of the larynx, and as a vehicle for irritant drugs.

Among the mucilaginous drugs are: acacia, tragacanth, salep, althæa, flaxseed, malva, mullein, carrageen, etc.

MYRISTICA.

Nutmeg is an aromatic, but is seldom employed medicinally in the form of the crude drug.

Oleum Myristicæ.—*Externally* employed in irritant salves, liniments, and plasters, especially in gastric troubles.

Balsamum Myristicæ.—Composed of yellow wax, 1 part;

olive oil, 2 parts; and oil of nutmeg, 6 parts. Employed like the oil.

Macis.—The seed-coat of *Myristica fragrans*. Given in doses of gr. iij.–viiij., in powders or pills, as an aromatic corrigens. It is a constituent of several medicinal preparations.

Oleum Macidis.—A volatile oil derived from mace.

Internally employed in doses of 1 or 2 drops several times a day in ethereal solution, emulsion, or oil-sugar as a stomachic or aromatic corrigens.

Externally applied on cotton to the cavity of an aching tooth.

MYRRHA.

Internally employed in doses of gr. iss.–xv. several times a day in powders, pills, mixtures, and electuaries, as an expectorant in bronchorrhœa, especially with phthisis. It is given also, like the resins in general, as an emmenagogue.

Externally used in tooth powders, mouth washes, and gargles, and also as a mildly stimulating application to sluggish ulcers.

Tinctura Myrrhæ.—Used more especially as a dentifrice and mouth-wash. The addition of water precipitates the myrrh.

℞ Myrrhæ, 3 ss.

Acaciæ, 3 ij.

Tere cum

Aq. anisi, ℥ v.

Ammon. chloridi,

Ext. glycyrrhizæ, āā 3 i.

Syr. toltan., ℥ ss.

M. S. A tablespoonful every two or three hours. (Expectorant.)

℞ Myrrhæ, 3 iij.

Sacch. albi, ℥ ij.

M. et ft. pulvis. S. A teaspoonful four times a day. (Bronchorrhœa.)

℞ Tinct. myrrhæ,

Spt. cochleariæ, āā ℥ i.

Infus. salviæ, ℥ ij.

M. S. Mouth wash.

MYRTOLUM.

Obtained from myrtle oil.

Internally recommended in doses of one or two capsules, containing each ℥ ij., in putrid affections of the lungs.

NAPHTHALINUM.

Colorless, shining, crystalline scales obtained from coal tar, having a penetrating odor (masked by oil of bergamot, 1 part to 40) and a burning aromatic taste; insoluble in water, soluble in ether, chloroform, and hot alcohol.

Internally employed in doses of gr. iss.–viij. (maximum dose, gr. xv., or gr. lxxv. a day), in powder or pill, in intestinal catarrh, cholera infantum, and as an intestinal disinfectant in typhoid fever; recommended in doses of gr. iss.–v. twice a day for tape-worm and lumbricoids in children, gr. viij.–xlv. for adults, in powder with milk sugar. Large doses of naphthalin are said to produce cataract.

Externally applied in powder or mixed with oil or vaselin (1 part to 10) for scabies, favus, herpes tonsurans, eczema marginatum; and dissolved in the proportion of gr. xv.–xlv. in ℥ iss.–ij. of boiling water and added to one or two pints of warm infusion of althæa, for high rectal injections in diarrhœa of mycotic origin. It is also a good preservative for clothing, stuffed animals, etc. As a protection against moths the naphthalin scales are best used.

Naphthalini Monobromas.—*Internally* employed in doses of gr. $\frac{1}{3}$ to ij. several times a day in solution or pills for spasmodic cough, bronchitis, and articular rheumatism.

Externally used like naphthalin, which is to be preferred.

℞ Naphthalini, gr. xv.
 Elæosacch. menth. pip., 3 i.
 M. et div. in chart. No. 10. S. One powder every three hours. (Intestinal catarrh.)

℞ Naphthalini, 3 ss.
 Ergotæ, 3 i.
 M. et div. in chart. No. 8. S. One powder in a wafer every two hours. (Dysentery with hemorrhage.)

NAPHTHOLUM.

(Recrystallized iso- or beta-naphthol.) This is, like naphthalin, a coal-tar product, and resembles it in appearance and solubility without its unpleasant odor or its property of staining the linen.

Externally employed as a substitute for tar in various skin diseases, applied in oil, lard, or lanolin in five-per-cent strength for prurigo, in one-per-cent strength for chronic (squamous) eczema, and various forms of acne (red nose), and as a paste (see formulæ) for psoriasis, seborrhœa, sycosis, and scabies. A twelve-per-cent alkaline solution is employed to wash out the nose (in quantities of a teaspoonful) in ozæna. Care must be exercised in regard to the strength of naphthol applications, as their long use is apt to give rise to toxic symptoms, such as hæmoglobinuria, nephritis, vomiting, loss of consciousness, convulsions, etc.

℞ Naphtholi,	℥ ss.
Glycerini,	℥ i.
Alcohol. dil.	℥ iij.

M. S. For painting on the skin twice a day in psoriasis, and as an application in bromidrosis of the feet and axillæ, starch powder being subsequently applied, or pledgets of cotton inserted between the toes.

℞ Naphtholi,	℥ ss.
Adipis,	℥ iij.
Sapon. viridis,	℥ iss.
Cretæ albæ,	℥ iiss.

M. et ft. unguentum. S. To be applied once or twice a day in scabies; followed by a dusting with starch, woollen clothing being worn, and finally a bath.

℞ Naphtholi,	℥ iiss.
Sulphur. præcip.,	℥ iss.
Vaselini flavi (or lanolin),	
Sapon. viridis,	āā ℥ vi.

M. et leviter terendo ft. pasta. S. For acne. The paste is to be applied every one to three days for twenty minutes, then washed off and the parts dusted with powdered talc. A zinc-starch ointment should be applied at night.

℞ Naphtholi, gr. viij.-xv.
 Adipis, gr. xv.
 Lanolini, ʒ ij.

M. et ft. unguentum. S. For external use, in acne.

Naphtholum Camphoratum.—A syrupy fluid, employed in parenchymatous injection (℥ ij. in ʒ iiss. olive oil) for pulmonary tuberculosis. It is also recommended for external use in furunculosis, sore throat, and coryza.

NARCEINA.

Narceinæ Hydrochloras.—Sedative and hypnotic.

Internally employed in doses of gr. $\frac{1}{4}$ to i. in powder, pill, or solution (with the addition of a few drops of hydrochloric acid) as a substitute for opium (the disagreeable after-effects of which it is said not to possess) in whooping-cough and bronchitis. In doses of gr. $\frac{1}{4}$ to $\frac{1}{2}$ for children of three or four years, it produces sleep and prevents the night attacks of coughing.

Subcutaneously employed in the same or larger doses than morphine in spasmodic affections and neuralgia. It may also be given by enema or suppository in doses of gr. $\frac{1}{4}$ to i.

NITROGLYCERINUM.

The action of nitroglycerin resembles that of nitrite of amyl and nitrite of sodium, but it is much more intense and persistent, and varies greatly in different individuals. In small doses it increases the rapidity of the pulse, flushes the face, and causes headache, photophobia, tinnitus aurium, nausea, vomiting, and colic; large doses produce paralytic symptoms, dyspnœa, collapse, bloody urine, and glycosuria. For this reason, and also because the substance is very explosive, great caution is necessary.

Internally employed in doses of gtt. $\frac{1}{100}$ gradually increased (it is most safely administered in doses of 1 drop of a one-per-cent solution in alcohol or almond oil, gradually increased to 5 or even 10 drops a day, and may also be given in tablets of gr. $\frac{1}{100}$ each) in angina pectoris, bronchial, nervous, or uræmic asthma, and in chronic nephritis.

It may also be administered in the dose of 20 to 30 drops of a 1:1,000 solution.

NUTRIENTIA.

The nutritive value of the different artificial foods depends upon the proportions of albumin, fat, carbohydrates, and pепtones which they contain. These proportions vary greatly in the different foods for children and invalids in the market. The amount of albumin in some of the articles used as food or delicacies is here given (*conf.* Caro).

Caviar.....	25.81%	Black bread (German).....	4.20%
Almonds.....	24.18	Cow's milk.....	4.00
Yolk of egg.....	13.01	Mashed potatoes with	
White of egg.....	13.48	milk.....	3.10
Wheat flour.....	13.06	Potatoes.....	2.00
Rye flour.....	12.50	Cauliflower and aspara-	
Oatmeal.....	11.20	gus.....	2.00-3.00
Rice.....	7.80	Sago.....	0.50
Cocoa.....	4.16-8.23	Malt extracts....	0.28-2.50
Oysters.....	4.95	Condensed milk.....	8.79
White bread.....	7.20		

NUX VOMICA.

The seed of *Strychnos nux vomica*.

Internally employed in dose of gr. ss. (maximum gr. iss., or gr. iij. a day) in powder, but it is seldom given in this form.

Extractum Nucis Vomicae.—Given in doses of gr. $\frac{1}{2}$ several times a day up to gr. ss., or gr. ij. a day, in powder or pill, in atony of the digestive tract, in chronic diarrhœa, and in cholera, and also for the same indications as strychnine.

Extractum Nucis Vomicae Fluidum.—Dose: ℥ ij.-v., given for the same purposes as the preceding, alone or in mixtures.

Tinctura Nucis Vomicae.—Given in doses of 5 to 20 drops several times a day, up to the maximum dose of ℥ xv., or ʒ ss. a day, for the same purposes as the extract, but used especially as a stomachic tonic.

Strychnina Nitras.—Colorless needle-shaped crystals, of a very bitter taste, soluble in 90 parts of cold and 6 parts of boiling water, and in 70 part of cold and 5 parts of boiling alcohol.

Internally (and subcutaneously) given in doses of gr. $\frac{1}{100}$ up to the maximum of gr. $\frac{1}{6}$, or gr. $\frac{1}{3}$ per day, in powder, pill, or solution. For long administration it should be given in

initial doses of gr. $\frac{1}{60}$ and increased each day by gr. $\frac{1}{60}$ until a dose of gr. $\frac{1}{3}$ is reached, in which amount it is to be given for five or six days, and then stopped for ten to twelve days.

1. In amblyopia and amaurosis unassociated with anatomical changes, or even when there is partial atrophy of the optic nerve (here by subcutaneous injection).

2. In motor paralyses, spinal paralysis, paresis.

3. In peripheral paralyses, bladder disturbances, vesical paralysis, enuresis.

4. In digestive disturbances, loss of appetite, diarrhœa, and also in habitual constipation due to inefficient peristalsis.

5. In dipsomania and delirium tremens (by the mouth and subcutaneously).

Symptoms of Poisoning.—First stiffness, then tremor and general restlessness in the entire body, extreme impressionability of the organs of sense, tetanic symptoms, extreme anxiety, and dyspnœa even to apnœa, and complete collapse.

Treatment of Strychnine Poisoning.—Emptying of the stomach, the administration of tannin, chloral alone or combined with bromide of potassium in the proportion of $\bar{3}$ i. chloral and $\bar{5}$ ss. bromide, to be taken at once, then $\bar{5}$ ss. more of the bromide, and within the next twenty-four hours $\bar{3}$ i. more in divided doses; morphine, curare, and artificial respiration.

℞ Strych. nitrat., gr. i.
 Aq. fervid., q.s.
 ad solutionem.
 Ext. glycyrrhizæ,
 Pulv. glycyrrhizæ, āā 3 ss.

M. et ft. pil. No. 30. S. Beginning with two pills a day gradually increasing to six, eight, and ten. (Hysterical, laryngeal, and peripheral spinal paralysis, delirium tremens.)

℞ Ext. nucis vomicæ, gr. $\frac{1}{4}$.
 Bismuthi subnitratiss,
 Magnesii carbonatis, āā 3 ss.
 Sacch. albi, 3 i.
 Ol. menth. pip., gtt. x.

M. et div. in chart. No. 10. S. One powder every two hours. (Gastralgia.)

℞ Ext. nucis vomicæ,
 Ext. cannabis indicæ, āā gr. viij.
 Ergotini, 3 ss.

M. et ft. pil. No. 20. S. One pill morning and evening.
 (Impotence.)

℞ Tinct. nucis vom., 3 ss.
 Aq. amygdal. amaræ, 3 v.

M. S. Fifteen drops three times a day. (Chronic gastric
 catarrh.)

℞ Strych. nitratis, gr. i.
 Aq. destillatæ, 3 iiss.

M. S. Five drops twice a day, or two drops hypodermi-
 cally, gradually increased. (Hysterical, laryngeal, and per-
 ipheral spinal paralyses and delirium tremens.)

℞ Ext. nucis vomicæ, g. iij.
 Tinct. cantharidis, 3 ss.
 Tinct. calami, 3 iss.

M. S. Ten to 15 drops in elder tea three times a day.
 (Vesical and rectal paralysis.)

℞ Tinct. nucis vom., 3 ss.
 Tinct. opii, 3 i.
 Tinct. valerianæ, 3 iiss.
 Ol. menth. pip., gtt. v.

M. S. Fifteen to 30 drops several times a day. (Russian
 cholera drops.)

℞ Tinct. nucis vom., ℥ xliv.
 Tinct. rhei (or Tr. cinchonæ), ʒ i.

M. S. Twenty to 30 drops three or four times a day.
 (Dyspepsia, alcoholism.)

OIL-SUGARS.

See Elaeosacchara.

OLEUM MORRHUÆ.

A nutrient in scrofula, rachitis, pthisis, etc. An oil ob-
 tained from the fresh liver of *Gadus morrhua* (cod-fish).

Internally given in doses of one to three teaspoonfuls a
 day for children, one to three tablespoonfuls for adults. It is
 best taken pure, for children soon learn to take it readily

enough in that way, and adults may disguise the flavor by taking first a little peppermint, vinegar, lemon juice, or oil of anise on the tongue, or by adding rum or arrack to the oil. The digestibility of the oil is increased by the addition of oil of peppermint (1 drop to 5 teaspoonfuls) or a few drops of ether, and by taking the oil after meals. An even better way is to make an odorless and tasteless emulsion with equal parts of lime water and a little syrup, the lime being also useful as a medicament.

Contra-indications to the use of cod-liver oil are: fever, a tendency to diarrhœa, the first half-year of life, the hot season of the year, and individual idiosyncrasy.

Various preparations of cod-liver oil, containing iodine, iron, and other substances, are made.

Morrhuum.—Alleged to be the active medicinal and nutritive principle of the oil remaining after the removal of the fat. It is given for the indications of cod-liver oil, in capsules of gr. iij. each (representing a teaspoonful of the oil), in doses of two to four capsules per day for children, and four to eight for adults.

OLEUM RICINI.

Castor oil is a cathartic of certain action, which, however, if long used disorders the digestion. A dose of $\frac{3}{4}$ i. is apt to cause vomiting.

Internally given in doses of one-half to two tablespoonfuls, repeated if necessary in two hours, in a warmed spoon, in black coffee or hot broth or milk, or with the taste disguised by peppermint drops before and after taking. For children the oil may be mixed with enough granulated sugar to make a paste. The addition of a drop of croton oil makes the action more powerful, but not more sure. It may also be given in capsules or emulsion. Castor oil may be administered even when inflammatory affections of the intestine are present.

Externally it is recommended to be applied repeatedly to excoriated nipples.

When given by enema, the dose is one to four tablespoonfuls.

℞ Ol. ricini,

Pulv. glycyrrh. comp., āā ʒ v.

M. et ft. electuarium. S. To be given in teaspoonful doses; it may also be inclosed in wafers.

℞ Ol. ricini,	℥ i.
Acaciæ,	ss.
Aq. destill.,	v.
Syr. menthæ pip.,	ss.

M. et ft. emulsio. S. A tablespoonful every one or two hours until the bowels move.

OLEUM SANTALI.

Sandalwood oil is employed in doses of 10 to 20 drops several times a day in gonorrhœa and bronchitis.

OLEUM TEREBINTHINÆ.

See Terebinthina.

OLEUM TIGLII.

Croton oil (expressed from the seed of Croton Tiglium) is a powerful drastic cathartic which causes a raw sensation in the throat, but seldom produces colic.

Internally employed in doses of $\frac{1}{4}$ to 1 drop, mixed with a powder or in castor oil, in very obstinate constipation, but its administration should never be long continued. It is also used in ileus from mechanical causes (but with care; *conf.* Opium) in order to provoke energetic peristaltic movements. It is efficient also when given by the rectum in doses of gtt. i.-iij. in emulsion.

Externally, croton oil is a powerful counter-irritant (producing a vesiculo-pustular eruption) applied in liniment with oil or glycerin.

℞ Ol. tiglii,	gtt. ij.
Ol. ricini,	$\frac{3}{4}$ ij.

M. S. One tablespoonful every hour until the bowels act. (Obstinate constipation, lead colic, ileus.)

℞ Ol. tiglii,	gtt. i.-iij.
Ol. olivæ,	$\frac{3}{4}$ i.
Acaciæ,	$\frac{3}{4}$ ss.
Aq. fontan.,	$\frac{3}{4}$ iv.

M. et ft. emulsio, cui adde

Extr. hyoscyami, gr. v.-x.

S. To be given in enema when croton oil is not well borne by the stomach.

℞ Ol. tiglii, gtt. i.
 Hydrarg. chlor. mitis, gr. viij.
 Sacch. lactis, ʒ ss.

M. et div. in chart. No. 5. S. One powder every hour until the bowels move freely.

℞ Ol. tiglii, ℥ xv.
 Ol. terebinth., ℥ lxxv.

M. S. Applied to the skin to excite a derivative eruption, in sciatica, etc.

A better application for this purpose, since its action can be distinctly localized, is a mixture of equal parts of croton oil and flexible collodion.

OPIUM.

Opium and its alkaloids, the most important of which are morphine and codeine, are hypnotic and analgesic, depressing the activity of the brain and the reflex excitability of the spinal cord. In this respect the action of opium and of morphine is the same, but when the latter is used the dosage can be regulated much more exactly. Where a general narcotic effect is desired, morphine is to be preferred.

Indications for Opium.—1. Diarrhœas of all kinds, with or without colic, in powders (pulvis ipecac. et opii—Dover's powder) or in tinctures, often combined with astringents.

2. Sporadic or epidemic dysentery, cholera nostras, and epidemic cholera, but in the last-named only in the first stages (morphine subcutaneously is used for the relief of the cramps in the legs).

3. Peritonitis, to quiet the peristaltic action, and lead colic.

4. Intestinal hemorrhages, from the upper portions of the gut, and in acute intestinal obstruction, ileus.

Indications for Morphine.—1. Sleeplessness (here only occasionally surpassed by chloral) and pain from the most varied causes. Best given in the evening in initial doses of gr. $\frac{1}{2}$.

2. Mental diseases accompanied by excitement and restlessness; maniacal, hysterical, and puerperal psychic disturbances; and hyperæsthesia with increased reflex excitability. In these cases (in which not infrequently chloral will be found to be preferable) the drug is best administered in subcutane-

ous injection in large doses (gr. $\frac{1}{3}$ – $\frac{2}{3}$), as small doses often serve only to increase the restlessness.

3. The so-called delirium from inanition (combined with stimulants) in pneumonia, erysipelas, etc., after the crisis; typhoid delirium accompanied by great nervous excitability and insomnia; and delirium tremens, without fever, in infrequent large doses. But in the latter case opium is said to act better than its alkaloid.

4. Rheumatism, sciatica, gastralgia (with bitter-almond water, belladonna, and bismuth), enteralgia, and colic, especially lead, biliary, or renal.

5. Neuralgia (subcutaneously employed), spasmodic affections (especially when reflex from irritation of the sensory nerves), tetanus, severe labor pains (in large doses by enema, and in especially severe cases by hypodermic injection in the sacral region), and in puerperal eclampsia (subcutaneously).

6. Diseases of the respiratory organs, especially when there is dry, irritable cough accompanied by slight hemorrhages.

7. Vomiting (here in small doses) due to ulcer or cancer of the stomach, or the abuse of alcohol; or the so-called sympathetic vomiting occurring in affections of some other of the abdominal viscera, the stomach being normal.

Untoward incidental effects of the opiates in general (which may be partially helped by cold compresses to the head) are: vertigo, headache, vomiting, itching of the integument, constipation, retention of urine, and sometimes an urticaria-like eruption.

Contra-indications.—Infancy up to three years of age (the most minute dose may cause collapse in nursing infants) as well as old age; marked adynamia, especially in diseases of the respiratory organs; hyperæmia of the brain; marked anorexia and fermentative changes in the intestinal canal.

Opium.—Powdered opium is given in that form or in pill, in doses of gr. $\frac{1}{4}$ –iss. (maximum dose, gr. ij., or gr. viij. a day), but much larger amounts may be exhibited under special circumstances. In suppositories the dose is gr. i.–iss.; it is employed in this form in tenesmus, strangury, spasmodic labor pains, etc.

Extractum Opii.—*Internally* employed like opium but in about one-half the dose; and may also be given in enema and in rectal or vaginal suppository.

Pulvis Ipecacuanhæ et Opii.—Dover's powder, composed of opium and ipecac, each 10 parts, rubbed up with 80 parts of sugar of milk. It is given internally in doses of gr. iiss.—xv. several times a day, and is to be preferred when a constipating effect is aimed at.

Tinctura Opii.—Laudanum contains the soluble portion of 10 parts of opium in 100 of tincture. It may be given in doses of 5 to 20 drops several times a day. One drop corresponds to about gr. $\frac{1}{12}$ of opium, or 20 drops to a grain and a half. Maximum dose, \mathfrak{m} xxiv., or \mathfrak{m} lxxv. a day.

Tinctura Opii Crocata.—Sydenham's laudanum contains the soluble portion of 15 parts of opium, 5 parts of saffron, and 1 part each of clove and cinnamon in 75 parts each of alcohol and water. It is employed in the same dose as the preceding, but is pleasanter to take. It is sometimes dropped into the eye in cases of scrofulous conjunctivitis with photophobia and corneal opacity.

Tinctura Opii Camphorata.—Paregoric is made by macerating 4 parts each of opium, benzoic acid, camphor, and oil of anise in 40 of glycerin and enough diluted alcohol to make 1,000 parts. It is given in doses of 5 to 20 drops for children, \mathfrak{ss} .—i. for adults, pure or in a mixture with syrup two or three times a day.

Syrupus Opiatus.—Contains gr. $\frac{1}{12}$ extract of opium in a teaspoonful, and is preferable to the following.

Syrupus Papaveris.—This is officinal in the German Pharmacopœia, but is an uncertain "soothing syrup." It, or preferably the preceding, is given in dose of a teaspoonful to children, either pure as a feeble narcotic or as a constituent of quieting mixtures.

Emplastrum Opii.—Contains opium in the proportion of 6 parts in 100.

Pilulæ Odontalgicæ.—Composed of opium, pyrethrum, oil of cajeput, oil of clove, and belladonna.

Morphina.—The officinal salts of morphine are the acetate, hydrochlorate, and sulphate, and in addition to these the hydrobromate, the lactate, and the valerianate are sometimes prescribed. They are given (the hydrochlorate is to be preferred) internally in doses of gr. $\frac{1}{12}$ to $\frac{1}{2}$ up to the maximum of gr. \mathfrak{ss} . (gr. iss. pro die). One-sixth of a grain of morphine is the equivalent, in hypnotic strength, of about 1

grain of opium (one centigram and one-half decigram respectively).

For subcutaneous injection a solution may be made of morphine, gr. iss., in ℥ lxxv. each of water and water of bitter almond or glycerin; of which ℥ xv. contain gr. $\frac{1}{2}$ morphine. The addition of 1 part of a one-per-mil atropine solution to 5 parts of this morphine solution is said to obviate the tendency of the latter to cause vomiting. Morphine is also given in snuffs, enemas, and suppositories.

Codeina.—The pure alkaloid is used, or its salts, the sulphate and the phosphate.

Internally the phosphate is employed in doses of gr. $\frac{1}{2}$ to i. (maximum, gr. iss., or gr. iij. a day) in powder, pill, or solution for the same purposes as morphine; and is also recommended especially for diabetes, in double the above dose (see formula). *Subcutaneously* phosphate of codeine may be given in a solution of gr. viij. to ʒ iiss. of water with gr. $\frac{1}{6}$ of carbolic acid, in doses of ℥ xv.—xxx., to meet the same indications as morphine.

℞ Opii pulv., gr. v.—xv.
 Acidi tannici, gr. xv.—xxx.
 Sacch. lactis, ʒ i.

M. et div. in chart. No. 10. S. One powder every two or three hours. (Powders for diarrhœa—to be carried when travelling.)

℞ Extr. opii, gr. iss.—iij.
 Aq. fœniculi, ʒ i.
 Elixir. glycyrrhizæ, ʒ iss.

M. S. A teaspoonful three or four times a day. (Bronchial catarrh.)

℞ Opii, gr. iss.
 Antimonii pentasulphidi, gr. viij.
 Sacchari albi, ʒ i.

M. et div. in chart. No. 10. S. One powder every two or three hours. (Bronchial catarrh, asthma, emphysema.)

℞ Extr. opii, gr. viij.—xij.
 (or Morph. hydrochlor., gr. i.—ij.)
 Ol. theobromæ, ʒ ss.—i.

M. et ft. suppos. No. 5. S. For rectal or vaginal use in spasmodic cough or painful affections of the intestines, bladder, or female genital organs.

℞ Tinct. opii camph., 3 i.
Syr. althææ, 3 x.

M. S. A teaspoonful (containing gr. $\frac{1}{2}$ opium) every three hours. For older children with severe bronchial catarrh.

℞ Tinct. opii, gtt. v.-x.
Acidi tannici, gr. iv.-viiij.
Aq. destillatæ, $\frac{3}{4}$ iij.
Vini tocyensis, 3 v.

M. S. A dessertspoonful every two or three hours. (Diarrhœa of children.)

℞ Codeinæ phosphatis, gr. viiiij.
Pulv. gentianæ, 3 ss.
Extr. gentianæ, q.s.

M. et ft. pil. No. 50. S. Two pills three times a day. (Diabetes.)

℞ Morph. hydrochlor., gr. ij.
Aq. amygdal. amaræ, $\frac{3}{4}$ ss.

M. S. Fifteen to 20 drops three or four times a day (20 drops = $\frac{1}{2}$ grain morphine), alone or in an expectorant mixture, for the relief of dry, irritable, and spasmodic coughs, or colicky and other forms of pain.

℞ Tr. pii, 3 i.
Tr. castor., 3 iiss.
Tr. valerian., 3 iij.

M. S. Ten to 20 drops three or four times a day. (For hysterical pains, colic.)

℞ Tinct. opii, ℥ lxxv.
Tinct. nucis vom., ℥ xv.
Tinct. valerianæ, 3 iiss.
Ol. menth. pip., gtt. iij.

M. S. Twenty-five to 30 drops every hour or two, alone or in peppermint water. (Russian cholera drops.)

℞ Morph. hydrochlor., gr. ss.
Acidi acetici, gtt. x.
Aq. amygdal. amaræ, gtt. lxxv.
Ac. hydrocyan. dil., gtt. x.

M. S. About 10 drops to be snuffed up the nostril on the painful side, for hemicrania.

OPODELDOC.

See Ammoniaë Aqua.

OREXYNUM HYDROCHLORICUM.

A derivative of quinoline. Used as a stomachic in anorexia not dependent upon actual disease of the stomach, in doses of gr. v.-viiij. once or twice a day, in gelatin-coated pills because of its sharp burning taste. The best way is to give three pills (see formula) at once with a large cup of meat broth at about ten o'clock in the morning; if no effect is obtained, the dose may be increased to four or five pills; or three pills may be given morning and evening.

℞ Orexyini hydrochlor., 3 ss.
 Ext. gentianæ,
 Pulv. althææ, āā q.s.
 M. et div. in pil. No. 20. S. From three to six pills a day.

PANNA.

The root of an African fern, possessing anthelmintic properties. From 120 to 150 grains are to be taken in the morning, fasting.

PANCREATINUM.

See Caro.

PAPAYOTINUM.

Derived from the juice of the unripe fruit of the *Carica papaya* or pawpaw. It is readily soluble in water and glycerin.

A five-per-cent solution will, within half an hour, soften fresh lean meat and soon reduce it to a thick turbid pap. The membrane of croup is said to be wholly dissolved by it in two hours.

Internally employed in doses of gr. i.-iiss. in powder, pill, or five-per-cent solution in dyspeptic and catarrhal gastric affections; also as an anthelmintic.

Externally in five to ten per cent solution used for painting the pharynx in order to dissolve the diphtheritic membrane; and is blown in the form of powder, through a thin glass tube, into the larynx for the same purpose.

Subcutaneously employed in ten-per-cent solution to cause the resorption of enlarged glands and cancerous nodules.

PARAFFINUM.

Liquid vaselin is a clear oily fluid obtained from petroleum. It is used as an unchangeable constituent for soft ointments, liniments, etc., and as a vehicle for insoluble substances for subcutaneous injection.

Hard paraffin is a solid, white, odorless mass.

Unguentum Paraffini.—Composed of 1 part of hard and 3 of liquid paraffin, forms a very good base for ointments; not suitable, however, for salines and extracts.

PARALDEHYDUM.

Hypnotic. A clear colorless fluid, having an odor resembling that of chloroform and a peculiar disagreeable taste, soluble in alcohol and ether, and in $8\frac{1}{2}$ parts of water. The indications are the same as for chloral, and the dose about half as much; it is said to cause a quiet, natural sleep without any unpleasant incidental or after effects.

Internally employed as a sedative in doses of \mathfrak{m} xv.—xxx., as a hypnotic \mathfrak{m} xxx. up to the maximum of 3 i. (or 3 iiss. per day in divided doses), in mixtures and occasionally in mucilage. The disagreeable taste is covered by rum, lemon juice, and oil of peppermint. It may also be given by the rectum in enema or suppository. It is an antidote to strychnine poisoning.

℞ Paraldehydi, 3 i.—iiss.
 Aq. destillatæ, $\frac{3}{4}$ iiss.
 Syr. menth. pip., $\frac{3}{4}$ ss.

M. S. Half the quantity at a dose. (Insomnia, poisoning by strychnine.)

℞ Paraldehydi, 3 i.
 Mucil. acaciæ,
 Aq. destillatæ, āā 3 vi.

M. S. For administration by the rectum.

PASTILLI.

See Trochisci.

PELLETIERINÆ SULPHAS.

See Granatum.

PEPO.

A remedy for tape-worm. From 160 to 200 fresh pumpkin seeds are deprived of their outer covering and rubbed up into a powder with sugar, and taken with copious draughts of milk or water in the morning, the patient having fasted for a day previously; then about noon of the same day a good dose of castor oil is taken.

On the continent of Europe the seeds of the *Cucurbita maxima*, Italian melon-pumpkin, are employed for the same purpose.

PEPSINUM.

German pepsin is a fine, nearly white, only slightly hygroscopic powder of a bread-like odor and sweetish taste. It forms with lactic and hydrochloric acids the digestive principle of the gastric juice, and is therefore theoretically recommended in the dyspepsia of anæmic persons and of the phthisical, in chronic gastric catarrh, and in the weak digestion of the aged.

Internally given in doses of gr. iij.–viiij. in powder with sugar of milk, in pills or solution, shortly before and after each meal, 5 drops of dilute hydrochloric acid in water being taken after it.

Vinum Pepsini.—Contains: pepsin, 24 parts; glycerin, 20; hydrochloric acid, 3; water, 20; syrup, 92; tincture of bitter-orange peel, 2; and sherry wine, 839 parts. It is taken in doses of a tablespoonful before or after meals, and also in the indigestion of bottle-fed infants in doses of 15 to 20 drops, and in older scrofulous children a teaspoonful after each meal.

℞ Pepsini,	gr. xv.
Ac. hydrochlor. dil.,	℥ viij.
Aq. destillatæ,	ʒ iv.
Syrup. simplicis,	ʒ v.

M. S. A dessertspoonful to a tablespoonful four or five times a day after eating. (Dyspepsia.)

℞ Pepsini, 3 i.
 Sacch. lactis, 3 iij.

M. et div. in chart. No. 16. S. One or two powders after each full meal, followed by a few drops of hydrochloric acid in water.

PEPTONUM CARNIS.

See Caro.

PEPTONUM SICCCUM.

Various dry preparations (powder or extract form) made from the artificial digestion of pure albumen (white of egg or blood serum), which contains rather large quantities of hemi-albuminose in addition to peptone, and employed chiefly as nutrient enemata in doses of 3 iiss.-v.

PEPTONUM VEGETABILE.

It is employed in the nourishment of patients with gastric or intestinal trouble and of convalescents, and is prepared as follows: Eight ounces of fine pea flour, 15 grains of salicylic acid, and 8 grains of good pepsin are added to a quart of water and stirred often and thoroughly, allowed to stand in a warm place (not over 100° F.) for twenty-four hours, then strained, and slightly thickened with moderate heat. The soup thus prepared is rendered palatable by salt, spices, meat extracts, etc.

PETROLEUM CRUDUM.

Externally employed alone or mixed with oil or fat (1:10) as an application in frost-bites, rheumatism, paralysis, and scabies. (It produces a slight eczema.)

Æther Petrolei.—Employed like the preceding, and also occasionally by inhalation. In spray, often mixed with chloroform, it produces local anæsthesia.

℞ Petrolei,
 Ol. lini, āā ʒ i.
 Aq. ammon., ʒ ss.
 M. S. For external use. (Frost-bites.)
 ℞ Camphoræ, gr. viij.
 Petrolei, 3 i.
 Cerati, 3 iv.
 M. S. For chilblains.

Petrolatum.—Vaselin. A semi-solid fat-like substance, obtained by distillation from petroleum, of a pale yellow color, translucent, and without odor or taste. Used largely as a base for ointments.

PHENACETINUM.

Antipyretic, antineuralgic. (Para-acetphenetidin.) A derivative of anilin. Occurs in the form of colorless, shining crystalline scales without odor or taste, soluble in 16 parts of alcohol, but almost insoluble in water. (Fifteen grains of phenacetin equal in antipyretic effect about 8 grains of antifebrin or 30 grains of antipyrine.)

Internally employed as an antipyretic in doses of gr. iv.—x. (maximum dose, gr. xv., or gr. lxxv. a day) for adults, and gr. ij.—v. for children in powder at night; as an antineuralgic in single doses of gr. viij.—xv. in water or wine, in hemicrania and neuralgias of various sorts; in whooping-cough in doses of gr. i. four times a day for children in the first year, for those in the second year gr. iss. three times a day, and for older ones gr. iss. or more four times a day; in rheumatism in doses of gr. viij.—xv. three times a day. Disagreeable incidental effects from phenacetin have as yet not been reported.

Externally it is recommended for use as a good antiseptic dusting powder.

PHENOCOLLUM HYDROCHLORICUM.

A white powder, of a bitter saline taste, soluble in water.

It is recommended for use as an antipyretic and in rheumatism, and is said to produce absolutely no disagreeable incidental effects, not even sweating.

Internally employed in doses of gr. viij. a day divided into five portions, it is said to cause complete apyrexia in every case, and also in the same doses to exert a favorable influence upon painful rheumatic joint affections, in cases in which other remedies have failed. The remedy has not, however, as yet been sufficiently tried.

PHENOL.

See Acidum Carbolicum.

PHOSPHORUS.

Acts through the circulation as a stimulant to osseous tissue and favors its growth, without, when cautiously used, exerting any prejudicial effect on the organism.

Internally employed in doses of gr. $\frac{1}{30}$, gradually increased to the maximum of gr. $\frac{1}{6}$ (gr. $\frac{1}{12}$ per day) in pill or oily solution, not infrequently in combination with cod-liver oil. A teaspoonful of cod-liver oil, containing grain of phosphorus in 4 ounces, is given morning and evening in rickets and osteomalacia.

In the use of phosphorus the initial doses should be very small and then gradually and cautiously increased, for in the beginning a profuse diarrhœa is liable to set in, which, however, soon disappears, not again to return.

Phosphorus, when too long continued, causes fatty degeneration of the liver and other toxic symptoms. The antidote in acute poisoning is turpentine, which see.

Externally applied in liniments or ointment (gr. i.-v. in 3 vi.) for rheumatism, paralyzes, and diseases of the spinal cord.

℞ Phosphori,	gr. $\frac{1}{4}$.
Ol. amygdal.,	3 iiss.
Aq. destillat.,	5 iiss.
Acaciæ,	3 iiss.

M. et ft. emulsio. S. A teaspoonful a day.

℞ Phosphori pulv.,	gr. ss.
Syr. simplicis,	3 ij.

Misce terendo et agitando, adde

Pulv. glycyrrhizæ,	3 iiss.
Pulv. acaciæ,	gr. lxxv.
Tragacanthæ,	gr. xl.

M. et ft. pil. No. 250. S. From two to five pills twice a day.

PHYSOSTIGMA.

Calabar bean (*Faba calabarica*) is a nerve poison which paralyzes the brain and spinal cord, interferes with the conduction of voluntary impulses and with reflex action, and benumbs the sensation of pain. Through stimulation of the oculo-

motor it exerts a contrary effect upon the iris to belladonna. It also lowers the pulse rate and increases arterial tension by inducing contraction of the smooth muscular fibres, and, in the same way, increases peristaltic action. The bean itself is never used, but only preparations made from it.

Extractum Physostigmatis.—*Internally* employed in doses of $\frac{1}{12}$ to $\frac{1}{8}$ grain (maximum dose, $\frac{1}{2}$ gr., or 1 gr. per day) several times a day in solution, powder, or pills.

Externally used to drop into the eye, in a solution of 1 part in 30 glycerin.

Physostigminæ (Eserinæ) Salicylas.—(Sulphate of physostigmine or eserine is employed only in veterinary practice.)

The salicylate contains sixty-six per cent eserine and thirty-four per cent salicylic acid.

Internally employed in doses of $\frac{1}{300}$ grain up to the maximum of $\frac{1}{4}$ gr. (or $\frac{1}{2}$ gr. per day) from one to three times a day, in powder, pills, or solution, in atony of the intestine, neuralgias, epilepsy, chorea, and other convulsive affections, in tetanus (either traumatic or of the new-born), in the night sweats of phthisis, and also as an antidote in strychnine and belladonna poisoning.

Externally, in a solution of 1:1,000 dropped into the eye in dilatation of the pupil and paralysis of accommodation (idiopathic, secondary to diphtheria, or from the action of atropine); to break up posterior synechia when the adhesions are chiefly marginal (to be used with care when inflammation is present); to diminish intra-ocular pressure in glaucoma and staphyloma totale; and as an antidote to the eye changes produced by atropine. For application to the eye the lamellæ of physostigmine (containing each $\frac{1}{1000}$ grain) are more commonly used.

Subcutaneously employed, to meet the same indications as the internal use, in a one-per-cent solution in doses of $\frac{1}{128}$ to $\frac{1}{4}$ gr., or $\frac{1}{2}$ gr. pro die.

℞ Extr. physostig., gr. i.
Glycerin. puriss., 3 iiss.

M. S. Six drops every three hours in atony of the intestine, flatulence, etc.

℞ Physostigminæ salicyl., gr. $\frac{1}{2}$.
Aq. destillatæ, 3 iiss.

M. S. For dropping into the eye in doses of 2 or 3 drops.

PHYTOXYLLINUM.

Recommended in five-per-cent solution in ether and alcohol as a substitute for collodion.

PICROTOXINUM.

Barely soluble in water, but more readily in alcohol and ether. It acts as an excitant to the brain as strychnine does to the cord.

Internally employed in doses of gr. $\frac{1}{150}$ to $\frac{1}{60}$ twice or three times a day, up to gr. $\frac{1}{3}$ a day, in pills, pastilles, or solution, as a substitute for strychnine. For the night sweats of phthisis it is given in initial dose of gr. $\frac{1}{120}$, gradually increased up to gr. $\frac{1}{60}$ to $\frac{1}{30}$ by the mouth or subcutaneously every second or third evening. (Must be used with great care.)

PILIGANINA.

Employed in doses of gr. $\frac{1}{6}$ to $\frac{1}{3}$ in combination with chloral hydrate, in powder, pill, or solution, for the relief of asthma.

PILOCARPUS.

Pilocarpus (jaborandi) is a powerful diaphoretic and sialagogue. When given in infusion (3 ss.-i. in 3 ounces of water, in one dose) it increases the secretion of sweat and saliva and reduces the volume of the urine, and is apt to cause headache, vomiting, diarrhœa, increased irritability of the intestinal and uterine muscular tissue, and collapse. It must therefore be used with caution, and should be avoided when the heart's action is weak. In place of it the alkaloid, pilocarpine, is to be recommended.

Pilocarpinæ Hydrochloras.—Produces the same effect as jaborandi, but not the unpleasant incidental effects, or at least not in such a marked degree. (One-third of a grain equals in efficacy 3 i. of the crude drug in infusion.)

Caution.—It should not be given in uncompensated heart diseases, or in general when the heart's action is weak, in marasmus, or in pregnancy (for it has been known to produce abortion).

Internally employed in doses of gr. $\frac{1}{6}$ (maximum dose, gr.

$\frac{1}{3}$, or gr. i. pro die) in pill or solution in all cases in which a curative effect may be expected from a copious secretion of sweat and saliva. It is better given—

Subcutaneously in doses of gr. viij.-xv. of a solution of gr. iij.- $\bar{3}$ iiss. of water, in the region of the stomach, and as far as possible from meal-time. For children the dose is gr. $\frac{1}{6}$.

1. For the removal of fluid in dropsy; in cases of œdema and dropsy in diseases of the heart and kidneys, when there is diminished secretion or suppression of urine; and in diabetes insipidus, when the injections should be continued for one or two weeks.

2. In uræmia (also in pulmonary œdema) a marked improvement is usually effected, though isolated cases have been observed in which the condition was made worse by the remedy.

3. In chronic poisoning (mercury or lead) in order to obtain elimination of the poison through the sweat and saliva.

4. To cause diaphoresis in the beginning of acute catarrhal and rheumatic diseases, and to effect a loosening of the membrane in diphtheria, but in these cases the effect is a very uncertain one; it has also been used in whooping-cough.

5. To aid in the resorption of pleuritic exudations (with questionable results).

6. During the first paroxysms of puerperal eclampsia, in convulsions of various sorts, and in singultus.

7. For the night sweats of phthisis (?).

8. To increase the force of labor pains (?).

9. In the treatment of constitutional syphilis, psoriasis, prurigo, eczema, urticaria, and other diseases of the skin (?).

10. In hydrophobia, three injections of gr. $\frac{1}{6}$ being given one after the other at short intervals, and then others at longer intervals for several days (?).

11. In chronic dry middle-ear catarrh, and to improve the hearing when it has been impaired by exudations into the tympanum and labyrinth.

12. To relieve the itching in jaundice an injection of gr. $\frac{1}{3}$ once every two or three days.

13. It is also said to favor the growth of the hair, to color light hair dark, and to cure bromidrosis of the feet (?).

Externally a solution of the strength of gr. iss.- $\bar{3}$ iiss. of water is used for dropping into the eye in iritis, choroiditis,

detachment of the retina; in beginning peripheral cataract as a means of temporarily improving the sight; and in glaucoma.

Pilocarpine and atropine are mutually antidotal. (Atropine gr. $\frac{1}{12}$ subcutaneously.)

PILULÆ.

The German Pharmacopœia directs that pills for which no definite excipient has been ordered should be made by mixing equal parts of powdered licorice and extract of licorice with or without the addition of a mixture of one part of glycerin and two parts of water. When possible, the pill is to be made of such a size as to weigh a grain and a half when dry.

PILULÆ ALOES ET FERRI.

See Ferri Sulphas.

PILULÆ BLAUDII.

See Ferri Sulphas.

PIPERAZIDINUM.

See Sperminum.

PISCIDIA ERYTHRINA.

Jamaica dogwood. Sedative and hypnotic. Employed only in the form of

Extractum Piscidiæ Fluidum.—*Internally* employed as a sedative in doses of thirty to fifty drops (up to ʒ iij. a day) in bronchial catarrhs, spasmodic coughs, asthma, and is especially valuable in the distressing cough of phthisis. In doses of 75 drops (the usual dose) up to 100 to 150 drops it usually produces a quiet, deep sleep.

Externally applied on cotton to aching carious teeth.

PIX LIQUIDA.

Pine-tar. Other tars employed in medicine are: Oleum cadinum, juniper-tar; Oleum fagi, beech-tar; Oleum rusci, birch-tar. (The first is frequently used when pix liquida is ordered.) The action of tar seems to be that of carbolic acid, one of its distillation products. When tar is used in large amount, toxic symptoms may arise from absorption.

Externally used with success in the treatment of many chronic skin diseases (eczema, prurigo, psoriasis) in the proportion of one part to 2 to 10 of fat, vaselin, soap, or alcohol (the strength being afterward increased), with or without opium, and caustic potassa; or the tar is applied in a layer the thickness of the back of a knife-blade, and renewed every second day until the skin has a normal appearance.

Aqua Picis.—One part of tar to three parts of pumice stone, of which two parts are added to five parts of water. Employed pure or diluted for inhalation in bronchial and pulmonary affections with profuse secretion, at first for two minutes and gradually increased to several hours a day by means of a respirator.

℞ Picis liquidæ, ʒ i.-ij.
Vasellini, ʒ ij.

M. et ft. unguentum. S. For external use.

℞ Olei cadini (or Picis liquidæ),
Saponis viridis, āā ʒ i.
Alcohol, ʒ ij.

M. S. For external use in psoriasis. (Hebra's fluid tar-soap.)

℞ Picis liquidæ,
Sapon. viridis,
Spt. odoratus (or Alcohol), āā ʒ ss.

M. et ft. linimentum. S. For external use. (Fluid tar-soap, for eczema, psoriasis, etc.)

℞ Picis liquidæ,
Ung. diachyli,
Ung. paraffini, āā ʒ ss.

M. et ft. unguentum. S. Tar ointment. (Eczema.)

PLUMBI ACETAS.

Acetate of lead (sugar of lead) is soluble in water and alcohol.

Internally employed in doses of gr. $\frac{1}{3}$ -i. (maximum, gr. iss., or gr. viij. a day) in powder as an astringent remedy (often combined with opium) in diarrhœa, and as a styptic in hemorrhage of the lungs, intestine, and bladder.

It should not be given when constipation is present, nor with acid drinks. When begun in small doses combined with opium, the remedy can be gradually increased up to very large doses without producing toxic symptoms. It has a cumulative action, however. Its use should be avoided, as far as possible, when digestive disturbances are present.

Externally used where astringent remedies are indicated, in solution of gr. v.-xv. in ℥ vi., in powders, ointments, and plasters (1 part in 10 to 20); as an astringent, antiseptic, and antiphlogistic injection for the urethra and bladder (gr. iv.-viiij. in ℥ iiij.); and also for ophthalmic use in solution (1 to 3 in 1,000) or salve (2 to 3%). Care must be used in the external application of the remedy, especially in children, on account of the danger of acute poisoning.

Liquor Plumbi Subacetatis.—Contains 17 parts of acetate of lead and 12 of oxide of lead in 100 parts of the solution.

Externally employed: 1. In mouth washes and gargles (℥ viij.-xxiv. in ℥ iiij. water) in beginning sore throat and in mercurial salivation.

2. For astringent compresses (especially in balanitis), and for lotions in contusions, extravasation of blood, erysipelas, eczema, burns, etc., usually diluted, but in from three to five times the strength in which the acetate is used.

3. In mild forms of conjunctivitis as a lotion (℥ viij.-xlv. in ℥ vi. water) or salve (℥ iiss.-v. in ℥ iiss. paraffin ointment).

4. For urethral injections (℥ ss.-i. in ℥ iiij. water).

5. By enema, in doses of ℥ viij.-℥ i.

Liquor Plumbi Subacetatis Dilutus.—Lead water contains 3 parts of the preceding diluted with 97 parts of water. It is employed like the preceding, either in full strength or diluted with equal parts of water; in combination with laudanum as a collyrium; for urethral or vaginal injections; and for enemata in dose of ℥ iiij.-v.

Goulard's lead water contains four parts of dilute alcohol. It is not so good for eye lotions as the non-alcoholic lead water.

Ceratum Plumbi Subacetatis.—Goulard's cerate is composed of 20 parts of solution of subacetate of lead and 80 parts of camphor cerate. It is employed as a drying and astringent ointment, and with the addition of tannin as an application to bed-sores.

℞ Plumbi acetat., gr. v.-xv.
 Opii, gr. iss.-v.
 Sacch. albi, ʒ i.

M. et div in chart. No. 10. S. One powder from three to five times a day. (Diarrhœa.)

℞ Liq. plumb. subacet., gr. xv.
 Collodii flexilis, ʒ ss.

M. S. For painting on the skin in erysipelas, burns, and threatening bed-sores.

℞ Plumbi acetat., gr. v.-viiij.
 (Pulv. digitalis, gr. v.)
 Sacch. albi, ʒ i.

M. et div. in chart. No. 10. S. One powder every hour or two. (Hæmoptysis.)

℞ Plumbi acetat., ʒ ss.
 Vitell. ovi, No. ij.
 Ol. papaveris, ʒ iv.

M. et ft. linimentum. S. To be stirred up and spread upon linen as an application to burns.

℞ Plumbi acetat., gr. xv.
 Tinct. opii, ℥ xv.
 Aq. destillatæ, ʒ vi.

M. S. One-half the quantity at a time for an enema.

℞ Plumbi acetat., gr. viij.
 Acaciæ, ʒ i.
 Aq. destillatæ, ʒ v.

M. S. For urethral injection in gonorrhœa.

PLUMBI CARBONAS (CERUSSA).

Externally employed as a dusting powder (not advisable for children), and in ointments and plasters.

Unguentum Plumbi Carbonatis.—Ten parts of carbonate of lead to 90 parts of benzoated lard. An astringent salve, used for frost-bites and bed-sores.

Emplastrum Plumbi Carbonatis (Cerussæ).—Composed of: 7 parts of carbonate of lead, 2 of olive oil, and 12 of lead plaster. A white, hard plaster, used with benefit in frost-bites and threatening bed-sores.

PLUMBI IODIDUM.

When applied in the form of ointment (1 part in 8 to 10 vaselin) spread on linen, it appears to be of influence in reducing the size of scrofulous and syphilitic glandular enlargements.

PLUMBI OXIDUM.

Litharge. Used only in plasters.

Emplastrum Plumbi.—Diachylon plaster, lead plaster, composed of oxide of lead, 32 parts, and olive oil 60 parts.

Emplastrum Resinæ.—Adhesive plaster. Composed of 14 parts of resin, 80 parts of lead plaster, and 6 parts of yellow wax.

Unguentum Diachylon.—Hebra's diachylon ointment is composed of equal parts of olive oil and lead plaster. It is applied, spread on flannel, in eczema, lichen, acne, sweating of the feet, etc.

PLUMBI TANNAS.

Employed in ointments (1 to 10) as an astringent, and in the form of a poultice composed of 40 parts of oak bark, 4 parts of solution of subacetate of lead, and 1 part of alcohol, for bed sores.

Unguentum Plumbi Tannatis.—Composed of 1 part of tannin, 2 of acetate of lead, and 17 of lard. Used as an application to bed-sores.

PODOPHYLLUM.

The rhizome and rootlets of *Podophyllum peltatum* or May apple.

Resina Podophylli.—A yellow amorphous powder or loose mass, employed as an anthelmintic, drastic, and cholagogue. It should not be prescribed with alkalies.

Internally exhibited in doses of gr. $\frac{1}{4}$ —iss. two or three times a day, which may be cautiously increased, in powder or pill, in simple habitual constipation, and in about four doses of gr. ss.—i. each at two hours' interval, as a drastic cathartic. It resembles calomel in its indications and action, does not produce colic, nor is it followed by constipation. It has been

especially recommended in icterus, biliary colic, and gall stones.

Podophyllotoxinum.—Is very poisonous and must be used with great care. It is given in doses, for adults, of gr. $\frac{1}{60}$ — $\frac{1}{8}$ in alcoholic solution, and may be repeated in 8 or 10 hours if necessary.

℞ Resin. podophylli, gr. viij.
 Extr. gentianæ, q.s.

M. et ft. pil. No. 20. S. One or two pills at night. (Laxative.)

℞ Resin. podophylli, gr. v.
 Extr. belladonnæ, gr. iij.
 Pulv. glycyrrh.,
 Ext. glycyrrh., āā q.s.

M. et ft. pil. No. 20. S. One or two pills as required. (Laxative in gall-stone colic.)

℞ Resinæ podophylli, gr. iss.-v.
 (Extr. belladonnæ, gr. iss.)
 Sacch. albi, ʒi.

M. et div. in chart. No. 10. S. One or two powders a day. (Laxative in gall-stone colic.)

℞ Podophyllotoxini, gr. ss.
 Alcohol, ʒi.

M. S. For children 2 to 10 drops, for adults up to 30 drops, in sweetened water or wine, at bed-time.

POTASSA.

Caustic potash (fused) is seldom employed in substance as an escharotic except in cases where a deeply acting effect is desired, as in poisoned bites, glanders, anthrax, for the gradual opening of deeply seated abscesses, for the destruction of condylomata, birthmarks, lupus nodules, warts, chancres, etc. The surrounding parts should be protected by adhesive plaster.

In the treatment of in-growing toe-nail, the latter is moistened with a warmed 40% solution of caustic potassa, whereby the upper layers are made as soft as butter and may be easily scraped off by a piece of broken glass (a steel instrument

should not be used.) This process is repeated until the nail is as thin as a sheet of paper, when it is raised by means of a pair of forceps from beneath the overlapping soft parts and cut off with scissors. A 50% solution is also used in the treatment of chronic skin diseases, especially eczema, in proliferations, etc., but with great care. For a general bath ζ i.-iij. of the solution may be added to the water, and ζ ss.-i. per quart for local baths.

Liquor Potassæ.—Contains about 5% caustic potash, and is employed like the preceding.

Spiritus Saponatus.—Composed of olive oil 6 parts, liquor potassæ (strong, containing 15% caustic potash) 7 parts, water 17 parts, and alcohol 30 parts. It is used as a liniment in seborrhœa, and also in contusions, rheumatic pains, etc.

Potassa cum Calce.—Equal parts of caustic lime and caustic potash. When made into a paste with a little alcohol, it constitutes Vienna paste, a powerful escharotic. It is allowed to remain on the part for from 5 to 30 minutes, the surrounding integument being protected by adhesive plaster.

POTASSIUM SALTS.

The alkaline base acts somewhat like digitalis, increasing the blood-pressure in small doses, and in large and long-continued doses depressing the heart's action; the temperature is not affected by medicinal doses. In general the sodium salts, which are better tolerated by the stomach, are to be preferred.

POTASSII ACETAS.

Very hygroscopic. Internally employed in doses of gr. viij.-xlv. in solution several times a day, as a diuretic.

Liquor Potassii Acetatis.—Containing 33% of acetate of potassium. Diuretic and diaphoretic, resembling in other respects the alkalies in general.

Internally employed in tablespoonful doses of a solution of ζ ss.-i. in ζ vi. of water, every two or three hours in chronic and acute nephritis (not in the first stage), dropsy, and rheumatism (see Potassii Carbonas, into which this salt is changed in the blood) when at the same time an antacid action in the stomach is not aimed at.

- ℞ Potassii acetatis, ʒ v.
 Aq. destillatæ, ʒ v.
 Succijuniperi, ʒ i.
 Sp. ætheris nitrosi, ʒ i.
 M. S. One tablespoonful every two hours. (Dropsy.)
 ℞ Infus. digitalis, ʒ v.
 Liq. pot. acetatis,
 Oxymel. scillæ (or Syr. simplicis), āā ʒ v.
 M. S. A dessertspoonful every two hours. (Dropsy.)

LIQUOR POTASSII ARSENITIS.

See Acidum Arseniosum.

POTASSII BICARBONAS.

Occurring in the form of crystals, slowly soluble in four parts of water, but insoluble in alcohol, effervescing in the presence of acids. Employed in powders, effervescing powders, and mixtures (with equal parts of tartaric acid) in dyspepsia, vomiting, and cardialgia. It is, however, seldom used, the corresponding sodium salt being preferable.

POTASSII BICHROMAS.

A caustic. Externally employed in powder or solution (ʒ i.-v. in ʒ iij.) as a caustic for condylomata, scrofulous and cancerous growths, and especially recommended as an application to nasal polypi and other new growths.

In the form of Müller's fluid (bichromate of potassium 40 parts, sulphate of sodium 100 parts, water 1,000 parts) it is used to harden anatomical preparations.

POTASSII BITARTRAS.

Cream of tartar (soluble in 180 parts of water) is a mild, cooling, saline laxative and diuretic.

Internally employed in doses of gr. viij.-xxx. in powder, electuary, or as an ingredient of cathartic and diuretic mixtures. Also as a cooling addition to drinking-water.

- ℞ Potass. bitart., ʒ iiss.
 Pulv. digitalis, ʒ ss.

M. et div. in chart. No. 20. S. One powder three times a day. (Palpitation of the heart.)

℞ Potass. bitart.,	℥ ss.
Pulv. digitalis,	gr. xxij.
Succi juniperi insp.,	℥ iss.

M. S. One teaspoonful three times a day. (Diuretic electrolytic in diseases of the heart.)

POTASSII BROMIDUM.

The specific action of bromine on the brain and spinal cord is shown in a decrease of mental activity, reflex excitability, and sensation, and in a tendency to sleep. As bromide of potassium also lowers the temperature, it is better than all the other remedies in the sleeplessness and restlessness accompanying feverish conditions. The four bromine salts, potassium, sodium, ammonium, and lithium—contain different proportions of bromine (68, 80, 88, and 92% respectively), but possess equal antispasmodic, sedative, and hypnotic action. Yet a mixture of the potassium, sodium, and ammonium salts in the proportion of 1:1:½ has a much better effect than either of the salts alone, when given in the same or even larger doses. The use of the combined salts does not produce acne, and it will even cause the disappearance of an eruption which has followed the use of one of the salts alone.

Internally employed in powder or in simple aqueous solution, as it is apt not to form a clear mixture with syrup, and also in pills, in doses of gr. viij.—xxx. several times a day up to ℥ ss., as may be indicated.

1. Bromide of potassium, alone or in the combination above mentioned, is, when properly given, a sovereign remedy in epilepsy. In the beginning 15 grains in powder or solution (of the strength that a tablespoonful will hold 15 grains) three times a day; in the second week the same amount 4 times a day, and so on, increasing the dose by 15 grains a day each week until 150 grains a day are being taken. If the attacks still occur, the dose may be increased gradually in the same way up to ℥ ss. a day, unless it should otherwise cause serious disturbance. If now an improvement is obtained, the dose may be gradually decreased in the same proportion as it was raised, to be again increased if the attacks recur. The long-continued exhibition of large doses gives rise to toxic symptoms (bromism), such as skin eruptions (acne, urticaria, rarely ulcerating nodules),

catarrh of the mucous membranes (cough, etc.), motor disturbances, and disturbances of nutrition (loss of appetite, diarrhoea, emaciation), and slight psychic disorder. In such a case the dose of the remedy should be diminished gradually, not suddenly withdrawn entirely, and the salt should be given in the form of Erlenmeyer's bromine-water (see below), or in sweetened water with a little red wine, shortly before meals.

2. In chorea minor in children, the administration of the remedy should be begun in doses of gr. viij. (best in the form of Erlenmeyer's bromine-water) three times a day shortly before or after eating, and gradually increased every three days until a daily amount of 75 grains, taken in three doses, is reached; at the same time antipyrine is to be given, at first in doses of gr. viij. three times a day, and gradually increased (the effects being carefully watched) up to gr. xv. three times a day.

3. In so-called nervous states and neurasthenia (mental excitability, insomnia, etc.), bromide of potassium may be given in doses of gr. xv.-xlv. each.

4. In spasmodic affections of various kinds, puerperal eclampsia, and infantile convulsions, in the vomiting of pregnancy, hysterical cramps (uterine), it is required in doses of not less than 45 grains a day.

5. In nocturnal spasmodic cough (laryngismus stridulus and night-crying in children), one to two teaspoonfuls of a solution of $\text{ʒ} \text{ij} . : \text{ʒ} \text{iv} .$ may be given; the same dose may be used in whooping-cough, in which affection a spray of a $\frac{1}{2}$ -2% solution may also be inhaled.

6. In tetanus in large doses; to diminish sexual irritability (troublesome erections, too frequent pollutions, chordee), from 15 to 30 grains may be given an hour or two before bed-time.

Externally in enemata of gr. xlv.-lxxv. in $\text{ʒ} \text{ii} \text{j} . - \text{v} .$ of a mucilaginous solution to prevent its rejection. Its effect when given by inhalation or local application is doubtful.

Erlenmeyer's bromine-water is a natural carbonated water which contains in a bottle, of about 24 ounces, $\text{ʒ} \text{i} \text{ss} .$ of bromine salts, viz., bromide of potassium and of sodium, each $\text{ʒ} \text{i} .$, and of ammonium $\text{ʒ} \text{ss} .$, and definite amounts of carbonate of magnesium, chloride of sodium, bicarbonate of sodium, carbonate of lithium, and sulphate of sodium. It is pleasant to take and is very well borne.

℞ Potass. bromid.,
 Sodii bromid., āā ʒ ij.
 Ammon. bromid., ʒ i.
 Aq. destillatæ, ʒ vi.

M. S. A tablespoonful three or four times a day in one-half glass of seltzer water. (Nervous insomnia, chorea, and epilepsy.)

℞ Sodii bromid.,
 Ammon. bromid., āā ʒ iiss.
 Aq. destillatæ, ʒ xij.

M. S. A teaspoonful every hour. (Is said to act very well in delirium tremens.)

℞ Sodii bromid., ʒ iiss.-iv.
 Lupulini,
 Pulv. camphoræ, āā gr. viij.-xxij.

M. et div. in chart. No. 10. S. One or two powders, in wafers, at night. (Frequent pollutions.)

℞ Decoct. althææ, ʒ iv.
 Sodii bromidi, ʒ i.
 Syr. simplicis, ʒ i.

M. S. Two teaspoonfuls every hour. For croup. At the same time inhalations of the following may be given:

℞ Potass. bromidi,
 Bromi puri, āā ʒ i.
 Aq. destillatæ, ʒ vi.

M. S. Two teaspoonfuls poured on a sponge in a paste-board cone or a tin funnel, and inhaled for five or ten minutes every half-hour. At the same time the throat may be touched with the solution on a camel's-hair brush or swab. (In diphtheritic croup, recommended on account of the strongly anti-septic properties of the bromine.)

POTASSII CARBONAS.

Internally employed in doses of gr. iij.-xv. several times a day in well-diluted solutions, saturations, or effervescent mixtures as a diuretic—

1. In acute or chronic rheumatism and gout, in uric-acid concretions, and chronic cystitis; also in icterus, and—

2. In acute and chronic articular rheumatism, taken on an

empty stomach, for a considerable period of time, where there is a slight degree of abnormal acidity without any very marked digestive disturbances. When too long continued, it disorders the digestion in a marked degree; and for that reason, when alkalies are indicated in cases of gastric disturbance, the sodium salt is to be preferred.

Liquor Potassii Carbonatis.—Three parts contain one of potassium carbonate.

Internally employed, like the salt, in doses of 20 to 30 drops in mixture or saturation.

Externally applied in washes to pityriasis, etc.

Crude carbonate of potash, commercial potash, may be employed in baths or pediluvia in the proportion of $\frac{3}{5}$ iss.—vi. to the bath.

℞ Potass. carbonatis,	gr. lxxv.
Aceti scillæ,	q. s.
ad saturationem.	
Aq. destillatæ,	$\frac{3}{5}$ v.
Tinct. digitalis,	℥ lxxv.
Syr. simplicis,	$\frac{3}{5}$ v.

M. S. A tablespoonful every two hours. (A diuretic saturation.)

℞ Potass. carbon.,	3 i.
Aq. melissæ,	$\frac{3}{5}$ iv.
Spt. æther. nitrosi,	3 ss.
Syr. aurant. cort.,	$\frac{3}{5}$ v.

M. S. A tablespoonful every hour or two. (Antacid and antispasmodic, given also in asthma.)

POTASSII CHLORAS.

An antiseptic. It is very highly valued as a specific remedy in diseases of the mouth and throat, and is at the present day applied for the most part locally, its internal use being less frequent by reason of its uncertain and often poisonous action. Large doses, or small ones long continued, may cause vomiting, diarrhœa, tenesmus, icterus, bloody urine, anuria, extreme depression, weak pulse, dyspnœa, cyanosis, collapse, etc.; especially is this the case in children. The treatment of poisoning by chlorate of potassium consists in the administration of stimulants, diuretics, pilocarpine, and solution of

common salt. The drug should never be given on an empty stomach, for fear of too rapid absorption. Chlorate of potassium triturated alone or especially with inflammable substances, such as charcoal, sulphur, etc., readily explodes. The administration of the chlorate and iodide of potassium in combination should also be avoided.

Internally employed (rarely) in doses of gr. iss.-v. several times a day (maximum dose for a child gr. xv., and for an adult $\bar{3}$ i.-iss. a day), best in solution alone.

1. In diseases of the mouth and throat of various kinds, such as scurvy and aphthous stomatitis (greatly diluted), but especially for the prevention or cure of mercurial stomatitis.

2. In vesical catarrh; a tablespoonful of a solution of $\bar{3}$ iiss. in $\bar{5}$ x. every two or three hours.

Externally in one to five per cent aqueous solution (of which a teaspoonful in a glass of water) in the above-named affections, for application on a brush, gargle, and inhalation. Also used for toothache, a small piece placed in the painful cavity; or as a mouth wash ($\bar{7}$ i.-iiss. in $\bar{5}$ vi.).

℞ Potass. chlorat., gr. xxx.-lxxv.
Aq. destill., $\bar{5}$ iij.-v.
Syr. aurant. cort., $\bar{5}$ i.

M. S. A teaspoonful every hour. (Thrush, ulcers of the mouth.)

℞ Potass. chloratis, $\bar{3}$ iiss.
Aq. destillatæ, $\bar{5}$ v.
Tr. guaiaci, $\bar{3}$ iiss.

M. S. One to two tablespoonfuls in a glass of water, as a gargle. (Chronic pharyngitis.)

℞ Potass. chloratis, $\bar{3}$ i.
Glycerini, $\bar{3}$ ix.

M. S. For pencilling the throat, pure; or a teaspoonful in a glass of water as a gargle.

℞ Potass. chloratis, $\bar{3}$ i.
Liq. calcis, $\bar{3}$ iij.
Aq. destillatæ, $\bar{3}$ xij.

M. S. For pencilling the throat, undiluted; six tablespoonfuls in a glass of water as a gargle.

POTASSII ET SODII BOROTARTRAS.

A deliquescent salt.

Internally employed as a diuretic, in doses of a teaspoonful of a mixture of $\frac{3}{5}$ ss.-i. in $\frac{3}{5}$ vi. of infusion of squill, as a laxative in doses of $\frac{3}{5}$ ss.-i. taken in divided portions at frequent intervals.

POTASSII ET SODII TARTRAS.

Rochelle salt. A readily soluble, mild laxative, given in doses of 3 ij.-iv. in water alone, or as an adjuvant to other laxatives.

POTASSII IODIDUM.

Soluble in water, alcohol, and glycerin.

Cautions.—Beware of too long administration in marasmic conditions and especially in pulmonary phthisis, of too large doses when the digestion is poor, although small doses at first increase the appetite. Nevertheless large doses (3 ss. a day) of pure iodide of potassium, continued for a long time, have been given without prejudice to digestion or nutrition. Avoid giving chlorine or bromine salts, acids, or metal salts in combination during the period of digestion.

Diet.—During the use of iodide of potassium the patient should eat nourishing food, preferably as far as possible animal food, and may be allowed a little beer and wine, but should avoid the ingestion of strong acids. The best time for giving the drug for syphilis is after meals, and it should be taken with large quantities of water; but when it is desired to affect remote organs the best time to give it is on an empty stomach. The patient should be careful to avoid taking cold, on account of the predisposition to catarrhs of the nose, throat, and bronchi which the drug causes.

Internally employed in doses of gr. iss.-viij. or more several times a day up to 3 ss. pro die, in solution or pill—

1. In secondary and especially in tertiary syphilis, for the joint affections, gummous tumors, and ulcerative troubles of the skin and mucous membranes. In siphilitic pustulous eczema, ecthyma, and rupia, and in syphilitic fever. In the case of weak, cachectic patients, iodide of potassium should be first

tried and a resort had to mercury only when this fails. (Some authorities give very large doses, gr. lxxv. up to $\frac{3}{5}$ ss. a day, but no particular advantage is gained by this. A tablespoonful of a solution of $\frac{3}{5}$ iiss. in $\frac{3}{5}$ vi.-x. three times a day after eating will usually be tolerated for a long time.)

2. In other chronic constitutional diseases, scrofula (with hypertrophies), rheumatism, etc. The action of the drug in scrofulous affections of the joints, skin, and mucous membranes is less certain, but in acne it is a favorite remedy (see the formulæ).

3. In hypertrophies of all sorts, idiopathic as well as the result of chronic inflammatory processes, such as goitre, hypertrophied testicles, enlarged lymph nodes, etc.

4. In neuralgias (especially trigeminal and sciatica) of syphilitic or rheumatic origin. Also in chronic rheumatism, deforming joint inflammations, and in obstinate priapism, in doses of gr. iiij. four times a day.

5. In chronic metallic poisoning (lead and mercury).

6. In nervous asthma, combined with chloral, in large daily doses of gr. xxiv.-xliv. or if necessary even more, or for a longer period in more moderate doses (gr. viij. three times a day) and by inhalation of a spray (gr. viij.-xv. in $\frac{3}{5}$ vi.). It is the principal ingredient of Aubrée's nostrum. In Sée's method the remedy is given in rapidly increasing doses from gr. xxiv. to gr. lxxxv. a day.

Externally employed in mouth washes and gargles (gr. xv.-xliv. in $\frac{3}{5}$ iij.) and spray inhalations (gr. xv.-xl. in $\frac{3}{5}$ xvi.) in syphilitic affections of the mouth, pharynx, larynx, and nasal cavities. Subcutaneously in ten to thirty per cent solution for syphilitic periostitis (painful). It is also used as an injection after emptying the sac in hydrocele (see formula).

Unguentum Potassii Iodidi.—Composed of 12 parts iodide of potassium, 6 parts boiling water, 1 part hyposulphite of sodium, and 81 parts benzoinated lard. (Mixtures of iodide of potassium and blue ointment are often prescribed, but these are very irritating, by reason of the formation of iodide of mercury, and should only be used when a derivative effect is desired. The iodide of potassium ointment can be made stronger by the addition of pure iodine in the proportion of gr. iiij.- $\frac{3}{5}$ iiss.). More active than this officinal ointment are alcoholic solutions of the iodide, with iodine or tincture of

iodine added if desired. Recently mullinum (*q.v.*) has been recommended as a good base for iodide of potassium ointment.

℞ Potass. iod., ʒ ss.-iiss.
Aq. destill., ʒ vi.

M. S. A tablespoonful three or four times a day in milk. (Asthma, paralysis, rheumatism, syphilis, etc.)

℞ Potass. iodidi, ʒ ¼-i.
Aq. menth. pip., ʒ vi.

M. S. Two teaspoonfuls three or four times a day. For acne. The pustules ought to disappear by the end of one or two weeks; then for a week the solution is taken in the above dose only twice a day, and once a day the week following.

℞ Potass. iodidi, gr. xxx.-lxxv.
Potass. bromidi, gr. lxxv.
Aq. destillatæ, ʒ iiss.

M. S. Twenty drops three times a day in water. (Syphilitic neuroses.)

℞ Potass. iodidi, ʒ i.-ij.
Aq. destillatæ, ʒ vi.
Tinct. colchici, ʒ ss.

M. S. A tablespoonful three times a day. (Chronic rheumatism.)

℞ Iodi, gr. xv.
Potass. iodidi, ʒ ss.
Aq. destillatæ, ʒ iij.

M. S. For injection in hydrocele, etc. (Diluted with from three to five parts of water.)

℞ Potass. iodidi, gr. xv.
Tr. opii, ℥ xv.
Alum. exsiccati, gr. xxxvij.
Ung. aq. rosæ, ʒ v.

M. et ft. unguentum. S. For chilblains.

℞ Potass. iodidi, gr. xv.
Empl. conii,
Empl. resinæ, āā gr. lxxv.

M. et ft. emplastrum. S. For application to chronically inflamed joints.

POTASSII NITRAS.

Saltpetre. Refrigerating and diuretic.

Internally employed (not well borne by the stomach)—

1. In doses of gr. v.-viiij. in solution (gr. lxxv.-cl. in ℥ iiij.) as a diuretic in simple hydræmic dropsy, after pleurisy and pericarditis, but contra-indicated in inflammatory conditions of the renal parenchyma; also, but only in very weak solution, as a cooling drink. Although it is useless as an anti-phlogistic, it is nevertheless employed in—

2. Acute articular rheumatism in doses of a tablespoonful every hour of a solution of ℥ ss. in ℥ v. of water with syrup.

Externally.—A mixture of common salt and (commercial) saltpetre, laid between moist compresses, is employed as a refrigerant when ice cannot be obtained. This acts much as the so-called Schmucker's fomentations, composed of 3 parts of saltpetre, 1 part of chloride of ammonium or chloride of sodium, 6 parts of vinegar, and 12 to 24 of water.

Charta Potassii Nitratis.—Nitrate paper. Blotting paper moistened with a twenty-per-cent solution of nitrate of potassium and then dried. A piece about four inches square is burned on a plate and the fumes inhaled in emphysema and asthma. The action of nitre paper is enhanced if it be dipped in a solution of stramonium and dried.

Pulvis Temperans.—Composed of 1 part nitrate of potassium, 3 parts of tartaric acid, and 6 of sugar. Used as a sedative in doses of one-half to one teaspoonful dissolved in water several times a day.

℞ Potass. nitrat.,	℥ i.
Aq. destillat.,	℥ iv.
Syr. simpl.,	℥ i.

M. S. A tablespoonful in water every two hours as a cooling beverage.

℞ Potass. nitratis,	℥ iss.
Acidi nitrici,	℥ xlv.
Decoct. hordei,	℥ x.
Spt. æther. nitros.,	℥ iss.
Sacch. albi,	℥ vi.

M. S. A tablespoonful every two hours. (A powerful diuretic in dropsy.)

POTASSII PERMANGANAS.

Occurring in dark violet, almost black prisms, soluble in $2\frac{1}{2}$ parts of water.

Externally employed in solution in distilled water (avoid mixtures with any organic substance), in the proportion of gr. iv.-xv. to $\frac{3}{4}$ iij., as a disinfectant and deodorant for foul cancerous and other forms of ulcers; as a mouth wash (a teaspoonful of the solution in a glass of [peppermint] water); as an injection for gonorrhœa, and for washing out the bladder (gr. iss. in $\frac{3}{4}$ vi. water); and as a wash in sweating of the feet, for the hands after dissections and post-mortem examinations, etc. Every physician should keep on hand a five-per-cent solution, for disinfecting the hands (a tablespoonful of the solution in half a pint of water) and as a mouth wash and gargle after having attended patients with diphtheria, scarlet fever, or other contagious diseases (a teaspoonful of the solution in half a pint of water). A dilute oxalic-acid solution will at once remove the stain from the hands.

Subcutaneous injections of \mathfrak{m} viij. of a one-per-cent solution have been employed as an antidote in snake bites.

POTASSII SILICAS.

Soluble glass. Used for splints. See Sodii Silicas, which is more commonly used for this purpose.

POTASSII SOZOIODOLAS.

See Soziodolum.

POTASSII SULPHAS.

Occurs in Carlsbad salts. Resembles sulphate of sodium in its action and may be employed in the same dose; it has a less disagreeable taste, but is more apt to disorder the digestion.

POTASSA SULPHURATA.

Acts as a poison through the formation of sulphide of hydrogen, the effects of which are important therapeutically in cases of chronic lead or mercurial poisoning.

Externally used in baths, here better in the form of the "potassa sulphurata ad balneum," $\frac{3}{4}$ iss.-vi., with the addition

of 3 iss.-vi. of commercial sulphuric acid in order to favor the formation of sulphide of hydrogen, which is absorbed through the skin. In order to prevent inhalation of the gas, the bath-tub should be covered with a cloth. The patient should remove any rings he may be wearing; and the possibility of sulphuretted-hydrogen poisoning calls for special caution.

These baths are given in cases of chronic lead and mercury poisoning; rheumatism, and certain skin diseases—psoriasis, eczema, impetigo, and pityriasis versicolor; for the last-named a simple wash employed a few times will usually suffice.

For washes a solution of ʒ i.-iv. in ʒ ij. of water will answer, and an ointment is made in the proportion of 1 part of sulphurated potassa to 5 or 10 of ointment.

POTASSII TARTRAS.

Internally employed in doses of gr. xv.-xxx. several times a day, as a diuretic, in simple solution or as an ingredient of diuretic mixtures. It may be given as a laxative in doses of ʒ i.-iiss., but is not often used on account of its disagreeable taste. It is an ingredient of the species laxantes.

POTIO RIVERI.

See Sodii Carbonas.

PROPYLAMINUM.

A fluid resembling water, with the odor of herring-brine, readily soluble in water.

Internally recommended in doses of 2 to 6 drops several times a day, in capsules or aqueous solution, in chronic muscular rheumatism and chorea.

℞ Propylamini, ℥ xxiv.
 Aq. destillatæ, ʒ v.
 Syr. rubi idæi, ʒ v.

M. S. A tablespoonful every two hours. It is said to cause quickly profuse sweating in rheumatism and to bring about an improvement with reduction of the swelling after two days.

℞ Propylamini, ʒ i.
 Aq. menth. pip., ʒ x.
 Syr. simplicis, ʒ iv.

M. S. One teaspoonful three times a day. (Chorea.)

PULVIS AEROPHORUS.

An effervescent powder, composed of bicarbonate of sodium, 10 parts; tartaric acid, 9 parts; white sugar, 19 parts; thoroughly dried and mixed.

PULVIS GLYCYRRHIZÆ COMPOSITUS.

See Glycyrrhiza.

PYOKTANINUM.

An antiseptic substance derived from anilin colors, occurring in two colors, blue and yellow, either of which is employed in solution (1:100 for surgical, and 1:2,000 for ophthalmological purposes), in powder (2 parts to 100 of talc), and in pencils. It acts as a microbicide in fresh as well as suppurating and ichorous wounds, produces no unpleasant incidental effects, and promotes rapid healing. The wounds or ulcers, especially gummy ulcers, soft chancres, and buboes, are simply painted with a one-per-cent solution and then covered with pyoktanin gauze or cotton (1:1,000). Injections of a 1:500 or 1,000 solution are recommended in gonorrhœa. For conjunctivitis or keratitis, compresses are applied of a solution of the same strength. Pyoktanin ointments are made of the strength of gr. v.-viii. in 3 v. of fat. The stains on the skin or linen can be removed by mopping with dilute hydrochloric acid, or by tincture of soap. One disadvantage in the use of pyoktanin is that the blue color masks the wound so that one cannot see what its actual condition is.

PYRIDINA.

A colorless, volatile fluid, of a penetrating and very troublesome odor, which is formed in the dry distillation of bone, coal, etc., is also a decomposition product of various alkaloids (cinchonine, quinine, morphine, etc.), and finally is found in tobacco smoke.

Internally recommended in doses of 6 to 10 drops two or three times a day in diseases of the heart.

Externally employed in asthma of every kind, especially the nervous form. The patient puts about 3 i. in a saucer, in a small room, and inhales the vapor mixed with the air of the room for twenty to thirty minutes two or three times a day;

or he may inhale 10 to 15 drops in a handkerchief applied to the mouth and nose. The remedy is especially recommended in cases in which the production of iodism renders the use of iodine impossible.

It has also been recommended as an application in ten-per-cent aqueous solution to the pharynx in diphtheria.

It must be used internally with caution, as it often causes vomiting, vertigo, and syncope, and it should therefore be avoided in the case of greatly debilitated individuals with weak heart's action and marked congestive symptoms.

PYROGALLOLUM.

See Acidum Pyrogallicum.

QUEBRACHO.

Highly esteemed in the dyspnoea of spasmodic and bronchial asthma and emphysema, but less so in that of heart disease, phthisis, and nephritis with œdema. It is also recommended in the treatment of diarrhoea. It is used in the form of the following preparations.

Extractum Quebracho.—Employed in doses of gr. iss. in alcoholic solution or pills in the diarrhoea of children.

Extractum Quebracho Fluidum.—Dose, 20 to 60 minims.

Tinctura Quebracho.—*Internally* given in doses of ʒ ss.—i. two or three times a day, tentatively at first.

℞ Extracti quebracho fl., ʒ i.
'Aq. destillatæ, ʒ ij.

M. S. One or two teaspoonfuls three times a day.
(Asthma, dyspnoea.)

℞ Tinct. quebracho, ʒ ss.
Sodii bromidi, ʒ iiss.
Aq. destillatæ, ʒ v.

M. S. One or two tablespoonfuls mixed in one-half pint of water as a gargle. (Chronic pharyngitis.)

QUILLAIA.

An expectorant employed as a substitute for senega, and said to be better borne than it.

Internally given in powder in doses of gr. iss. with gr. viij. of Dover's powder three or four times a day, or in the dose of a tablespoonful of a decoction (gr. lxxx.—ʒ ij. for adults; gr.

xl.— \bar{z} iij., with or without syrup, for children), in respiratory catarrhs with scanty, viscid expectoration, but without very severe cough, and in bronchitis.

QUININA.

See Cinchona.

RESORCINUM.

Antiseptic. Synthetically prepared with benzol and its derivatives. Soluble in water.

Internally employed in doses of gr. v. to xv. or even xxx. in wafers and aqueous solution as an antifermentative remedy in acute and chronic gastric and intestinal catarrh, septic diarrhœa, and fermentative changes in the stomach; also in obstinate vomiting from any cause, in doses of gr. xv.—xlv. But the internal use of the drug is not to be recommended because of its frequent toxic effects, such as vertigo, somnolence, diaphoresis, chills, etc.

Externally applied in one to ten per cent solutions or in ten to forty per cent ointments or pastes, in various cutaneous affections such as acne, chronic eczema, and eczema marginatum, seborrhœa, psoriasis, pityriasis, etc.; in erysipelas in twenty-five-per-cent ointment with vaselin; and in three-per-cent solution for washing out the urethra, bladder, vagina, stomach, and rectum. It stains the skin brown, but the discoloration can be removed by citric acid.

It is also employed as a disinfectant for surgical instruments, which it neither dulls nor rusts.

℞ Resorcini, gr. viij.—xlv.

Aq. destillatæ

(or Emuls. amygdal. dulcis), \bar{z} iij.

Tinct. cinnamomi, 3 ss.

Syr. aurant. cort., \bar{z} i.

M. S. A tablespoonful every two hours.

℞ Resorcini, 3 ss.—i.

(or Acidi salicyl., 3 ss.)

Zinci oxidi,

Amyli, āā 3 i.

Vaselin. flav., 3 iij.

(or Vaselin. et lanolin., āā 3 iss.)

M. et ft. unguentum. S. Rub on the affected parts after a warm bath, and allow it to remain for two hours. (Eczema.)

RHATANY.

See *Krameria*.

RHEUM.

Rhubarb in small doses is constipating by reason of the tannic acid which it contains, and stomachic through an unidentified bitter principle; in larger doses it is laxative in consequence of the cathartic acid (found also in senna) which is one of its chief constituents. Its coloring matter, chrysophanic acid, passes out in the sweat and urine, staining the latter a greenish to a brownish yellow.

Internally employed usually in powder: 1. In weak digestion, and dyspepsia with a tendency to diarrhœa, especially in children, in doses of gr. $\frac{1}{3}$ -ij.

2. As a laxative in doses of gr. viij.-xxiv. repeated, of especial value in jaundice and when it is desirable to disturb the digestion as little as possible.

Extractum Rhei.—Given in doses of gr. iss.-v. as a tonic, gr. viij.-xxiv. as a laxative several times a day, in pills or solution.

Extractum Rhei Compositum.—Contains extract of rhubarb, 6 parts; extract of aloes, 2; resin of jalap, 1; and soap, 4 parts. It is employed like the preceding, in doses of gr. v.-viij., as a good purgative.

Extractum Rhei Fluidum.—Given in doses of one-half to three teaspoonfuls as a purgative, and in smaller doses as a tonic.

Tinctura Rhei.—Dose, a teaspoonful to a tablespoonful.

Tinctura Rhei Aromatica.—Contains rhubarb, cinnamon, cloves, and nutmeg. Dose, ʒi.-ij., as a stomachic and tonic.

Syrupus Rhei.—Given to children pure, and also employed as an ingredient in various extemporaneous mixtures.

Mistura Rhei et Sodæ.—Bicarbonate of sodium, fluid extract of rhubarb, spirit of peppermint, each 30 parts, in water 1,000 parts. Dose, a teaspoonful to a tablespoonful two or three times a day, as a stomachic tonic in dyspepsia.

℞ Infusi rhei (rhei, ʒi.),	. . . . .	ʒ v.
Sodii bicarb.,	. . . . .	ʒ i.
Syr. cinnamomi,	. . . . .	ʒ i.

M. S. A tablespoonful every two hours. (Protracted catarrhal gastro-duodenitis with jaundice; constipation.)

℞ Pulv. rhei ʒ iiss.
 Ext. rhei comp., gr. lxxv.
 Glycerini, q.s.

M. et ft. pil. No. 80. S. Two to five pills at night, as required. (Gently laxative.)

℞ Tinct. rhei, ʒ ss.
 Magnesii carb., ʒ i.
 Aq. fœniculi, ʒ i.

M. S. A teaspoonful every two or three hours. Shake the bottle. (Stomachic.)

℞ Mannæ confect., ʒ ss.
 Aq. fœniculi, ʒ ij.
 Tinct. rhei, ʒ ss.

M. S. A dessertspoonful as required. (Laxative for young children.)

℞ Pulv. rhei, ʒ iiss.
 Sodii sulphat., ʒ ij.
 Sodii bicarb., gr. xlv.
 Ol. fœniculi, gtt. xxv.

M. et ft. pulvis. S. A teaspoonful at night, in wafers. (Slightly laxative.)

℞ Pulv. rhei,
 Sodii bicarb., āā ʒ ss.
 Sacch. albi, ʒ i.

M. et div. in chart. No. 10. S. One powder three or four times a day. (Catarrhal gastritis, jaundice, etc.)

℞ Extr. rhei,
 Extr. aloes,
 Resin. jalap., āā ʒ ss.
 Pulv. glycyrrh.,
 Extr. glycyrrh., āā q.s.

M. et ft. pil. No. 40. S. Two pills morning and evening, as a laxative.

℞ Tinct. rhei aromat.,
 Elix. aurant. comp., āā ʒ i.

M. S. A teaspoonful two or three times a day. (Stomachic.)

- ℞ Sodii bicarb., gr. xlv.
 Aceti vini, q.s. ad perfect. saturationem, $\frac{5}{3}$ iij.
 Tr. rhei,
 Syr. rhei, āā $\frac{5}{3}$ i.
 M. S. A tablespoonful several times a day. (Stomachic.)

RHUS AROMATICA.

Given in the form of the fluid extract in doses of 5 drops morning and evening for children up to two years, 10 drops from that age up to six years, and 15 to 30 drops for older children in nocturnal enuresis.

RICINUS.

See Oleum Ricini.

ROSMARINUS.

The leaves of *Rosmarinus officinalis*, rosemary.

Oleum Rosmarini.—*Externally* used as an ingredient of stimulating ointments and liniments, and applied pure to destroy pediculi pubis.

Unguentum Rosmarini Compositum.—Composed of oil of rosemary and oil of juniper, each 1 part; oil of nutmeg and yellow wax, each 2 parts; and lard, 16 parts. A stimulating and irritant ointment.

ROTTERINUM.

A disinfectant and antiseptic mixture, officially recommended in Bavaria as a substitute for carbolic acid and corrosive sublimate. It occurs in the form of pastilles, of which four are dissolved in a quart of water to make a solution of proper strength. Four pastilles contain:

- ℞ Acidi citrici,
 Thymoli, āā gr. iss.
 Acidi salicyl., gr. x.
 Acidi borici, gr. xlv.
 Zinci chloridi,
 Zinci sulpho-carbol., āā gr. lxxv.
 M. et ft. pastilli No. 4.

The powerful anti-suppurative properties of rotterin render it not only extremely serviceable in surgical and obstetrical

practice, but also suitable for a gargle in tonsillitis and scarlatinal sore throat, a mouth wash in stomatitis and syphilitic ulcers of the tongue, for washing out the bladder in cystitis and the pleural cavity in empyema, for an injection in gonorrhœa, for a collyrium, and for syringing the ears. It may also be used in ointment (gr. xv.— \bar{z} i. in \bar{z} i. lanolin) in inveterate sycosis, etc.

SACCHARA.

Saccharine matters are changed in the intestinal canal and in the blood, after passing through various intermediate stages, into carbonic acid and water. They are intimately associated with the formation of fat and the production of heat, and are laxative. The long-continued use of large quantities disorders the digestion, causing acidity, heartburn, diarrhœa, etc. Sugar acts injuriously upon the teeth, not directly, but through the acid fermentation of portions remaining in the mouth. When gastric catarrh exists, the lactic and acetic acid fermentation begins in the stomach, but otherwise in the intestinal canal.

Sugar is expectorant in laryngeal and bronchial catarrh. Its use should be avoided in diarrhœa or a tendency to it, catarrh of the stomach, obesity, and diabetes, and should be restricted in rachitis and osteomalacia.

SACCHARINUM.

Saccharin, benzoic sulphinide, is a derivative of benzoic acid and is not a carbohydrate. It is a white, intensely sweet powder, slightly soluble in cold, but readily so in warm, water, made synthetically from coal tar. It is three hundred times as sweet as sugar, and a tablet weighing one grain is sufficient to sweeten a cup of coffee.

Saccharin is not a remedy, but only a flavoring principle, which finds its application in diabetes as a sweetening agent for food, which can be taken without prejudice to the disease. When taken in quantities as high as \bar{z} i. it passes unchanged through the organism and is excreted in the urine, but not in the saliva or milk. The claims made for it as an antiseptic and microbicide have not been substantiated. It is recommended as a gargle and mouth wash to correct bad breath, in the following formula:

℞ Saccharini,	
Sodii bicarb.,	āā gr. xv.
Acid. salicyl.,	ʒ i.
Alcohol.,	ʒ vi.

M. S. A few drops in a glass of water, as a mouth wash and gargle.

SALEP.

Internally employed in doses of gr. viij.-xxiv., up to ʒ iiss. a day in powder, or more commonly in decoction of gr. viij.-xv. to ʒ iij., as a nutrient material in diarrhœas of children.

Mucilago Salep.—Given in doses of a teaspoonful to a tablespoonful alone or in extemporaneous mixtures and enemas. It is readily prepared in the following way: A teaspoonful of the powder, moistened with a couple of drops of alcohol to prevent lumping, is stirred up with a little cold water and on it is poured about two glassfuls of hot water, meat-broth, or milk, allowed to come to a boil, and then flavored with sugar, cinnamon, or red wine.

SALICINUM.

Antipyretic. It is given in doses of gr. viij.-xxiv. (ʒ i.-iiss. a day) in powder, pill, or mixture instead of salicylic acid, salicylate of sodium, or quinine in articular rheumatism, typhoid and other fevers; also recommended in dyspepsia, diarrhœa, and intermittent fever. As an antipyretic and anti-rheumatic remedy it is, however, much inferior to the above-named drugs.

SALIPYRINUM.

Salicylated antipyrine. A coarse, white, crystalline powder, odorless, with a sweetish aromatic taste, readily soluble in water and ether, but with difficulty in alcohol.

Internally employed in doses of gr. xv. every hour, up to ʒ iss. a day, to meet the same indications, as an antipyretic and antirheumatic, as antipyrine and salicylic acid. Profuse sweating usually accompanies the lowering of the temperature and pulse, and sometimes a papular or urticaria-like eruption is produced.

SALOLUM.

Antipyretic, antiseptic. A phenyl salicylate, containing forty per cent phenol and sixty per cent salicylic acid. It occurs in the form of a white, crystalline powder, of a faintly aromatic odor and taste, almost insoluble in water, but soluble in 10 parts of alcohol and 0.3 part of ether. Salol has almost the same action as salicylic acid (it also stains the urine a dark green), but very few or none of its unpleasant incidental effects.

Internally employed in doses of gr. iss.-iij. for summer diarrhœa of children; and for adults, in doses of gr. viij.-xv. (3 i.-ij. a day taken in the course of from five to eight hours) in powder flavored with oil of peppermint, wafers, capsules, or tablets, in acute and especially chronic articular and muscular rheumatism. The after-treatment consists in the administration of 3 ij. down to 3 ss. a day. Salol has been furthermore warmly praised as an antiseptic in general, especially in phthisis, intestinal catarrh, etc., in doses of gr. viij.; and also in small doses internally in vesical catarrh, as it renders the urine acid and reduces the amount of its contained pus.

Externally it is used as a disinfectant dusting powder (1 part to 10 of starch) in bad-looking, slow-healing ulcers of every sort; for insufflation in ozæna and otorrhœa; as an injection in gonorrhœa in the form of an emulsion containing salol 3 iiss., acacia 3 i., and water 3 iij. An ointment is made of the strength of ten per cent; and it is also used as a mouth wash and dentifrice, especially when caries of the teeth exists (see formula).

℞ Saloli,	3 iss.
Tr. coccionell.,	3 i.
Ol. menth. pip.,	gtt. ij.
Ol. rosæ,	gtt. i.
Alcohol. diluti,	3 iij.

M. S. A teaspoonful in a glass of tepid water, as a mouth-wash and dentifrice in cases of caries of the teeth.

℞ Saloli,	
Liq. calcis,	
Ol. olivæ,	āā 3 ij.

M. S. For application to burns.

℞ Saloli,	3 i.
Ætheris,	3 i.
Cocain. hydrochlor.,	gr. iij.
Collodii flexilis,	ʒ v.

M. S. For application, by painting with a brush, to sore nipples.

SALVIA.

A weak astringent.

Internally employed in infusion of 10 to 15 parts in 200, often with red wine. A glass of sage tea is a common domestic remedy for night sweats, and to dry up the secretion of milk.

Externally employed as an astringent mouth wash and gargle, and as a lotion in profuse sweating.

Oleum Salviæ.—*Internally* exhibited in doses of 1 to 3 drops several times a day for the same purposes as the leaves. It is also used in tooth powders and confections.

SAMBUCUS.

Elder flowers are employed as a domestic remedy in infusion of ʒ i.—iiss. in ʒ iij.—v. to produce diaphoresis, and also form a constituent of various diaphoretic "species."

Succus Sambuci Inspissatus.—The inspissated juice of the berries mixed with sugar. It is given in doses of a teaspoonful alone or mixed with diaphoretic mixtures in the proportion of ʒ iv.—v. to ʒ v.

SANTALUM.

See Oleum Santali.

SANTONICA.

Cina or Levant wormseed (the unexpanded flowers of *Artemisia maritima*) contains the active principle santonin, which is quickly fatal to *Ascaris lumbricoides* and exerts a less marked toxic effect upon other varieties of intestinal worms; it imparts a yellow color to the urine, and in large doses (gr. viij. in adults, gr. iij. in young children) may cause toxic symptoms, such as nausea and vomiting, headache, marked muscular weakness, sopor, icterus, xanthopsia with

mydriasis and amblyopia, and sometimes convulsions and death. For the convulsions inhalation of ether and artificial respiration are recommended; and, after the immediate danger is over, chloral in moderate doses, laxatives, and the copious ingestion of fluids.

Santonica may be given in crude form in doses of gr. viij.-xxx., in powder or electuary, but the following preparation is much to be preferred.

Santoninum.—*Internally* employed in doses of gr. ss.-iss. (maximum dose, gr. viij. pro die) in powder or pastilles morning and evening for three days, followed by a laxative on the fourth; or combined with castor oil (gr. iss.-ij. to $\frac{3}{4}$ ij.; dose, one teaspoonful three times a day).

Trochisci Santonini.—The santonin troches of the B. Ph. contain each 1 grain of santonin. The Trochisci Sodii Santoninatis of the U. S. Ph. are not to be recommended.

℞ Pulv. santonicæ,
 Pulv. jalapæ, āā ʒ i.
 Syr. simplicis, ʒ v.

M. et ft. electuarium. S. To be taken in three doses, one each evening. (For lumbricoid worms.)

℞ Santonini,
 Hydrarg. chlor. mitis, āā gr. v.
 Pulv. rhei, ʒ ss.
 Sacchari, ʒ iss.

M. et div. in chart. No. 10. S. One powder three times a day. (For lumbricoid worms.)

SAPONES.

Soaps are combinations, resembling salts, of a fat (seldom a resin) with a (usually alkaline) base. See also Mollinum.

Sapo Jalapinus.—Composed of resin of jalap and hard soap, each 4 parts, alcohol 8 parts. It is given internally in doses of gr. iss.-v. as an intestinal irritant, of gr. v.-xxx. as a purgative, several times a day alone or in combination with other laxative remedies, such as aloes, calomel, etc.

Sapo Viridis.—Caustic potassa, 27 parts; linseed oil, 20 parts; alcohol, 2 parts. Employed in baths ($\frac{3}{4}$ v.-viij. for a full bath), and by friction in various skin diseases, such as chronic eczema, psoriasis, itch, etc.

Sapo Viridis Venalis.—Ordinary soft soap, made with inferior fats of all kinds and potash lye. It is employed to soften the epidermis and thus assist the action of remedies used to destroy the itch-mite, and by itself in the treatment of itch. It sometimes causes a scarlatiniform dermatitis followed not rarely by acute nephritis.

Sapo Medicatus Pulveratus.—A mixture of caustic soda, 120 parts; lard and olive oil, each 20 parts; alcohol, 12 parts; water, 200 parts; chloride of sodium, 25 parts; and carbonate of sodium, 3 parts.

It is used internally in pills (a few drops of alcohol or mucilage of acacia will give the soap a proper consistency), alone or in combination with laxatives. It is also given by enema and suppository.

Spiritus Saponatus.—Olive oil, 6 parts; caustic potash, 7 parts; alcohol, 30 parts; water, 17 parts.

Externally employed as a domestic remedy for rubbing on contusions and sprains, for washing the scalp and face in psoriasis, and as an addition to baths.

The super-fatted soaps are neutral and unirritating, and are therefore usually employed as the basis for medicinal soaps, containing tar, carbolic acid, thymol, corrosive sublimate, etc.

℞ Sapon. viridis, $\frac{5}{3}$ ij.

Alcohol. dilut., $\frac{5}{3}$ i.

Filtra et adde

Spt. lavandulæ, 3 ij.

M. S. Tincture of green soap. For washing the parts in obstinate psoriasis.

℞ Sapon. viridis, $\frac{5}{3}$ i.

Sulphur. flor., $\frac{5}{3}$ ss.

Aq. destillat., q.s.

M. et ft. unguentum molle. S. To be rubbed on the parts three times a day. (Scabies.)

℞ Pulv. rhei,

Sapon. medicat., āā 3 i.

Alcohol (or Mucil. acaciæ), q.s.

M. et ft. pil. No. 60. S. From two to four pills three times a day.

SARSAPARILLA.

Although sarsaparilla is far inferior to iodine or mercury in the treatment of syphilis, nevertheless (especially in the form of Zittmann's decoction) it has always been employed for this purpose, and of late it is being still more often used. Its curative action is, indeed, not a specific one, but is to be referred rather to the increased elimination through the skin, kidneys, and intestine which it brings about. It is frequently combined with diuretics and cathartics (senna).

Decoctum Sarsaparillæ Compositum.—Composed of sarsaparilla, 10 parts; sassafras, guaiac wood, and licorice root, each 2 parts; mezereum, 1 part; and water, q.s. to make 100 parts. The dose is from one to four fluid ounces. The diet should be moderate and unstimulating.

Decoctum Zittmanni.—This is the strongest compound decoction of sarsaparilla of the Ph. G. (composed of 20 parts sarsaparilla, 2 of licorice, 5 of senna, and 1 each of sugar, anise, fennel, and alum, in 520 parts of water) to which has been added 4 parts of calomel and 1 part of mercuric sulphide, and is employed in syphilis.

℞ Decoct. sarsaparillæ comp.,	. . . . .	℥ v.
Potassii iodidi,	. . . . .	ʒ ij.
Hydrarg. iodidi rubri,	. . . . .	gr. iss.
Syr. simplicis,	. . . . .	ʒ v.

M. S. One tablespoonful three times a day. ("Ricord's mixture" for tertiary syphilis.)

℞ Potassi bitartr.,	. . . . .	ʒ iv.
Sodii boratis,	. . . . .	ʒ iiss.
Pulv. levistici,		
Pulv. ononidis spinosæ,		
Pulv. sassafras.,	. . . . .	āā ʒ vi.

M. et ft. species. S. A tablespoonful added to three glassfuls of water and boiled down to two. (Species diureticæ.)

SASSAFRAS.

Internally employed in doses of gr. viij.-xxx. in powder or infusion (ʒ iiss.-iv. in ℥ v.), usually in combination with sarsaparilla.

SATURATIO.

This is the term applied to a solution of a simple alkaline carbonate (usually potassium, more rarely sodium) in water with the addition of one of the organic acids (acetate, citrate, or tartrate) stronger than carbonic acid. The normal saturation proportions of various substances are given in the section under *Acidum Citricum*.

The German Pharmacopœia directs that the *potio Riveri* be dispensed when a saturation, without definite direction as to the ingredients, is ordered. (See *Sodii Carbonas* for the composition of *Potio Riveri*.)

SCILLA.

A diuretic (or, when the diuretic action is absent, a cathartic) and expectorant. Compare *digitalis*, with which squill is sometimes given in combination.

Internally employed in doses of gr. ss.-iss. up to the maximum dose of gr. iij. (or gr. xv. per day), best in infusion or decoction (one to three per cent), but not as a powder, as it is very hygroscopic, as a diuretic in congestive dropsy, often combined with *digitalis*. It should not be given in nephritis or when the digestion is greatly disordered. Large doses sometimes excite vomiting, diarrhœa, renal irritation, and hæmaturia.

Acetum Scillæ.—A ten-per-cent maceration of squill in vinegar. Internally employed in doses of 10 to 30 drops several times a day (maximum, ʒv. pro die) in sweetened water, or better in mixtures and saturations. Also used in gargles and in enema.

Extractum Scillæ Fluidum.—Given in doses of ℥v.-xxx. several times a day.

Oxymel Scillæ.—Composed of vinegar of squill 1 part, and purified honey 2 parts, evaporated down to 2 parts. Internally employed in doses of one to two teaspoonfuls as an emetic for children, and as an expectorant and diuretic; in mixtures (ten to thirty per cent); and as an addition to emetic, expectorant, diuretic, and anthelmintic preparations.

Tinctura Scillæ.—Contains the active properties of 15 parts of squill in 100 of alcohol. Dose: gtt. x.-xx.

℞ Scillæ, gr. xlv.
 (Digitalis, gr. xv.)
 Aq. calient., ℥ iv.
 Liq. potass. acetat.,
 Succ. juniperis, āā ℥ vi.
 Syr. simplicis, ℥ ss.

M. S. A tablespoonful every two hours. (A powerful diuretic.)

℞ Scillæ, ℥ ij.
 Digitalis, ℥ i.
 Juniperis, ℥ iij.
 Vini albi, ℥ xij.

Macera per horas 48, adde

Syr. aurant. cort., ℥ x.

M. S. A tablespoonful from three to five times a day. (Diuretic wine.)

℞ Infus. scillæ (1½%), ℥ v.
 Sodii bicarb., ℥ i.
 Acid. citric., q.s. ad saturationem.
 Syr. aurant. cort., ℥ v.

M. S. A tablespoonful every two hours. (Diuretic.) To be kept on ice.

℞ Scillæ pulv.,
 Digitalis pulv., āā gr. viij.
 Ext. trifol. fibrin., q.s.

M. et ft. pil. No. 10. S. One pill every two hours until five have been taken.

℞ Acet. scillæ, ℥ i.
 Potass. carb., q.s., ad saturationem.
 Aq. petroselini, ℥ v.
 Sp. æther. nitrosi, ℥ i.
 Elæosacch. juniperis, ℥ i.

M. S. A tablespoonful every two to three hours. (Diuretic saturation.)

℞ Vini scillæ, ℥ ss.-i.
 Potion. Riveri, ℥ iv.
 Aq. amygdal. amar., ℥ i.
 Syr. limonis, q.s.

M. S. A tablespoonful every hour. (Dropsy from heart disease or granular nephritis.) Keep the bottle on ice.

SEBUM OVILE (BOVINUM).

Mutton or beef suet, a firm fat containing a large proportion of stearin. It is used as a base for white, firm ointments.

SECALE CORNUTUM.

See Ergota.

SENEGA.

A strong expectorant, producing cough, which is used in bronchorrhœa, accumulation of mucus (moist râles) in the second stage of bronchial catarrhs and in the resolvent stage of pneumonia, especially in aged and marasmic people; also in vesical catarrh.

Internally employed in doses of gr. viij.—xxx. several times a day, rarely in powder, but more commonly in infusion or decoction (3 i.—iiss. in $\frac{3}{4}$ v. water). It should not be given in phthisis, when there is high fever, or when the digestion is disordered.

Extractum Senegæ Fluidum.—Given in doses of 10 to 20 drops as an ingredient of expectorant mixtures.

Syrupus Senegæ.—Used with other expectorants in doses of ʒ ss.—i.

℞ Decoct. senegæ (5%),	ʒ v.
Potassii iodidi,	ʒ ij.
Syr. simplicis,	ʒ v.

M. S. A tablespoonful three times a day. (Asthma.)

℞ Infus. senegæ (senegæ, ʒ iiss.),	ʒ v.
Liq. ammon. anisat.,	ʒ ss.
(Tr. opii camph.,)	ʒ i.
Syr. althææ,	ʒ v.

M. S. A tablespoonful every two hours.

SENNÆ.

The leaflets of *Cassia acutifolia* and *elongata*. A safe, mild cathartic, free from any evil effects other than colicky pains, which may be prevented or rendered unimportant by the addition of a little almond water or by giving the alcoholic extract or the species laxantes. The drug should not be given in inflammatory conditions of the intestines.

Internally employed in doses of gr. v.–viiĵ. several times a day as a intestinal stimulant; gr. viiĵ.–xxiv. once or twice a day as a mild laxative; and ʒ ss.–i. as a purgative, usually in infusion (ʒ i.–iiss. in ʒ v.), more rarely in powder, pill, or confection. A domestic laxative tea is made by adding one-half to one tablespoonful of senna leaves with a teaspoonful of fennel or caraway seeds to a glass of boiling water.

Species Laxantes.—St. Germain tea. Composed of senna leaves, 16; elder flowers, 10; anise and fennel seeds, each 5; tartrate of potassium, 2.5; and tartaric acid, 1.5 parts. It is used in quantity of one to two tablespoonfuls for a glass of tea.

Confectio Sennæ.—Composed of senna, 10 parts; coriander, 6; cassia fistula, 16; tamarind, 10; prune, 7; fig, 12; sugar, 50; and water, 60 parts; evaporated down to 100 parts. Dose: ʒ ij.

Infusum Sennæ Compositum.—Vienna laxative. Composed of infusion of senna (10:70), 70 parts; tartrate of sodium, 10 parts; manna, 30 parts. Given in doses of a teaspoonful to a tablespoonful several times a day as a mild laxative, of two tablespoonfuls or more (for children a teaspoonful with syrup) as an active laxative. It is also used as an ingredient of extemporaneous mixtures.

Syrupus Sennæ.—Dose: A dessertspoonful to a tablespoonful.

Acidum Catharticum.—Derived from senna. *Internally* employed for children in doses of gr. iss.–iij., for adults gr. v.–viiĵ., two or three times a day in mixtures, pills, or powder with carbonate of magnesium and sugar of milk. It acts as a purgative, with tolerable rapidity, and is free from the colicky effects of senna. It is mildly laxative when given by hypodermic injection in doses of gr. iij.–v. The solution for this purpose must, however, be made alkaline, otherwise inflammation of the skin, and abscesses, may be produced.

R	Sennæ pulv.,	. . . . .	3 iv.
	Potass. bitart.,		
	Pulv. rhei,	. . . . .	āā ʒ i.
	Elæosacch. limonis,	. . . . .	ʒ ss.
	Sacch. albi,	. . . . .	ʒ v.

M. S. A tablespoonful in the morning in a little milk.

℞ Infusi sennæ (sennæ, 3 iiss.),	℥ v.
Sodii tartratis,	3 v.
Syr. sennæ,	℥ ss.

M. S. A dessertspoonful to a tablespoonful every thirty to sixty minutes.

℞ Confect. mannæ,	3 iiss.
Aq. destillatæ,	3 vi.
Pulv. sennæ,	3 vi.
Sulphur. loti,	3 ss.
Tamarindi,	3 i.
Pulv. zingiberis,	gr. xv.

M. et ft. confectio. S. A teaspoonful two or three times a day.

SINAPIS NIGRA.

Mustard is scarcely ever given internally in medicine. *Externally* it is used in sinapisms mixed with about equal volume of tolerably hot water, and applied to the skin with a piece of fine-meshed gauze intervening, to produce counter-irritation (in cases of syncope, colicky and other pains, etc.). The use of cold, as well as of boiling, water in the preparation of a mustard plaster is less efficacious than that of moderately hot water, as the latter extracts the irritating ethereal oil more readily.

Charta Sinapis.—Mustard paper is prepared by spreading a mixture of black mustard, benzin, and solution of gutta-percha on stiff, well-sized paper. It is moistened in warm water and applied to the skin for the same purposes as the mustard plaster.

Oleum Sinapis.—Is added in small quantities to irritating liniments, or applied (cautiously) pure.

Spiritus Sinapis.—A piece of blotting-paper repeatedly moistened in mustard spirit is applied to the skin to produce the same effects as those obtained by the mustard plaster or paper.

SODIUM.

The preparations of sodium have not the toxic properties of those of potassium. The carbonates are changed in the stomach into lactates, free carbonic acid being liberated.

SODII ACETAS.

Internally given in doses of ʒ iiss.-iv. and more a day, in solution, as a diuretic in acute and chronic nephritis, being at the same time mildly laxative.

SODII ARSENIAS.

See Acidum Arseniosum.

SODII BENZOAS.

Internally employed in single doses of gr. iss.-xv., up to ʒ ij.-iiss. or more a day, in solution or pill, in the uric-acid diathesis and uric-acid concretions, and in acute rheumatism. The remedy has not sustained the claims made for it in the treatment of tuberculosis, various intestinal affections, and uræmia.

It is also used in spray inhalations of a five-per-cent solution as an expectorant.

SODII BICARBONAS.

It should not be given with acids or metallic salts, nor for any length of time in very large doses immediately before or after eating. (Compare *calcii*, *magnesii*, and *potassii carbonas*, and *acidum carbonicum*.)

Internally given in doses of gr. viij.-xxx. several times a day, in powder, effervescing powder, troches, solutions in aromatic waters, and effervescent draughts, as an antacid in heartburn, acute and chronic gastric and intestinal catarrhs, obstinate vomiting, catarrhal jaundice and cholelithiasis (Carlsbad, Marienbad, and Vichy waters); in uric-acid concretions and gout, as it renders the urine alkaline; in chronic cystitis in doses of ʒ i.-ij. per day (Ems, Vichy, Wildungen, Carlsbad waters); to loosen the expectoration in chronic bronchial catarrhs (Ems and Salzbrunn waters), but not to be given in phthisis; and in doses of a teaspoonful at bed-time, to prevent wetting the bed.

Inhalations of a one-half to one per cent spray are used in chronic bronchitis. And for washing out the stomach a one-half to two per cent solution is employed.

Externally applied as a wash to the scalp (ʒ i.-ij. in ʒ vi,

water) in alopecia. Fresh burns and scalds should be immediately dusted thickly with bicarbonate of sodium and then covered with moist cloths.

Pulvis Effervescens (Aerophorus).—Composed of bicarbonate of sodium, 10 parts; tartaric acid, 9 parts; sugar, 19 parts.

Pulvis Effervescens Compositus.—Seidlitz powder. Composed of 40 grains of bicarbonate of sodium and 120 grains of tartrate of potassium and sodium, thoroughly mixed and wrapped in a blue paper; and 35 grains of tartaric acid in a white paper.

Trochisci Sodii Bicarbonatis.—Each contain 3 grains of bicarbonate of sodium, with sugar and a little nutmeg.

℞ Sodii bicarb.,	gr. xv.
Mucil. acaciæ,	
Aq. destillatæ,	āā ʒ iss.
Tr. rhei,	ʒ ss.
Syr. aurant. cort.,	ʒ vi.

M. S. A teaspoonful every hour or two. Vomiting and diarrhœa of small children, due to excessive acidity of the primæ viæ.

℞ Morph. hydrochlor.,	gr. i.
Sodii bicarbonatis,	gr. xlv.
Elæosacch. cinnamomi,	ʒ ss.

M. et div. in chart. No. 6. S. One powder every three or four hours, in diarrhœa or cholera.

℞ Sodii bicarb.,	
Bismuth. subcarb.,	
Sacch. albi,	āā ʒ iiss.
Pulv. calami,	ʒ iss.

M. S. As much as can be taken on the point of a knife three times a day. (Chronic gastric catarrh, pyrosis.)

℞ Sodii bicarb.,	
Sodii chloridi,	āā gr. xxiv.
Morph. hydrochlor.,	gr. i.
Aq. destillatæ,	ʒ vij.

M. S. For spray inhalation twice a day in spasmodic asthma. Also to loosen the expectoration in catarrhal bronchitis and phthisis.

SODII BORAS.

Borax. Soluble in 14 parts of water.

Internally recommended in doses of gr. xv.–xxx. three or four times a day in dysmenorrhœa, and as an emmenagogue and abortifacient.

Externally employed as a mild astringent in collyria, mouth washes and gargles (1 to 5 parts in 100; avoid solutions with mucilaginous substances), or in four-per-cent (non-saccharine) solution as an application in sprue. Relief is often obtained in pruritus vulvæ by washing the parts with a pint of warm water to which is added a teaspoonful of powdered borax and 5 drops of oil of peppermint. It is also used for inhalations and injections into the nostrils in light forms of chronic catarrh, and as an application in many skin diseases.

℞ Sodii borat., ʒ i.
Glycerini (or Mel. despumat.), ʒ v.

M. S. For painting the buccal mucous membrane in aphthæ, or the pharynx, larynx, or nasal cavities in a mild chronic catarrh.

℞ Sodii boratis, ʒ v.
Sp. vini rectific.,
Aq. rosæ, āā ʒ iv.

M. S. For dandruff.

℞ Extr. opii, gr. xv.
Sodii boratis, ʒ i.
Mel. despumat., ʒ v.
Infus. salviæ flor., ʒ vij.

M. S. For a gargle in painful sore throat.

℞ Sodii boratis,
Acid. salicyl., āā ʒ i.
Aq. destillatæ, ʒ vi.

M. S. For inhalation.

SODII BROMIDUM.

Possesses the same action as bromide of potassium, but is said not to cause heart weakness, etc., and is therefore to be preferred in the case of children (see Potassii Bromidi).

SODII CARBOLAS.

Antiseptic. See Liquor Sodii Carbolatis, under Acidum Carbolicum.

SODII CARBONAS.

Internally employed in doses of gr. viij.—xx. like the bicarbonate, which is preferable. The dried carbonate is employed only in powder.

Externally used like the bicarbonate; a solution of gr. lxxv. to $\bar{3}$ iss. of water may be injected into the ear to soften plugs of cerumen; a nasal douche in coryza may be made of a one-per-cent solution; solutions may also be employed for washing out the bladder. Inhalations in spray of a one-half to one per cent solution are used in pharyngitis with a formation of mucous crusts, but the remedy is not to be recommended in simple dry catarrh.

Potio Riveri.—Composed of citric acid, 4 parts; water, 190; carbonate of sodium, 9; syrup of lemon, 30. It is given in doses of a tablespoonful as an antacid.

℞ Sodii carbonatis exsiccāt.,	
Pulv. rhei,	āā 3 i.
Pulv. gentianæ,	3 ij.
Elaeosacch. macidiis,	3 ss.

M. et ft. pulvis. S. To be taken in doses of as much as can be lifted on the point of a knife. A stomachic and digestive.

℞ Sodii carb.,	3 v.
Aq. rosæ,	$\bar{3}$ iiij.
Filtra et adde	
Glycerini,	3 v.

M. S. To be used as a wash three times a day to chapped skin.

SODII CHLORIDUM.

Internally occasionally employed: 1. As a domestic remedy for hæmoptysis. Finely powdered salt may also be given in doses of a teaspoonful, dry or in a little water, to neutralize a piece of nitrate of silver that may have been swallowed, or to kill leeches that have passed down the œsophagus.

2. Is used dietetically as a digestive, here usually and best in the form of natural saline waters, to increase the digestibility especially of fatty foods; and also in acute and chronic gastric catarrh.

3. In bronchial and laryngeal catarrhs, scrofula, and rheumatism (saline mineral waters).

4. In epilepsy given at the appearance of the aura. Also recommended in doses up to 3 x. a day in the treatment of pleurisy with effusion and other acute inflammations of the serous membranes.

Externally it is added in doses of a teaspoonful to two tablespoonfuls to laxative enemata. Employed in baths (two to six pounds to the bath) as a gentle cutaneous irritant, and also in lotions. For syringing out poisoned wounds, and to neutralize nitrate of silver.

A spray (chloride and carbonate of sodium, each gr. xl.; muriate of morphine, gr. ij.; and water, $\bar{5}$ x.) is used with good effect in various chronic catarrhal conditions of the pharynx, larynx, and bronchi.

In nasal catarrhs a one to two per cent solution may be snuffed up into the nose.

Salt (in the so-called physiological salt-solution—chloride of sodium 0.6%, and carbonate of sodium 0.1%) is used subcutaneously and by transfusion in Asiatic cholera.

SODII CHLORAS.

Internally and externally used like chlorate of potassium.

SODII DITHIOSALICYLAS.

Internally employed in doses of gr. iij. four times a day, in wafers because of its unpleasant odor, in acute muscular and articular rheumatism. It is said to have the same therapeutic effect (but not to cause the sweating and the disagreeable gastric symptoms) as salicylate of sodium.

SODII HIPPURAS.

Internally employed in doses of gr. viij.–xv. in warm solution. It is said to cause the disappearance of uric acid and the urates.

℞ Sodii hippuratis,	. . . . .	gr. lxxv.
Lithii carb.,	. . . . .	gr. xxij.
Glycerini,	. . . . .	℥ ss.
Aq. cinnamomi,	. . . . .	℥ vi.

M. S. One or two tablespoonfuls for a dose.

℞ Sodii hippuratis,	. . . . .	℥ ij.
Potass. nitratis,	. . . . .	℥ ij.
Aq. menth. pip.,	. . . . .	℥ iv.
Syr. simplicis,	. . . . .	℥ vi.

M. S. One teaspoonful four times a day.

SODII IODIDUM.

Is employed like the potassium salt and is to be preferred to it for long administration.

SODII LACTAS.

Hypnotic. Resembles castor oil in appearance.

Internally employed in doses of ʒ iiss.—ʒ ij. at a time or in divided portions, in sweetened water on an empty stomach, it is said to control excitement and produce sleep. It may also be given by the rectum.

SODII NITRAS.

Internally employed, like the corresponding potassium salt, in doses of gr. viij.—xv. several times a day, in powder or solution, as a cooling drink in fevers. It has even less effect upon the pulse and temperature than nitrate of potassium, but causes less gastric disturbance and is devoid of danger.

SODII NITRIS.

Nitrite of sodium is a powerful cardiac poison, like nitrite of amyl and nitroglycerin, and is employed to meet the same indications and in the same dose, but it is said not to produce the unpleasant incidental effects in as marked a degree as nitroglycerin; but at the same time it must be used with great caution.

Internally given in doses of gr. i.—iiss., or at most gr. ij. A teaspoonful may be given four times a day, the last dose at bed-time, of a solution of ʒ ss. in ʒ iv. of water.

SODII PHOSPHAS.

Given in doses of $\frac{z}{3}$ ss.-i. in $\frac{z}{3}$ iij.-iv. of water, in one or two portions, as a laxative; and gr. viij.-xxx. several times a day in gout and urinary calculus.

SODII PYROPHOSPHAS.

Is occasionally given internally for the same purposes as the phosphate (see Ferri et Sodii Pyrophosphas).

SODII SALICYLAS.

White odorless scales, or a white powder, of a sweetish saline taste, soluble in 0.9 part of water and 6 parts of alcohol. See Acidum Salicylicum, which it resembles in action, indications, and dosage.

Internally given as a powder in wafers, or in a solution with plenty of syrup of orange peel. In addition to the indications which it has in common with salicylic acid, it is especially recommended for migraine in two doses of gr. xx. each, in wafers, fifteen minutes apart; if it is necessary to give it for a longer period, it may be combined with a small quantity of opium or morphine. In acute rheumatism it is exhibited in doses of gr. xv.-xxx. from five to seven times a day; or gr. lxxv. at once and repeated in the same dose the following day. It is also employed in large doses combined with gr. $\frac{1}{10}$ of atropine three times a day, for urticaria; ichthyol (*q.v.*) being at the same time applied externally, if necessary. In epidemic cerebro-spinal meningitis it is given in doses of gr. lxxv.-xc. Finally, it is strongly recommended, in doses of two tablespoonfuls of a three-per-cent solution three times a day, for general cutaneous pruritus.

SODII SILICAS.

Soluble glass, a solution of silicate sodium, a viscid fluid of syrupy consistence, is employed externally, applied by means of a brush, as a protective covering in erysipelas, for mosquito and bee strings, and in joint troubles. But its principal application is in the formation of splints for fractures,

dislocations, diseased joints, etc., in place of plaster of Paris or starch. Bandages soaked in the solution and then lightly squeezed are applied evenly about the parts, and when dry form a firm and immovable dressing.

SODII SOZOIODOLAS.

See Soziodolum.

SODII SULPHAS.

Glauber's salt. When deprived of its water of crystallization, it loses half its weight and is twice as active as the ordinary salt. The dried sulphate should always be used when powders are prescribed. Its use should be avoided in inflammatory conditions of the stomach and intestine, and in cachectic states.

Internally employed in doses of 40 to 80 grains (one-half to one tablespoonful), at once or dissolved in a pint of water and slowly sipped during the course of an hour, as a quickly acting laxative, which is free from any unpleasant effects. It is given in chronic constipation, ulcer of the stomach, benign hepatic disorders, diabetes, gout, obesity, etc. The best form of administration is as Carlsbad salt (see below), or in the natural Carlsbad or Marienbad, or other waters containing it.

As an antidote in poisoning by carbolic acid or lead (acute), it is given in doses of gr. xv.-lxxv. several times a day (a tablespoonful every two hours of a solution containing $\frac{3}{5}$ ss. in $\frac{3}{5}$ v. water and $\frac{3}{5}$ i. simple syrup).

Sal Carolinum Factitium.—Artificial Carlsbad salt contains dried sulphate of sodium, 22 parts; sulphate of potassium, 1; chloride of sodium, 9; bicarbonate of sodium, 18 parts. It is taken dissolved in warm water, fasting, and 3 iss. dissolved in two pints of water has the same effect as the natural Carlsbad water. A teaspoonful to a tablespoonful (a little experience will tell the patient how much is necessary to produce one or two soft stools) is dissolved in a pint of tepid water, and is taken fasting in the course of fifteen and thirty minutes; then an hour later breakfast is taken, the patient in the meanwhile exercising more or less, as may be possible. (The more expensive natural Carlsbad salt possesses no advantage over this artificial product.)

℞ Sodii sulphat., 3 iiss.
 Syr. mannæ, ʒ v.
 Decoct. frangulæ (Frangulæ, ʒ iiss.), ʒ iiij.
 M. S. A tablespoonful every hour until the bowels move.

℞ Sodii sulphat., 3 vi.
 Acidi tartar., gr. iv.
 Aq. destill., ʒ v.
 Syr. rhamni cathart., ʒ vi.
 M. S. A tablespoonful every hour until the bowels move.

℞ Sodii sulphatis exsiccata., 3 iiss.
 Sulphur. loti,
 Potass. bitartr., āā ʒ v.
 Elæosacch. limonis, ʒ i.

M. et ft. pulvis. S. A teaspoonful two or three times a day. (For hemorrhoids.)

℞ Sodii sulphatis, ʒ i.
 Acaciæ, ʒ iiss.
 Aq. destillata, ʒ v.
 Ol. ricini, ʒ iv.
 Extr. belladonnæ, gr. iiss.

M. S. A tablespoonful every hour. (Lead colic.)

SODII SULPHO-ICHTHYOLAS.

See Ichthyolum.

SODII TANNAS.

See Acidum Tannicum.

SOLANINÆ HYDROCHLORAS.

Obtained from several species of the Solanum, especially from dulcamara, belonging to the same class of alkaloids as atropine, eserine, etc.

Internally employed (with care, as it is poisonous) in doses of gr. i.-iiss. (gr. iv. a day) morning, noon, and night in wafers or pills (each containing gr. $\frac{1}{6}$) for sciatica. In neuralgia, gr. iiij. may be taken the first day, gr. v. the second, and gr. vi. the fourth, in pills. In somewhat smaller doses (gr. ij.-iv.), it is used for tic douloureux, neuritis, prurigo, cystitis, bronchitis, muscular and articular rheumatism, and vomiting of pregnancy.

It is given subcutaneously, in one-per-cent solution, for sciatica and neuralgia, in doses of gr. ss.-i. from one to three times a day.

SOLVINUM.

Polysolve or solvin is a product of the action of concentrated sulphuric acid on the fatty acids of castor, almond, or rape-seed oil. It is an excellent solvent for many substances which are insoluble in water, and has, therefore, been recommended as an excipient for internal remedies and as an emulgent for ointments externally. Unfortunately, however, the early claims for its universal solvent property, and also for its safety in internal and external use have not been sustained. Toxic symptoms, such as ecchymoses, ulceration, and inflammation, have not infrequently been seen to follow its use, and it is, therefore, better not to employ it.

SOMNALUM.

Somnal is an alcoholic solution of chloral hydrate and ethylacethan. Hypnotic.

Internally employed in doses of ʒ ss. in mixture (see formula), or in beer, wine, etc., is said to produce, within about half an hour, a quiet sleep of six to eight hours' duration, without causing any unpleasant incidental effects.

℞ Somnali,	ʒ iiss.
Syr. rubi idæi (or Ext. glycyrrh.),	ʒ v.
Aq. destillatæ,	ʒ iiss.

M. S. A tablespoonful at bed-time.

SOZOIODOLUM.

Soziodolic acid. The soziodolates (the acid itself is not used) exercise a specific action in diseases of the skin and mucous membranes, in that they cause a non-inflammatory exfoliation. They affect favorably the parasitic diseases, and also are recommended as a substitute for iodoform, of which they possess none of the incidental toxic properties. Concentrated solutions restrain the growth of schizomycetes; and a two-per-cent solution of sodium soziodolate prevents the development of *Staphylococcus pyogenes*.

Potassii Soziodolas.—Contains fifty-five per cent iodine, seven per cent sulphur, and twenty per cent carbolic acid. It occurs in the form of colorless and odorless crystals, soluble only in 50 parts of water.

Sodii Soziodolas.—Similar in appearance to the preceding, but more soluble (in 13 to 14 parts) in water.

Externally these two salts are employed indifferently, in ten-per-cent ointment with vaselin, in eczema, sycosis, herpes tonsurans, etc., and as a dusting powder to unhealthy ulcers (when there is profuse suppuration, the potassium salt is preferable); in powder insufflated into the nose to destroy the fetor in ozæna, and as an application to tuberculous ulcers of the larynx (preferably the sodium salt in this case).

Hydrargyri Soziodolas.—A yellow powder, scarcely soluble in water, but readily soluble in a chloride of sodium solution.

Externally employed in five-per-cent ointment, like the preceding, in syphilitic affections; as a powder (1 part to 20 of talc) for insufflation in nasal syphilis. It is also given by subcutaneous injection (℥ xv. of a five to ten per cent solution injected into the glutei every second or third day) in the treatment of syphilis, about fifteen injections in all sufficing.

Zinci Soziodolas.—Occurs in the form of white needles, readily soluble in water. *Externally* used in ten-per-cent ointments and powders, like the other salts, but preferred in those cases in which there is but little secretion.

SPARTEINÆ SULPHAS.

The sulphate of an alkaloid derived from the tops of *Spartium scoparium*. It occurs in the form of colorless, needle-shaped crystals, easily soluble in water, and of an intensely bitter taste. It acts upon the central nervous system, and in large doses may cause death. It resembles digitalis in its effects, though it is not a true succedaneum for it, acting more rapidly though less energetically. It rapidly and markedly slows the pulse, increases the energy of the cardiac contractions, prolongs the systole, and also causes diuresis. It is, therefore, indicated in affections of the heart muscle, whether degenerative or atonic, and also in cases of irregular, intermittent, or slow pulse, when digitalis, strophanthus, and caffeine have failed to produce the desired effect.

Internally given in doses of gr. $\frac{1}{8}$ to $\frac{1}{4}$, carefully increased up to gr. i.—iss. a day, in pill or solution. The dosage and action of the remedy are not, however, as yet well settled.

℞ Sparteinæ sulphatis, gr. vi.
 Pulv. glycyrrhizæ,
 Ext. glycyrrhizæ, āā q.s.

M. et ft. pil. No. 20. S. One pill from two to four times a day.

℞ Spartein. sulph., gr. iij.
 Syr. aurant. cort., $\frac{3}{5}$ iij.

M. S. A dessertspoonful in water from two to four times a day.

SPECIES.

Under this name are understood preparations, consisting of mixtures in coarse powder or small pieces of various plants, which are used to make decoctions and infusions.

Species ad Gargarisma.—Composed of althæa and malva leaves, and elder flowers.

Species Aromaticæ.—Composed of 1 part each of cubebæ and cloves, and 2 parts each of peppermint leaves, sweet thyme, lavender flowers, and wild thyme. It is used to make aromatic baths (one-half pound to the bath), pillows, and poultices.

Species Diureticiæ.—See Sarsaparilla.

Species Emollientes.—Composed of equal parts of linseed meal, elder flowers, malva, chamomile, and melilot. Used to make poultices.

Species Laxantes.—St. Germain tea. See Senna.

Species Lignorum.—See Guaiacum.

Species Pectorales.—See Glycyrrhiza.

SPERMINUM HYDROCHLORICUM.

Piperazidin or piperazin. An extract prepared from the testicles of young animals (calves, colts, etc.), which, administered in one to two per cent sterilized solution, is said to exercise a stimulating and rejuvenating effect upon the nervous system, acting especially in the sexual sphere, and increasing the general sense of well-being. It is, however, still in the experimental stage.

Internally recommended in doses of gr. xv. several times a day; or

Subcutaneously in doses of gr. i.-iss. (in three to five per cent solution) as a solvent for uric acid in the uric-acid diathesis, gout, calculi, etc. But it has not yet been sufficiently tried to establish its value in this respect.

SPIRITUS ÆTHERIS COMPOSITUS.

Hoffmann's anodyne. See Æther.

SPIRITUS ÆTHERIS NITROSI.

Sweet spirit of nitre. Composed of nitric acid, 9 parts; sulphuric acid, 7 parts; in alcohol and water. A diuretic.

Internally employed in doses of ʒss.-i. several times a day, pure or in mixture with other substances.

SPIRITUS AROMATICUS.

See Melissa.

SPIRITUS MINDERERI.

See Ammonii Acetas.

STRAMONII FOLIA.

A narcotic similar to belladonna. The active principle, daturine, is identical in its action with atropine.

Internally employed in doses of gr. ss. up to the maximum of gr. iij. (gr. xv. a day) in powder or pill, like belladonna; but it is seldom used.

Externally used in the form of stramonium cigarettes (3 i. of stramonium leaves wrapped in a tobacco leaf), smoked for the relief of asthma. It must be employed cautiously, only a few whiffs at intervals being taken at first, as the smoke readily induces narcosis. The infusion may also be inhaled in the form of a spray; or the fumes may be inhaled by burning nitre paper soaked in stramonium infusion and dried, or by mixing equal parts of stramonium leaves and nitrate of potassium.

Tinctura Stramonii.—*Internally* employed in doses of ʒ v.-xv. from two to four times a day. Maximum dose: ʒ xv., or ʒ xlvi. pro die.

Extractum Stramonii.—*Internally* employed in doses of gr. $\frac{1}{4}$ to i., in powders or pills. Maximum dose: gr. iss., or gr. vi. pro die. [The official extract of stramonium (U. S. Ph.) is made from the seed and is stronger than that from the leaves. Dose: gr. $\frac{1}{4}$ to $\frac{1}{2}$.]

STROPHANTHUS.

The powdered seed of *Strophanthus hispidus*, a climbing plant found in Asia and Africa. It is a cardiac poison, which causes stronger contractions in small doses, but paralyzes the organ in large doses. In moderate doses it is diuretic, and exercises a direct quieting effect upon the nervous system.

It is not a substitute for, but a useful synergist of, *digitalis*, and as it has no cumulative action it can be given for a long time (*conf.* *Digitalis*.)

Tinctura Strophanthi.—Ten-per-cent strength.

Internally employed in doses of 2 to 10 drops or more three times a day, up to the maximum dose of \mathfrak{m} viij., or 3 ss. a day, for the same indications as *digitalis* (than which it is more rapid in its action), and usefully given in combination with it in cases of insufficient compensation. The remedy is therefore indicated in pure muscular insufficiency, compensatory disturbances due to valvular disease, to empyema, or to nephritis (with œdema and ascites); in acute heart failure with marked dyspnoea, in severe cases of pneumonia in the aged, etc.

Strophanthinum.—*Internally* recommended in doses of gr. $\frac{1}{30}$ to $\frac{1}{15}$, but it is certainly dangerous, and has been too little tried, and is therefore better not given at present.

STRYCHNINA.

See *Nux Vomica*.

STYRAX.

Storax. A cheap but efficient remedy for scabies and pediculosis pubis, mixed with $\frac{1}{4}$ to 1 part olive oil, $\frac{1}{2}$ part glycerin, or equal parts balsam of Peru.

℞ *Styracis*,

Bals. peruv., āā ʒss.

M. S. For rubbing into the parts in scabies, especially in children.

℞ Styrcis,	℥ iss.
Bals. peruvian.,	℥ i.
Ol. olivæ,	℥ i.
Alcohol,	℥ ss.

M. et ft. linimentum. S. To be employed for thorough rubbing three or four times.

SUCCUS PANCREATICUS.

(*Conf. Caro.*) An artificial, easily digestible food, prepared as follows: 150 parts of beef, 50 parts of calves' sweetbread, and sometimes also 25 parts of fat are chopped up very fine together and stirred into a pap with about 50 parts of warm water. It is administered, warmed up to about 104° F., through a stomach-tube, the stomach having been previously washed out. It may also be given by the mouth with the addition of bicarbonate of sodium and common salt. When dried and pulverized it has been recommended as a dusting powder (when liquid, by pencilling) to diphtheritic and croupous ulcers, as it exercises a marked solvent action on fibrin.

SULPHOICHTHYOLUM.

See Ichthyolum.

SULPHONALUM.

Hypnotic. Colorless, odorless, and tasteless crystals, volatilizable by heat, soluble in 500 parts of cold and 15 parts of boiling water, in 65 parts of cold and 2 parts of boiling alcohol.

Internally employed in doses of gr. xv.-xlv. (maximum dose ℥ i., or ℥ ij. a day) in powder, with as much warm drink as possible, it produces a quiet sleep lasting for five to eight hours. When given in fine powder, its action is quick (often within half an hour), but in a crystalline powder it sometimes requires several hours before inducing sleep. It may also be given in tablets. It is given for nervous insomnia following cerebral excitement, the nocturnal restlessness of fever patients, and long-continued excitement in sufferers from mental disease. In the last-named condition it is given in smaller doses (gr. viij. at a dose or gr. xlv. a day) repeated at intervals every few hours.

It is said to act well in repressing the night sweats of phthisis in doses of gr. iv.–viiij. In cases of sleeplessness due to severe pain, hard cough, or dyspnœa the remedy seems to be ineffectual.

In isolated instances a transitory exanthem has been observed after the exhibition of sulphonal, occasionally vertigo, and in one instance aphasia of several hours' duration. It has been stated that long-continued use of the drug, especially in women, has caused general depression, intestinal colic, vomiting, and paralysis of the extremities, and one case of death is reported.

SULPHUR.

Sulphur Lotum.—*Internally* washed sulphur is given in doses of gr. viij.–xv. several times a day; as a strong purgative it is given in dose of ʒ ss.–i., best in powder, and usually with carminatives. It is a constituent of the compound licorice powder.

Externally employed in ointment (1 to 2 parts in 5 of fat) in the treatment of parasitic skin diseases, scabies, sycosis, etc.

Sulphur Præcipitatum.—Lac Sulphuris. *Internally* as a laxative in doses of gr. viij.–xv. several times a day in powders or pills.

Externally employed in lotions, and especially in cosmetic washes, in the strength of 3 to 5 parts in 100. It is also applied in ointment or paste (sulphur præcipitatum, ʒ iiss. with equal parts of glycerin and alcohol to make a soft paste) in acne (*conf.* Naphtholum), sycosis, and other diseases of the skin, especially of a parasitic nature.

Sulphur Sublimatum.—Flowers of sulphur. Used only externally, for the same object as the preceding, in ointment (1 to 3 parts to 10 of fat or black soap). It is also used for fumigation.

℞ Sulphur. loti,
 Potass. tartrat., āā ʒ vi.
 . Jalapæ,
 Pulv. carvi, āā ʒ iiij.
 M. et ft. pulvis. S. A teaspoonful at night. (Purgative.)

℞ Sulphur. præcip.,
Glycerini,
Spir. saponati, āā ʒ ij.

M. S. To be applied to the parts at night, and washed off in the morning with green soap. (For sycosis and acne.)

℞ Camphoræ, gr. viij.
Acaciæ, gr. xv.
Sulph. præcip. ʒ ij.
Liq. calcis,
Aq. rosæ, āā ʒ iss.

M. S. Kummerfeldt's lotion. (A wash for acne.)

℞ Sulph. præcip., ʒ i.
Vaselini flavi, ʒ vi.
Ol. olivæ, ʒ iij.
Ol. aurant. flor., gtt. v.

M. et ft. unguentum. S. Sulphur pomade. (For pityriasis capitis.)

℞ Sulph. præcip., ʒ ij.
Glycerini,
Alcohol. dil., āā ʒ ij.
Potass. carb., ʒ ij.
Ætheris, ʒ ij.

M. et ft. pasta. S. To be applied at night, and washed off in the morning with almond meal. (For obstinate comedones, acne.)

℞ Sulphur. præcip.,
Pulv. rheī,
Pulv. glycyrrh. comp.,
Elaeosacch. fœniculi, āā ʒ ij.

M. et ft. pulvis. S. A teaspoonful morning and evening. (A laxative for use in hemorrhoids.)

℞ Sulph. sublimati, ʒ i.
Acid. carbolicī, gr. xij.
Adipis colli equin., ʒ x.
Ol. bergamii, gtt. viij.

M. S. Lassar's hair-wash. (For falling of the hair.)

SUPPOSITORIA.

The basis of suppositories, when none is especially designated, is cacao-butter (*oleum theobromæ*), with which the remedy is mixed immediately or after being moistened in a suitable fluid. The form in general is that of a cone, and each suppository, unless otherwise specified, should weigh about fifteen grains. Vaginal suppositories are two or three times as heavy.

TALCUM PULVERATUM.

A finely powdered insoluble magnesium silicate.

Externally used as a dusting powder in intertrigo and for burns; mixed with salicylic acid (*q.v.*) for bromidrosis of the feet; as an ingredient of ointments and plasters; and finally as a powder for dusting sticky pills to prevent them from adhering together.

TAMARINDUS.

Tamarind pulp as used in medicine, having the consistence of a thick extract, contains vegetable acids, salts, gum, and sugar (pulp, 5 parts; sugar, 1 part).

A mild, pleasant, acid-tasting laxative employed in fevers and in cases of irritable intestines, and also as a refreshing drink in hot weather.

Internally given in quantity of $\frac{1}{2}$ to 1 ounce in a quart of water as a cooling beverage; and in decoction (3 ij.-vi. in $\frac{3}{4}$ ij. water), usually in combination with a saline, as a laxative.

℞ Tamarindi, ʒ i.
Mannæ, ʒ ss.

Coq. c.

Aq. fontan., ʒ v.
Magnes. sulph., ʒ ss.

M. S Half to one wine-glassful every morning.

℞ Infusi sennæ, ʒ v.
Tamarindi, ʒ i.
Sodii sulph., ʒ vi.
Syr. sennæ, ʒ ss.

M. S. A tablespoonful every half-hour.

TANNINUM.

See Acidum Tannicum.

TARAXACUM.

Internally employed (rarely) in decoction (3 iiss.-iv. in ℥ iij.) in dose of a tablespoonful every hour in chronic diseases of the digestive organs, especially of the liver, and dropsy.

Extractum Taraxaci.—Given in doses of gr. x.—xxx. several times a day in pills.

Extractum Taraxaci Fluidum.—Used like the preceding in doses of ʒ ss.-ij.

TEREBINTHINA.

Contains from 15 to 30 parts of oil of turpentine combined with a resin which acts like an acid. It is never employed internally. When spread upon paper or leather it is used as a plaster by itself and as a constituent of other plasters mixed with equal parts of a resin, such as *resina pini*, colophony, wax, or suet.

Oleum Terebinthinæ.—Called also spirit of turpentine. It is soluble in alcohol, ether, and the fixed oils; and is not a stimulant, but a depressant, of the central nervous system, and of the respiratory and circulatory apparatus.

Internally employed in doses of 5 to 20 drops or more (of late in much larger doses up to one or two teaspoonfuls), pure with meat broth or lemon-juice taken after it, as a lincture with milk, or meal, in gelatin capsules, in pills, or in emulsion with acacia and with ether—

1. In gangrene of the lungs and putrid bronchitis, and also in simple (non-putrid) bronchorrhœa and in pulmonary hemorrhage, given by the mouth and as an inhalation (see below).

2. In renal calculi and gall stones and in biliary colic (see *Æther*.)

3. In acute phosphorus poisoning, the crude commercial oil of turpentine should be taken in about 100 times the quantity of the poison ingested, in divided doses of ℥ viij.—xv., pure or in emulsion, every half-hour; but milk and fats are to be avoided. It is also used in poisoning by hydrocyanic acid.

4. In diphtheria, in doses of 10 drops up to a teaspoonful three times a day, for adults correspondingly more, in warm

milk, mucilage, or sweetened water; or with spirit of ether I part to 15 of oil of turpentine (see below).

The alleged therapeutic effects of turpentine in neuralgia, catarrhal cystitis, gonorrhœa, and intestinal worms are unreliable, doubtful, and obtained better by other means.

Externally employed as a liniment, ointment (1 to 3 parts in 5 of fat), in plasters (1 part in 6 to 8 of resin), and as a rubefacient, either pure or mixed with equal parts of caustic ammonia —

a. As a counter-irritant in paralyses, anæsthesia, neuralgias, rheumatism, and pulmonary affections, especially in children; in meteorism and cholera, applied upon the abdomen; in chilblains and parasitic cutaneous disorders.

b. As an application in erysipelas.

c. As a useful irritant, mixed with equal parts of olive oil, in corneal opacities; it has been recommended for this purpose, but it should be used with great care.

It is also given by enema in obstinate constipation, in doses of ʒ i.-ij. in ʒ v. of fluid made into an emulsion with yolk of egg.

For inhalations in the respiratory affections above referred to, a spray may be used of oil of turpentine in water, or in solutions containing common salt, ammonium chloride, tannin, etc.; or a couple of tablespoonfuls of the turpentine may be poured into a pitcher of boiling water and the fumes inhaled as they arise in the vapor; or finally oil of turpentine may be sprinkled on the bedclothes.

In diphtheria it has been strongly recommended to burn from six to eight teaspoonfuls of turpentine in the room with doses and windows closed, keeping them closed for at least half an hour, and repeat this every three to five hours; or oil of turpentine may be sprayed about the sick-bed by means of an atomizer.

Unguentum Terebinthinæ.—Composed of equal parts of crude turpentine, yellow wax, and oil of turpentine. An irritant application used in chilblains.

Unguentum Terebinthinæ Compositum.—Composed of turpentine, ʒ ss.; the yolks of two eggs; myrrh and aloes, each gr. viij.; and olive oil, ʒ i. It is used chiefly as an application to blistered surfaces, to keep up the suppuration.

Unguentum Elemi.—Composed of elemi, larch turpentine,

suet, and lard, an old and long-esteemed dressing for small, open, suppurating surfaces.

Unguentum Basilicum.—Composed of olive oil 9 parts; yellow wax, colophony, mutton suet, each 3 parts; and turpentine, 2 parts. It is used alone or with other substances (*e.g.*, 7.5 parts to 5 of euphorbium) as an irritant salve for maintaining issues.

The basilicon ointment of the U. S. Ph. (*Ceratum Resinæ*) is composed of resin, 35 parts; yellow wax, 15 parts; and lard, 50 parts, and corresponds to

Unguentum Flavum.—Composed of pine resin, wax, and lard, colored with turmeric.

These ointments are used especially in cases in which a greater or less irritant effect is desired, as to mature an abscess or stimulate sluggish granulations.

Terebinthina Cocta.—Is occasionally give in doses of gr. v.—xv. several times a day; and is used externally as a styptic powder when combined with equal parts of alum or acacia; and also as a constituent of various plasters.

Terebinthina Laricina.—Venice turpentine is thinner and clearer than the officinal turpentine.

Internally employed in doses of ℥ v.—xv. several times a day in pills, confection, or emulsion for the same purposes as oil of turpentine. In diphtheria ʒ ij. for a child from two to seven years old, and ʒ iiss.—iv. for older children, may be given at a dose followed by a glass of milk.

Externally employed in injections in emulsion with mucilage (℥ viij.—ʒ i. to ʒ iiij.); and also like turpentine for plasters, ointments, and, with yolk of egg, for liniments.

Terpinum Hydratum.—Terpin hydrate is obtained by the action of nitric acid upon oil of turpentine in the presence of alcohol.

Internally employed in doses of gr. iss.—vi. several times a day (up to gr. xv.—xxx. a day), cautiously increased, in pills, powders, capsules, or solution in water and alcohol, as a diuretic in chronic nephritis and cardiac muscular insufficiency, accompanied by albuminuria and œdema, usually with excellent effect. As an expectorant it is said to loosen the bronchial phlegm and render it more easily coughed up when given in small doses (gr. iss.), but to render the secretion less abundant in larger doses (up to gr. xv.). It also acts well in the relief of neuralgia.

Terpinolum.—Terpinol is a mixture of various terpenes, which is given to meet the same indications as the preceding, but may be exhibited in somewhat larger doses (gr. viij.—xv. in capsules).

℞ Ol. terebinth., ʒ ij.
Ætheris, ʒ iij.

M. S. Fifteen to 30 drops several times a day in renal colic and gall stones. (Durande's remedy.)

℞ Ol. terebinth., ʒ iiss.
Mucilag. acaciæ, ʒ x.
Syr. aurant. cort., ʒ ij.

M. S. To be taken in three portions. (Phosphorus poisoning.)

℞ Ol. terebinth.,
Mucil. acaciæ,
Syr. simplicis, āā ʒ ij.

M. S. To be taken in three doses at half-hour intervals. (Diphtheria.)

℞ Ol. terebinth., ʒ v.
Acidi carbol., gr. xij.
Camphoræ, gr. viij.

M. S. For painting over the affected portion in diphtheria.

℞ Terpin. hydrat., ʒ ss.
Alcohol,
Aq. destillatæ,
Syr. menthæ, ʒ iss.

M. S. A tablespoonful from three to six times a day. (Expectorant, and in chronic nephritis.)

℞ Ol. terebinth.,
Spt. ætheris nitrosi, āā ʒ iiss.
Ætheris, ℥ xxiv.

M. S. Twenty to 50 drops in oatmeal water; and in addition lemon juice in the same vehicle as a drink. (Phosphorus poisoning.)

℞ Ol. terebinth.,
Spt. ætheris nitrosi, āā ʒ iiss.
Bais. copaibæ, ʒ v.
(Acid. benzoic., ʒ ss.)

M. S. Thirty drops three times a day. (Gonorrhœa, vesical catarrh.)

℞ Terebinth.,
 Petrolei,
 Cerae flavæ, āā 3 iiss.
 M. et ft. unguentum. (Salve for frost-bites.)

℞ Terpin. hydrat.,
 Sodii benzoatis, āā gr. xv.
 Sacch. albi,
 Mucil. acaciæ, āā q.s.

M. et ft. pil. No. 10. S. One pill every hour or two. (In chronic nephritis, and as an expectorant.)

THALLINÆ SULPHAS.

The tartrate and the tannate are also made. An antipyretic. Thalline is a synthetically prepared quinine-base, occurring in the form of a yellowish-white powder. The sulphate and tartrate contain 76.9% of thalline, the tannate only 33.6%, the latter is therefore to be given in double the dose of the former. The sulphate is, however, employed almost exclusively. The drug is well borne by the kidneys and intestine; after it has been used for a considerable time, the urine takes on an olive-green or greenish-black stain, but never becomes albuminous. Thalline must not be given in diseases of the heart and kidneys.

Internally employed in doses of gr. iij.–viiij. for adults, gr. $\frac{1}{4}$ for each year of life for children, in order to lower the temperature once; for a repeated antipyretic effect, it may be given in doses of gr. iss.–v. up to the maximum of gr. viij. (gr. xxiv. pro die) in powders, pills, water or wine, increased or decreased according to the thermometric indications. Doses of gr. iv.–viiij. will lower the temperature (with the production of diaphoresis) about two degrees Fahrenheit in one-half to one hour; but it will rise again in three or four hours, usually with a chill. Very large doses excite vomiting, chills, collapse, and sometimes hyperæmia of the kidneys with œdema.

The remedy is employed chiefly in typhoid fever, in which it is almost a specific, but also in other feverish and inflammatory diseases such as erysipelas and pyæmia. It is given mainly to lower very elevated temperatures promptly and decidedly, but also, in small and repeated doses, to keep a con-

tinued fever under control and prevent too high a temperature. For this purpose doses of gr. i., gradually increased by gr. $\frac{1}{2}$ at a time, are given at frequent intervals (thallinization).

In general it may be said that the therapeutic value of thalline is less than that of antipyrine or antifebrin, but greater than that of kairin.

Externally employed in one and one-half to two per cent aqueous solution for urethral injections two or three times a day in acute gonorrhœa; in the chronic form, pencils are used consisting of sulphate of thalline gr. viij. in $\bar{3}$ iiss. of cacao butter. In addition, the remedy is given internally in doses of gr. iv. every three hours.

THEINA.

See Caffeina.

THEOBROMINÆ NITRO-SALICYLAS.

Also called diuretin. It is a white powder, soluble in water, which acts directly upon the renal parenchyma, producing diuresis.

Internally employed in doses of gr. iss. from four to six times a day, in powder, as a diuretic.

THIOLUM.

German ichthyol. It occurs in the form of a liquid or in the dry state, and is obtained from brown coal-tar oil. It is said to be similar to ichthyol in indications, dosage, and action. Thiolum siccum is mixed with talc in the proportion of 10 to 20 parts in 100, and used as a dusting powder.

THYMOLUM.

Thymic acid. Crystals obtained from oil of thyme and having its odor, soluble in less than 1 part of alcohol, ether, and chloroform, but only in 1,100 parts of water. It hinders the development of schizomycetes more than does carbolic acid, does not act as a local irritant, and is in general much less poisonous than this. The odor, which is at first pleasant, becomes after a while disagreeable to most persons.

Internally employed (rarely) in powder or emulsion, less often in alcoholic, alkaline, or watery solution. In large doses it causes pain in the stomach and vomiting.

1. In doses of gr. i.-iss. several times a day in abnormal fermentative processes in the stomach (with dilatation).

2. In doses of gr. xv.-xxx. as an antipyretic, and in articular rheumatism, but it is here less certain than salicylic acid.

3. As an anthelmintic, especially recommended for the destruction of *Anchylostomum duodenale* and tape-worm. For the first it is given in amount of ʒ ss.-i. divided into from four to six doses; for the second four teaspoonfuls of castor oil are taken in the evening, and the following morning ʒ ij. of thymol, in capsules, in twelve doses fifteen minutes apart, and twenty minutes after the last dose four teaspoonfuls more of castor oil. (Such large doses are risky, even when, as is recommended, their administration is combined with stimulants, such as rum or brandy, in order to prevent a lowering of pulse, temperature, and respiration.)

Externally used, like carbolic acid, in watery solution of 1:1,100 as an antiseptic and deodorizing application to ichorous ulcers; painted on the parts in prurigo, eczema, etc.; in mouth-washes; and as an injection into the bladder (gr. xiiij.: Oij.). The odor attracts flies.

℞ Thymol, gr. xv.
Spt. menth. pip., ʒ v.

M. S. Twenty to 30 drops several times a day.

℞ Thymol, gr. xv.-xxiv.
Ol. olivæ, ʒ ij.
(or Glycerini, ʒ iiss.
Aq. destillat., ʒ ij.)

M. S. Lotion for prurigo, and on compresses in eczema and erysipelas.

℞ Thymoli, gr. iv.
Acid. benzoici, gr. xliv.
Tr. eucalypti, ʒ ij.
Aq. destillat., Oiss.

M. S. Antiseptic mouth-wash.

℞ Thymoli,	. . . . .	gr. xv.
Alcohol,	. . . . .	3 iiss.
Glycerini,	. . . . .	3 v.
Aq. destillat.,	. . . . .	Oi.

M. S. Thymol-glycerin. Applied in full strength in prurigo and pityriasis; or kept as a standard thymol solution for use in any desired dilution, on dressings, for mouth-washes, or for spray inhalations.

℞ Thymoli,	. . . . .	gr. iij.
Acidi salicyl.,	. . . . .	gr. xv.
Solve in alcohol,	. . . . .	q.s.
Bals. peruvian.,	. . . . .	℥ iv.
Vaselini,	. . . . .	℥ i.

M. et ft. unguentum. S. For an application to ulcers and bed-sores.

℞ Thymoli,	. . . . .	gr. iij.
Solve in alcohol	. . . . .	q.s.
Aq. bull.,	. . . . .	℥ vi.
(Morph. hydrochlor,	. . . . .	gr. i.)

S. For inhalation.

TINCTURA AMARA.

See Gentiana.

TINCTURA AROMATICA.

See Cinnamomum.

TINCTURA AROMATICA ACIDA.

See Acidum Sulphuricum.

TINCTURA GALLÆ.

See Acidum Tannicum.

TINCTURA KLAPROTHI.

See Ferri Acetas.

TINCTURA TONICO-NERVINA BESTUSHEFII.

See Ferri Chloridi Liquor.

TRAGACANTHA.

See Mucilaginoso.

TRAUMATICINUM.

A solution of gutta-percha in a sufficient quantity of chloroform to make a thin, syrupy fluid. When painted over the parts, like collodion, it forms a smooth transparent film, which is, however, not as enduring as collodion, and must be more frequently renewed.

Externally used in scaly affections of the skin, erosions, burns, and frost-bites; in ingrowing toe-nail, after a prolonged foot-bath, etc.

TRIBROMPHENOLUM.

Is recommended as an antiseptic, like carbolic acid, but has not yet been sufficiently tried to determine its value.

TRIFOLIUM FIBRINUM.

A febrifuge and bitter.

Internally employed as a bitter in decoction of gr. xv.—3 i. in $\frac{3}{4}$ v.; as a febrifuge in decoction of 3 i.—iiss. in $\frac{3}{4}$ v. A tea is used as a domestic remedy.

Extractum Trifolii Fibrini.—*Internally* employed in doses of gr. viij.—xv. several times a day in pill or extemporaneous mixture as a febrifuge.

TRIMETHYLAMINUM.

See Propylaminum.

TRIPOLITHUM.

A gray powder formed of calcium and silicon, with a little magnetic oxide of iron, which resembles plaster of Paris, and is employed like it for splints. It is less hygroscopic, lighter, and cheaper than gypsum, and sets more rapidly.

TROCHISCI, PASTILLI.

Troches and lozenges are very convenient forms for the administration of various medicinal substances. They are made of chocolate, tragacanth, starch, or acacia, with sugar (sometimes with the addition of spices or one of the volatile oils), and usually weigh about 15 grains each. The non-

official troches can be specially prescribed, but their preparation requires a little time. There are sixteen official troches in the U. S. Pharmacopœia.

The solid constituents of many natural mineral waters (Ems, Vichy, Soden, etc.) are made into pastilles, and frequently used.

℞ Quininae hydrochlor.,	. . . . .	3 i.
Sacch. albi, . . . . .	. . . . .	3 v.
Misce et adde		
Massæ cacao, . . . . .	. . . . .	3 i.
M. et ft. trochisci No. 30.		

℞ Ferri lactatis,		
Tragacanthæ, . . . . .	. . . . .	āā 3 iss.
Sacch. albi, . . . . .	. . . . .	3 iij.
Aquæ, . . . . .	. . . . .	q. s.
M. et ft. trochisci No. 50.		

TUBERCULINUM KOCHII.

An extract made by means of fifty-per-cent glycerin from pure cultures of the tubercle bacillus. Koch thus describes its action. The tubercle bacilli, during their growth in the tissues, produce certain substances which cause a necrosis of the cells in their neighborhood, and in such tissues the bacilli can grow no further, and, under certain circumstances, perish. If now the quantity of this necrosing product were increased in the neighborhood of the bacilli, the necrosis would involve a greater area, the involved tissues would become disintegrated and removed, and in their removal would carry with them the already weakened bacilli.

The dose of tuberculin varies from one-half a milligram up to one gram ($\text{m} \frac{1}{2}$ to xv.)! The remedy is given subcutaneously in increasing doses, at intervals of two or three days, and the stronger injection is given only when a "reaction" no longer follows the weaker one. The reaction is manifested usually by high fever, frequently ushered in by a chill, local pain and swelling, and general malaise.

On account of the danger and insuccess of the remedy in advanced stages of phthisis, it is to be given only in the first stage of tuberculosis. The patient is always to be kept under careful observation.

TUPELO.

The spongy roots of *Nyssa uniflora*, cotton-gum, are employed, like laminaria and sponge-tents, for dilating the cervical canal.

UNGUENTUM ACRE.

See Hydrargyri Chloridum Corrosivum.

UNGUENTUM AD FONTICULOS.

Composed of euphorbium, 1 part; cantharides, 6 parts; yellow wax, 6 parts; and olive oil, 10 parts.

UNGUENTUM AQUÆ ROSÆ.

Cold-cream. See Unguentum Leniens..

UNGUENTUM AUTENRIETHI.

See Antimonii et Potassii Tartras.

UNGUENTUM BASILICUM.

See Terebinthina.

UNGUENTUM AD DECUBITUM.

See Plumbi Tannas.

UNGUENTUM DIACHYLON.

See Plumbi Oxidum.

UNGUENTUM ELEMI.

See Terebinthina.

UNGUENTUM FLAVUM.

See Terebinthina.

UNGUENTUM FUSCUM.

Unguentum Matris or Universale. Equal parts of [red oxide of lead and olive-oil are boiled until a blackish-brown color is produced; when it is nearly cool, two parts of camphor rubbed up with oil are added to 96 parts of the same. It is a popular drawing, healing, and resolvent salve.

UNGUENTUM HYDRARGYRI.

Blue ointment. See Hydrargyrum.

UNGUENTUM HYDRARGYRI AMMONIATI.

White precipitate ointment. See Hydrargyrum Ammoniatum.

UNGUENTUM LENIENS.

German-cold cream. Composed of white wax, 4 parts; spermaceti, 5 parts; almond oil, 32 parts; water, 16 parts; and, for every 50 parts, 1 drop of oil of roses. (The cold-cream of the U. S. Ph.—Unguentum aquæ rosæ—consists of white wax and spermaceti, each 10 parts; rose water, 30 parts; and expressed oil of almond, 50 parts.) A very good soothing application to the skin, especially for chapped hands.

UNGUENTUM OPHTHALMICUM.

See Hydrargyri Oxidum Rubrum.

UNGUENTUM POPULI.

Composed of poplar buds 1 part, and lard two parts, gently boiled together. A cooling ointment.

UNGUENTUM ROSATUM.

Composed of rose water, 5 parts; white wax, 10 parts; and lard, 50 parts. An ointment employed in dressings, and as a vehicle for medicinal substances, especially for ophthalmic use.

URETHANUM.

A substance, occurring in the form of powder, nearly related to urea, readily soluble in water. It is a hypnotic, acting upon the cerebrum.

Internally employed in doses of gr. xv. in aqueous solution, for adults, repeated every hour until sleep is produced, or given in a single dose of ʒ ss.-i. (Some think that the remedy acts more certainly when given in the smaller hourly doses; others maintain the opposite.) When the sleeplessness is the

result of mild cerebral excitement, the remedy is said to act as a certain and rapid sedative and hypnotic, but to be less efficacious in excitable states of mental disease (mania and delirium). It does not affect the respiratory organs or the heart, and is, therefore, recommended as a safe hypnotic in patients with cardiac or pulmonary disease, and also in children. For children under two years of age, the dose is upward of gr. iv.; for those between two and three years, gr. viij., and proportionately larger doses for older children. Its unpleasant incidental effects are vomiting, sweating, vertigo, and a feeling of heat. In general, it may be said that the action of the remedy is uncertain.

It has also been recommended for subcutaneous use (thirty-per-cent solution) in convulsions, especially those caused by strychnine.

℞ Urethani, ʒ i.
 Aq. destill., ʒ x.
 Syr. aurant. cort., ʒ vi.

M. S. For adults, one tablespoonful every hour until the desired result is obtained.

℞ Urethani, ʒ ss.
 Aq. aurant. flor.,
 Syr. simplicis., āā ʒ v.

M. S. For children, one or two teaspoonfuls at night.

USTILAGO.

Corn-smut. A fungus growing on Indian corn. From it is made the following:

Extractum Ustilaginis Fluidum.—*Internally* recommended in doses of 30 to 40 drops, repeated two or three times, as a substitute for ergot in inefficient pains and uterine hemorrhage, when the os is well dilated. It has not yet been sufficiently tried to determine its value.

UVA URSL.

Bearberry. An astringent tonic and diuretic. Its principal ingredients are tannin and arbutin, a crystallizable glucoside.

Internally employed in doses of gr. xv.–xlv. in decoction

for diseases of the urinary tract, catarrhal, hemorrhagic, and purulent cystitis, nephritis, and dropsy. It colors the urine a greenish-black. The decoction is made of the strength of ʒ iiss.-iv. in ʒ iij., and is to be shaken up with animal charcoal, and then filtered in order to remove the tannin, which might affect injuriously the digestion. The decoction is also used for injection into the bladder.

Arbutinum.—Occurs in the form of needles of a silky lustre, soluble in boiling water.

Internally employed in five-per-cent solution in doses of gr. xv.-xxiv., or better in powder in daily doses of gr. xlv.-lxxv., for the same purposes as uva ursi.

℞ Decocti uvæ ursi (ʒ iiss.), ʒ v.
 Potassii iodidi, gr. xlv.-lxxv.
 Syr. simplicis, ʒ ss.

M. S. One glassful three times a day. (Contracted granular kidney.)

℞ Pulv. uvæ ursi,
 Pulv. lycopodii, āā ʒ v.
 Mel. despumati, q.s.

M. et ft. electuarium. S. A teaspoonful from four times a day to every two hours. (Subacute catarrhal cystitis.)

VALERIANA.

Antispasmodic, antihysterical, and stimulant.

Internally employed in doses of gr. viij.-xxx. several times a day in powder, confection, infusion, or maceration (ʒ iiss.-iv. to ʒ vi.) as an antispasmodic remedy:

1. In hysteria, with all its symptoms; but less effective in sensory disturbances and hemicrania.

2. In epilepsy, it is frequently of service in doses of gr. viij. in powder three times a day, gradually increased to ʒ vi. a day; less useful in other neuroses.

Externally, it is given as an antispasmodic and stimulant in enemata and snuffs.

Tinctura Valerianæ.—(One part to 5 parts of diluted alcohol.) Given in doses of ʒ ss.-ij. for the same purposes, as the crude drug.

Tinctura Valerianæ Ammoniata.—(One part to 5 parts of aromatic spirit of ammonia.) Dose: ʒ ss.-i.

Extractum Valerianæ Fluidum.—Dose: 30 to 60 minims.

℞ Infusi valerianæ (3 v.), ʒ v.
 Spt. ætheris, ʒ i.
 Syr. cinnamomi, ʒ i.

M. S. A tablespoonful every hour or two. (Nervine stimulant.)

℞ Tinct. valerianæ, ʒ vi.
 Camphoræ, gr. xv.

M. S. Thirty to 40 drops several times a day in chamomile tea.

℞ Pulv. valerianæ,
 Ext. valerianæ, āā ʒ iss.

M. et ft. pil. No. 100. S. Five to ten pills three times a day.

℞ Rad. valerianæ,
 Fol. menthæ pip.,
 Fol. trifolii fibrini, āā ʒ i.
 (Fruct. aurant. immatur., ʒ iiss.)

M. et ft. species. S. A tablespoonful in two cupfuls of water. (Tea for hysterical and nervous troubles.)

℞ Tinc. valerianæ, ʒ ss.
 Tinct. ferri chloridi, ʒ i.

M. S. Twenty drops in water three times a day. (Hysteria, cardialgia.)

VANILLA.

A very agreeable aromatic and restorative, employed in doses of gr. i.–viiij. several times a day in powder, pills, or infusion (3 ss.–ij. in ʒ iv.).

Tinctura Vanillæ.—Ten-per-cent strength. Given in doses of 30 to 60 drops.

Vanillinum.—Given in doses of gr. ¼ to ½ several times a day in powders and pills, and in mixture of the strength of gr. viij.–ʒ iij. A favorite deodorizing remedy.

VASELINUM.

Petrolatum. See Petroleum.

VERATRUM ALBUM.

White hellebore. Now seldom used in medicine.

Veratrina.—A loose white powder, or white amorphous mass, the dust of which causes sneezing; soluble in 4 parts of

water and 2 parts of alcohol. It acts upon the heart muscle, and in a complicated way upon the various cardiac and vascular centres, producing retardation of the pulse and lowering of the blood pressure, with fall of the temperature.

Untoward Incidental Effects.—Vomiting, painful diarrhoea; strong irritation of the buccal and nasal mucous membrane. A dangerous effect of the drug is collapse, to prevent which opium, tannin, and solution of anisated ammonia are recommended.

Internally employed (rarely and with caution) in doses of gr. $\frac{1}{10}$ to $\frac{1}{20}$ (maximum gr. $\frac{1}{2}$, or gr. $\frac{1}{3}$ per day), in pills or lozenges, as an antipyretic in acute inflammatory affections, erysipelas, etc.; in various neuroses, spasmodic affections, and neuralgia; in acute rheumatism and gouty paralyses.

Externally applied (rarely) in ointment (one per cent in vaselin) as a derivative and analgesic remedy in neuralgia, hemicrania, sciatica, and painful rheumatic affections.

℞ Veratrinæ, gr. $\frac{1}{3}$
 Pulv. glycyrrh.,
 Ext. glycyrrh., āā q.s.
 M. et ft. pil. No. 40. S. Four pills a day. (Tremor.)

℞ Veratrinæ, gr. iv.
 Chloroformi, 3 i.
 Ol. olivæ,
 (or Ung. paraffin.), 3 vi.

M. et ft. unguentum. S. For external use, by rubbing on the parts several times a day. (Rheumatism, neuralgia, toothache, etc.)

℞ Veratrinæ, gr. iiij.
 Ext. opii, gr. viij.
 Adipis, 3 v.

M. et ft. unguentum. S. For external use.

℞ Veratrinæ, gr. iiij.
 Solve in
 Alcohol, q.s.
 Adipis, 3 iiss.

M. et ft. unguentum. S. A piece the size of a bean to be rubbed on the skin in sciatica.

VINUM AROMATICUM.

Composed of 1 part each of lavender, origanum, peppermint, rosemary, sage, and wormwood macerated in enough sherry wine to make 100 parts.

XYLOLUM RECTIFICATUM.

A colorless fluid, with an aromatic odor, obtained by distillation from coal-tar oils.

Internally given to children in doses of 3 to 5 drops in Malaga wine, to adults in doses of 10 to 20 drops (℥ xxx.-xlv. a day) in a mucilaginous vehicle, or better in capsules. When given early it is said to prevent confluence of the vesicles in small-pox, by causing a rapid coagulation of their contents, and also to hasten the drying of the pustules and to prevent pitting.

℞ Xyloli, ℥ viij.-xv.
 Aq. fœniculi, ℥ i.
 Vini malacensis, ℥ ij.
 Syr. aurant. cort., ℥ i.

M. S. A dessertspoonful every two hours, for children. (Small-pox.)

℞ Xyloli, ℥ xlv.
 Aq. menth. pip.,
 Aq. destillatæ, āā ℥ iss.
 Syr. cinnamomi,
 Mucil. acaciæ, āā ℥ ss.

M. S. A tablespoonful every two hours, for adults. (Small-pox.)

ZINCI ACETAS.

White, shining scales, soluble in 3 parts of cold and 2 parts of hot water, and in 36 parts of alcohol. It is employed like the sulphate of zinc, than which it is somewhat milder, as an astringent, in solutions of 1 to 3 parts in a thousand as a collyrium, and of 2½ to 5 parts per thousand as an injection in gonorrhœa.

ZINCI CHLORIDUM.

Occurring in the form of a white deliquescent powder, or of small sticks, readily soluble in water and alcohol. Disinfectant and escharotic. (See also Rotterinum.)

Externally employed in aqueous solution, usually with the addition of a few drops of hydrochloric acid, as a lotion and dressing for clean wounds in one-half to one per cent strength, and for septic wounds and ulcers in the strength of two to ten per cent; for a collyrium in the strength of 2:10,000; for urethral injections in gonorrhœa, 5 to 10 parts in 10,000. In gonorrhœal vaginitis and endometritis, vaginal douches of a one-per-cent solution, warmed to 86° F., twice a day, the woman lying in the supine position, are strongly recommended; as is also the use of tampons wet with the same solution. For cauterizing cancerous, lupous, and other forms of ulcers a two to three per cent solution is employed, or Canquoin's paste. This is made with chloride of zinc and flour, or, better, powdered althæa, and a little glycerin, in four strengths, 1 part of zinc to 1, 2, or 3 parts of excipient, or 1 part of oxide of zinc to 4 parts each of chloride of zinc and starch. It is applied in a layer three or four lines thick, and allowed to remain for several days, and cauterizes, according to the strength of the paste, to a depth as great as, or greater than, the thickness of the layer. For mild cauterizations, pencils, composed of 1 part of chloride of zinc to from 1 to 5 of nitrate of potassium, are used.

ZINCI FERROCYANIDUM.

Internally employed in doses of gr. i.-iss.-ij. several times a day (maximum dose, gr. iv. a day) in powder or pill, as an alterative and antispasmodic, like oxide of zinc, in chronic nervous affections, gastrodynia, etc.

℞ Zinci ferrocyan.,	. . . . .	gr. v.
Magnesiaë,	. . . . .	gr. xl.
Pulv. cinnamomi,	. . . . .	ʒi.

M. et div. in chart. No. 10. S. One powder every four hours. (For nervous affections of the stomach.)

ZINCI LACTAS.

A mild and the most readily tolerated of all the zinc preparations.

Internally employed in doses of gr. ss.-i. (maximum dose, gr. v. a day) like oxide of zinc, which is itself partly changed into the lactate in the stomach.

ZINCI OXIDUM.

A soft, amorphous powder, insoluble in water.

Internally employed in doses of gr. i.–vij. several times a day in powder, pills, troches, or suspension, in chronic neuroses, especially epilepsy and chorea, in which it is given in gradually increasing doses up to gr. xv. a day (it may possibly cause vomiting) for upward of three months. The drug is said to give especially brilliant results in infantile eclampsia and whooping-cough, in doses of gr. $\frac{1}{2}$ to iij.; also in neuralgias, and in diarrhœa and vomiting of children, in doses of gr. i. every three hours; and finally in chronic diarrhœa.

Externally applied: *a.* To secreting cutaneous surfaces, intertrigo, sore nipples, etc., in the form of dusting powders with lycopodium, starch, or sugar, or in ointment (ten to fifty per cent); also, mixed with starch, in acute eczema.

b. In conjunctivitis, in the form of eye powders (1:5 of sugar), eye salve (five to twenty per cent), or eye water (gr. iij.–xv. in 3 vi. of water).

c. For insufflation into the larynx, pure or mixed with equal parts of alum or tannin.

Unguentum Zinci Oxidi.—Composed of oxide of zinc 20 parts, and benzoinated lard 80 parts. Used as an application to moist secreting surfaces.

℞ Zinci oxidi, gr. xv.
 Pulv. belladon., gr. iss.
 Pulv. valerian., ʒi.

M. et div. in chart. No. 10. S. One powder two or three times a day. (Epilepsy, eclampsia.)

℞ Zinci oxidi,
 Ext. hyoscyami,
 Ext. valerianæ, āā ʒss.
 Pulv. althææ, q.s.

M. et ft. pil. No. 40. S. One pill two or three times a day. Meglin's Pills. For epilepsy, chorea, neuralgia, and headache.

℞ Zinci oxidi, gr. xlv.
 Pulv. glycyrrh.,
 Extr. glycyrrh., āā q.s.

M. et ft. pil. No. 40. S. One pill, gradually increased to five or ten, three times a day. (Epilepsy.)

℞ Zinci oxidi, gr. xv.-xxx.
Sodii bicarb., gr. viij.

M. et div. in chart. No. 4. S. One powder every three hours as required. (Chronic diarrhœa.)

℞ Zinci oxidi, ʒ ij.
(Magnesii carb., ʒ i.)
Amyli, ʒ iv.

M. et ft. pulvis. S. Dusting powder for moist exanthemata or intertrigo.

℞ Zinci oxidi, ʒ ss.
Acidi tannici, gr. xv.
Glycerini, ʒ iss.
Bals. peruvian., ʒ ij.
Camphoræ, ʒ i.

M. et ft. linimentum. S. For external use in frost-bites.

ZINCI SULPHAS.

Astringent and emetic.

Internally employed as an emetic in doses of gr. iij.-viij. (maximum dose, gr. xv.) in several portions given every five minutes, in powder, pill, or solution, especially in croup and narcotic poisoning.

Externally used in one-half to one per cent solution for urethral and vaginal injections in gonorrhœa; in conjunctivitis as a lotion in one-quarter to one-half per cent solution, as eye drops (1:500), and in one-half to one per cent ointment; as an injection in otorrhœa in one-quarter to one-half per cent solution. It may also be applied pure or mixed with starch as a snuff in profuse epistaxis.

℞ Zinci sulphatis, gr. iv.
Aluminis, gr. v.-xv.
Aq. font., ʒ iv.

M. S. For injection in gonorrhœa.

℞ Zinci sulphatis, gr. xv.-xxx.
Tr. opii, ʒ ss.
Aq. destillatæ, ʒ vi.

M. For injection twice a day in gleet.

℞ Zinci sulphatis, gr. viij.
 Petrolati, 3 iiss.

M. S. For eczema of the ear.

℞ Zinci sulphatis,
 Aluminis, āā gr. xxiv.
 Aq. destillatæ, ʒ iij.

M. S. For application in dressings to bleeding surfaces.

ZINCI SULPHOCARBOLAS.

Colorless and nearly odorless crystals, soluble in water.

Externally employed in one to two per cent solution in disinfectant dressings, in one-quarter to one-half per cent solution in urethral and vaginal gonorrhœa. It combines the disinfectant properties of carbolic acid with the astringent action of sulphate of zinc.

℞ Zinci sulphocarbolutis, gr. xv.
 Collodii, ʒ iss.
 Ol. limonis, ℥ xv.
 Alcohol, ʒ i.

M. S. For external use in prickly heat, chloasma hepaticum, and other pigmentations of the skin.

℞ Zinci sulphocarb., 3 ss.
 Glycerini,
 Aq. rosæ, āā ʒ vi.
 Spt. lavandulæ, ʒ i.

M. S. Apply to pigmentations of the skin and freckles twice a day, washing off with water at the end of one-quarter to one hour.

ZINCI SULPHO-ICHTHYOLAS.

See Ichthyolum.

ZINCI VALERIANAS.

Is said to combine the therapeutic actions of oxide of zinc and valerian.

Internally employed in doses of gr. ʒ to i. several times a day (maximum dose, gr. v. a day), but single doses of gr. iij. are used) in powder or pill for hysteria, neuralgia, epilepsy, and spasmodic affections, but especially for hemicrania. It is

also recommended in doses of gr. v. every six hours for diabetes insipidus.

℞ Zinci valerianatis,
 Pulv. valerianæ, āā gr. lxxv.
 Tragacanthæ, q.s.

M. et ft. pil. No. 100. S. One or two pills three times a day.

℞ Zinci valerian., gr. xv.
 Extr. belladonnæ, gr. iss.
 Pulv. glycyrrh.,
 Extr. glycyrrh., āā q.s.

M. et ft. pil. No. 20. S. One pill two or three times a day.
 (Hysteria.)

III.

REMEDIES MOST COMMONLY USED FOR SUBCUTANEOUS INJECTION.

FOR drugs not included in this list, and also for more specific directions as to the indications and method of making the injections, the reader is referred to Part II. When no other vehicle is specified distilled water is to be employed.

Acidum benzoicum 1:10 in alcohol. (The solution and syringe should be slightly warmed.) Dose: $\text{℥viiij.}-\text{xv}$.

Acidum carbolicum, 2:100. Dose: $\text{℥xv.}-\text{xxx}$.

Acidum hyperosmicum, 1:100.

Æther, undiluted. Dose: $\text{℥xv.}-\text{cl}$.

Antipyrine 5:10. Dose: $\text{℥xv.}-\text{xxx}$.

Apomorphinæ hydrochloras, 2:1,000. Dose: $\text{℥xv.}-\text{xxx}$. as an emetic for children.—1:100. Dose: $\text{℥xv.}-\text{xxx}$. for adults.

Atropinæ sulphas, 1:1,000. Dose: ℥xv .

Caffeinæ sodio-benzoas, 2:10.

Caffeinæ sodio-salicylas, 1 or 2:10. Dose: $\text{℥xv.}-\text{xxx}$.

Camphora, 1:9 in ether or olive oil. Dose: $\text{℥xv.}-\text{lxxv}$.

Chloral, equal parts with distilled water.

Cocainæ hydrochloras, from 1 to 5:100.

Codeinæ phosphas, from 2 to 5:100.

Colchicina, 2:1,000.

Curare, 5 to 10:100 (a little acid should be added). The strength of the preparation must be previously ascertained, as it is liable to vary.

Emetina, 1:200 with a few drops of sulphuric acid. Dose $\text{℥iv.}-\text{viiij}$., repeated until vomiting is produced.

Ergotæ extractum fluidum, 10 to 15:100. Dose: $\text{℥xv.}-\text{xlv}$.

Ferri citras, 1:10.

Hydrargyri chloridum corrosivum, 1:100 with 10 parts of sodium chloride. Dose: ℥xv . every second day.

Hydrargyri chloridum mite, 1:9 in liquid vaselin. Dose: ℥xv. every six to eight days.

Hydrargyri formamidati liquor, 1:100. Dose: ℥xv.

Hydrargyri oxidum flavum, 1 or 2:100 in liquid vaselin. Dose: ℥xv. every second or third day.

Hydrastinæ hydrochloras, 1:10.

Hyoscinae hydrochloras, 1:5,000. Dose: ℥viiij.-xv. (gr. $\frac{1}{800}$ - $\frac{1}{300}$).

Methylal, 1:9.

Morphinæ hydrochloras, 1 or 2:100 in distilled water or equal parts of distilled water and water of bitter almond. Dose: ℥viiij.-xxx.

Pilocarpinæ hydrochloras, 1:100. Dose: ℥xv.-xxx.

Potassii arsenitis liquor, 5:10. Dose: 3 or 4 drops once or twice a day.

Quininæ hydrochloras, 1:10 in equal parts of water and glycerin. Should be injected warm.

Quininæ hydrochloras carbamidatus, 2:10.

Strychninæ nitras, 1:200. Dose: ℥viiij.-xv.

IV.

THE MOST COMMONLY EMPLOYED
REMEDIES FOR INHALATION.

THE following is a list of the remedies most commonly employed for inhalation, together with their dosage, the middle column showing the average dose. Where nothing is said concerning the vehicle it is to be understood to be one pint of distilled water. It must be remembered in using sprays by inhalation that the remedy is applied in finely divided form over a broad extent of surface, and is therefore placed under the most favorable conditions for absorption. Care must accordingly be taken in regard to the stronger substances, and it is almost always better to give them well diluted than in concentrated solutions.

	Dose of the Remedy.			
Acidum benzoicum.....	ʒ v.	ʒ ix.	ʒ xij.	In 8 oz. each of alcohol and distilled water.
Acidum carbolicum.....	gr. viij.	gr. xv.	ʒ i.	
Acidum lacticum.....	ʒ ss.	ʒ i.	ʒ iss.	
Acidum salicylicum.....	gr. viij.	gr. xv.	ʒ i.	
Acidum tannicum.....	gr. xv.	ʒ ss.	ʒ iiss.	
Æther.....	—	—	—	} ʒ ss.—ʒ i. undiluted.
Æthyl bromidum.....	—	—	—	
Alumen.....	gr. xv.	ʒ ss.	ʒ iiss.	
Ammonii chloridum.....	gr. xv.	ʒ ss.	ʒ iis.	
Amyl nitris.....	—	—	—	2-5 drops undiluted.
Aqua amygdalæ amaræ.....	ʒ ss.	ʒ i.	ʒ iv.	
Aqua creasoti.....	ʒ i.	ʒ ss.	ʒ i.	
Aqua hydrosulphurica.....	ʒ ss.	ʒ i.	ʒ iss.	
Aqua laurocerasi.....	ʒ ss.	ʒ i.	ʒ iv.	
Aqua picis.....	ʒ i.	ʒ iij.	Oi.	Sometimes also undiluted.
Argenti nitras.....	—	—	—	
Bromum et potassii bromidum.....	aa gr. xv.	—	—	
Extractum belladonnæ.....	gr. i.	gr. ij.	gr. iv.	
Extractum conii.....	gr. iv.	gr. viij.	gr. xij.	
Extractum hyoscyami.....	gr. iv.	gr. viij.	gr. xv.	
Extractum opii.....	gr. i.	gr. iv.	gr. viij.	
Extractum stramonii.....	gr. i.	gr. iv.	gr. viij.	
Glycerinum.....	—	—	Oi.	Sometimes undiluted.
Hydrargyri chloridum corrosivum..	gr. i.	gr. ij.	gr. v.	

	Dose of the Remedy.			
Infusum sambuci, tibiae, etc.	ʒ i.	ʒ iiss.	ʒ v.	
Iodum	gr. ss.	gr. i.	gr. ij.	Added to the solution of iodide of potassium given below.
Liquor calcis	—	—	—	Clear or diluted with 2-4 parts of water
Liquor ferri chloridi.....	ʒ xv.	ʒ i.	ʒ iv.	
Liquor potassæ.	ʒ ss.	ʒ iiss.	ʒ x.	
Liquor potassii arsenitis....	ʒ viij.	ʒ xv.	ʒ xlv.	
Liquor sodæ.	ʒ ss.	ʒ iiss.	ʒ x.	
Lithii carbonas.....	gr. xv.	ʒ ss.	ʒ iiss.	
Morphinæ hydrochloras....	gr. i.	gr. ij.	gr. iv.	
Oleum eucalypti.....	—	—	ʒ ss.	With alcohol, ʒ ij., in 10-30 drops undiluted.
Oleum pini	ʒ viij.	ʒ ss.	ʒ iiss.	} Or 10-30 drops pure.
Oleum terebinthinæ.....	ʒ viij.	ʒ ss.	ʒ iiss.	
Plumbi acetas.....	gr. xxiv.	ʒ i.	ʒ iiss	
Potassii bromidum.....	gr. xv.	ʒ ss.	ʒ iiss.	
Potassii carbonas.	ʒ ss.	ʒ i.	ʒ iiss.	
Potassii chloras.....	gr. xv.	ʒ ss.	ʒ iiss.	
Potassii iodidum	gr. xv.	gr. xxiv.	gr. xl.	
Potassii permanganas.....	gr. viij.	gr. xv.	ʒ i.	
Pyridinum.....	—	—	—	10-15 drops undiluted.
Quininæ hydrochloras	gr. xxiv.	—	—	
Sodii benzoas.....	ʒ iiss.	ʒ v.	ʒ i.	
Sodii bicarbonas.....	gr. xx.	gr. xl.	gr. lxxx.	
Sodii boras	gr. xv.	ʒ ss.	ʒ i.	
Sodii carbonas	gr. viij.	gr. xv.	gr. xxx.	
Sodii chloridum	gr. xv.	ʒ ss.	ʒ i.	
Thymolum	gr. iv.	gr. viij.	gr. xij.	
Tinctura cannabis indicæ. .	ʒ viij.	ʒ xv.	ʒ i.	
Tinctura conii	ʒ viij.	ʒ xv.	ʒ i.	
Tinctura iodi.....	ʒ ij.	ʒ iv.	ʒ viij.	In alcohol, ʒ xij.
Tinctura opii.....	ʒ iv.	ʒ xv.	ʒ i.	
Zinci sulphas	gr. viij.	gr. xxiv.	ʒ i.	

In many spas, as Ems, Nenndorf, Kissingen, Weilbach, Wipfeld, and others, the waters are inhaled pure or diluted with simple water.

V.

THERAPEUTIC NOTES.

FOR a description of the physiological actions, therapeutic uses, and dosage of the drugs mentioned in this chapter, the reader is referred to Part II., where the remedies are treated of in alphabetical order.

I. DISEASES OF THE RESPIRATORY ORGANS.

Diseases of the Nose.

CORYZA, RHINITIS ACUTA.

When the weather is raw the patient should keep to his room. Diaphoresis is to be provoked by means of a teaspoonful of solution of acetate of ammonium in a glass of elder-tea, and by the vapor bath. A cold may sometimes be aborted within the first two hours by means of a snuff containing half a grain of morphine, taken in several pinches at intervals, or by Hager's coryzarium (see Acidum Carbolicum). It is also useful to snuff in the form of spray a one-half to one per cent solution of common salt or of carbonate of sodium with a little glycerin.

CORYZA CHRONICA (OZÆNA).

The crusts should be removed two or three times a day by means of tepid nasal douches of a weak solution of carbonate of sodium, with or without glycerin; then one of the following should be applied on a brush or by injection: Tannin (1:200), sulphate of zinc (1:300); or a solution of nitrate of silver (gr. iv.-xxx. to the ounce) may be applied every two or three days; iodine, iodide of potassium, and salol have also been recommended. The mucous membrane may be painted with a con-

centrated chlorate of potassium solution. Iodoform (1 part to 100 of paraffin ointment) may be applied to the mucous membrane, astringent salves and suppositories may be used, or the galvano-cautery may be employed. The dry and atrophic forms, however, do not do well with astringents. If the disease is dependent upon syphilis, sublimate solutions may be used, or snuffs of calomel or red precipitate. General treatment is also to be instituted.

EPISTAXIS, RHINORRHAGIA.

Snuffing up cold or iced water, to which may be added, if necessary, vinegar, alum, or liquor ferri chloridi (1:100). Nasal douches of ice-water. Injections through a glass syringe of fresh lemon juice. Compression of the nose, or stopping the bleeding nostril with surgeon's agaric, lint, gossypium hæmostaticum, or iodoform cotton (anterior tamponade), or a tampon of the nose by means of Bellocq's sound or the rhineurynter. A good tampon can be made by means of a condom, or a piece of fresh pig's gut, introduced on the end of a catheter and then blown up. Compression of the carotid may be necessary. The upright posture with the head slightly bent; cold applied to the nose and forehead, neck, scrotum, or chest; or raising the arm on the bleeding side, while the fingers of the other hand make compression on the nose, one or all, may be tried; or a powder of tannin and acetate of lead may be snuffed up. (The resulting coagulum should not be disturbed for some time.)

Internally, ergot may be given in doses of gr. viij. every half hour, ergotin (also subcutaneously), fluid extract of hydrastis, acetate of lead; or a tablespoonful every half-hour of one ounce of sodium sulphate in four ounces of water. Acid drinks may be given.

Among the causes of the hemorrhage, which will require treatment, are diseases of the nose, anæmia, and the hemorrhagic diathesis. In intermittent epistaxis quinine is indicated. When nose bleed occurs frequently in the early stages of tuberculosis and in connection with heart disease a tablespoonful of infusion of digitalis (half a drachm to four ounces) may be given every two hours.

Diseases of the Larynx and Bronchi.

LARYNGITIS.

1. ACUTE CATARRHAL LARYNGITIS.

Pure warm air of an even temperature (70° to 72° F.) in the living apartments. Hot water compresses or poultices or cold (Priessnitz) compresses around the neck and kept on for six or eight hours, while sweating is produced by warm drinks, hot milk or whey mixed with equal parts of Seltzer water. Diaphoretics may also be given, as well as narcotics when the cough is troublesome. Mucilaginous and saccharine substances must be given sparingly.

When the throat is very dry, warm inhalations, of short duration, but frequently repeated, may be ordered of water with or without (in strength of three-tenths to one per cent) carbonate, bicarbonate, or chloride of sodium, chloride of ammonium, or sulphate of zinc, to which may be usefully added a little morphine, or bitter almond water. Internally, in the same condition, chloride of ammonium and solution of anisated ammonium are to be employed. In severe inflammatory forms, only cold compresses should be used, with sinapisms (and leeches over the region of the larynx); intestinal derivation by means of purgative salts.

The patient should avoid loud talking and forced cough.

Pseudo-croup.—The same measures as in acute laryngitis, and in addition cold moist compresses about the neck, and an emetic (tartar emetic, gr. $\frac{1}{3}$, and ipecac and sugar each gr. viij., repeated every ten minutes until vomiting has been produced several times). Hot milk is to be taken as a drink.

2. CHRONIC CATARRHAL LARYNGITIS.

Local applications, guided by the laryngeal mirror, of nitrate of silver (three to six per cent solution), tannin (about ten per cent), or tincture of iodine. Avoid the use of nitrate of silver, however, in phthisis. Less useful are sprays and powders, although insufflations of calomel once or twice a week, with occasional longer intermissions, are useful in syphilitic laryngitis. When swallowing is very painful, bromide of potassium (gr. xv.-xxx.) may be employed, or local applications of a five-per-cent cocaine solution.

Warm inhalations twice a day of water containing salt, tannin (gr. x.— $\frac{2}{3}$ i.), or alum (ten per cent); or when cough is troublesome, laudanum ($\frac{3}{4}$ i.—ij. to $\frac{5}{8}$ iij.).

When due to syphilis or phthisis, the treatment of the causal condition is indicated; when plethora exists, saline laxatives are to be given and the mineral waters of Ems or Nenndorf, or, in the case of the poor, solutions of bicarbonate of sodium or sulphurated potassa.

Spirituous liquors, strong spices, smoking, much talking, and impure air are to be strictly avoided.

3. PHLEGMONOUS LARYNGITIS AND ACUTE PERICHONDRITIS, ABSCESSSES AND ULCERS OF THE LARYNX.

Antiphlogistics (ice, leeches); local applications of astringents (nitrate of silver three to five per cent); inhalation of tannin or narcotic solutions; derivatives, such as saline or drastic cathartics, irritant foot-bath, and blisters; and when suppuration is present, warm compresses or poultices. Submucous abscesses should be opened by the knife, or, in the case of timid patients, an emetic may be given to cause the rupture of the abscess.

For catarrhal and tuberculous ulcers of the larynx inhalations of tannin, alum, or sulphate of zinc; or insufflations of iodol. Syphilitic and tuberculous ulcers call also for general treatment.

4. IDIOPATHIC CROUPOUS LARYNGITIS. MEMBRANOUS SORE THROAT (CROUP).

Ice compresses, and sucking broken ice in the mouth or frequent draughts of ice-water. In persons with very strong constitutions, when there is dyspnoea coming on very rapidly, and fever, a few leeches may be applied to the neck at the side of the larynx or over the manubrium sterni, and after the bites have been allowed to bleed for a while, the ice compresses are to be again applied to the throat.

Cold douching of the neck and back, if desired in a warm bath. An emetic may be given either of tartar emetic and ipecac, as above, or of sulphate of copper (gr. ij.— $\frac{3}{4}$ xij. water, of which a dessertspoonful every ten minutes). Frequent inhalations of lime water or solutions of bromine, lactic acid,

or carbonate of lithium. When children cannot be made to inhale from the cylinder of the atomizing apparatus, they may be wrapped up in a sheet, held in the lap and the apparatus held over the mouth and nose, the precaution being taken to cover the eyes. For such a purpose an apparatus must be used in which the flame is guarded by a shield. Local applications of nitrate of silver solution. Inunctions of mercurial ointment for several days, made in the same way as in the inunction treatment of syphilis.

Internally, oil of turpentine, chlorate or carbonate of potassium, and bromides. Possibly tracheotomy may be demanded, the inhalations then being practised through the canula.

CEDEMA OF THE GLOTTIS.

First of all an emetic; then ice compresses about the neck, swallowing broken ice, local application of a ten-per-cent solution of nitrate of silver, or better, prompt scarification of the swollen parts. If the danger is very great, tracheotomy must be performed.

SPASM OF THE GLOTTIS, LARYNGOSPASM.

General Measures.—Cold lotions, fresh air, salt-water and peat baths, cod-liver oil, iron, good food. Feather pillows should not be used. Any constitutional causes should receive their appropriate treatment.

Treatment of the Attack.—Lifting the child upright, sprinkling with cold water, vinegar or chamomile-tea enemas; tickling the soft palate until retching is excited; application of mustard plasters; cocaine or chloroform inhalations, or the local application of cocaine.

When the attacks recur frequently, tincture of myrrh (5 drops three times a day) will be found useful, or enemas of asafoetida; chloral in 8-grain doses, and bromide of sodium.

PARALYSIS OF THE VOCAL CORDS.

Diagnosis.—Chronic hoarseness or aphonia, and the detection through the laryngoscope of deficient or unsymmetrical movements of the parts.

Treatment.—Electricity, strychnine, iron, derivatives.

WHOOPING-COUGH.

See Infectious Diseases.

BRONCHITIS AND TRACHEITIS.

1. ACUTE CATARRHAL BRONCHITIS.

In cases of acute apyretic bronchial catarrh the patient should be confined to a room with equable temperature day and night, wear woollen underclothing, and drink an abundance of warm beverages to keep up a mild diaphoresis.

When the cough is dry and troublesome, Dover's powder may be given, or a tablespoonful every two hours of the following:

℞ (Ant. et pot. tartr.,	gr. $\frac{1}{3}$)
Aq. amygdalæ amaræ,	3 ss.
Ext. glycyrrh. fluidi,	3 iiss.
Decocti althææ,	$\frac{z}{3}$ v.

M.

Inhalations of salt water (a teaspoonful of salt to a cup of warm water), or of warm solution of carbonate of sodium, with narcotics if desired; later astringents.

When moderate fever is present, the patient should stay in bed and take a mild laxative; in case of high fever, infusion of digitalis, or better salicylate of sodium should be given.

In bronchitis of the aged, infusion of senega with solution of anisated ammonia, and perhaps Dover's powder, is indicated. When there is difficulty in raising the mucus, an emetic should be given; when the secretion is too profuse, tannin and opium are called for.

Seltzer water and hot milk should be drunk.

2. CHRONIC CATARRHAL BRONCHITIS.

Causal treatment consists in a change of climate or occupation (workers in a dust-laden atmosphere should wear a cotton respirator), and constitutional treatment for scrofula, rickets, syphilis, plethora, etc.

When the heart's action is slow from overloading of the right ventricle, digitalis is indicated.

Inhalations may be given of alkalies, salt, narcotics, alum, tannin, etc.

Pneumatic treatment consists in the inspiration of compressed air and expiration into a rarefied atmosphere. The compressed air, which is an excellent remedy for the relief of hyperæmia in the pulmonary circulation, may be impregnated with the vapor of carbolic acid, oil of turpentine, etc.

Internal treatment consists in the use of alkaline and alkaline muriatic (also sulphur) mineral waters, the grape-cure or whey-cure. In congestions Carlsbad, Marienbad, or other laxative waters may be given, or herb-cures with water-cress, scurvy-grass, sorrel, etc.

Expectorants.—The antimonials, especially in dry catarrh, oil of turpentine internally and applied to the chest; painting the chest with tincture of iodine. Emetics are indicated in severe cases of suffocative catarrh; and emetics, stimulants, and derivatives in weakness of the bronchial muscles threatening paralysis.

3. BRONCHORRHEA AND BRONCHIECTASIA.

Resinous astringents (myrrh, ammoniac, balsam of Peru) and also acetate of lead and tannin; tonics (vegetable bitters, blessed thistle); and small doses of iodide of potassium.

In putrid bronchitis, carbolic acid, quinine, and acetate of lead should be given.

Inhalations of oil of turpentine, carbolic acid, tar water, permanganate of potassium, alum, tannin, tar vaporized by being dropped on hot iron, and the balsamic air of the forests.

4. CROUPOUS OR FIBRINOUS BRONCHITIS.

(Expectoration of membranous casts of the smaller bronchi, seen especially in children after measles and whooping-cough and in the aged.)

Topical Treatment.—Inhalation of solvents (lime water, carbonate of lithium, lactic acid) and astringents.

Internally expectorants and emetics, iodide of potassium; and mineral waters for long-continued use.

CAPILLARY BRONCHITIS.

Pure moist air; 5 drops of oil of turpentine in warm milk three or four times a day; senega and the ammonium salts; emetics (apomorphine) when expectoration is difficult. In the

case of weak, anæmic children, when collapse threatens, a little musk may be given, or small doses (8 to 12 drops every three or four hours) of Hungarian wine, combined with a nourishing diet. Sinapisms may be of service.

The fever is to be combated with a weak infusion of digitalis or with salicylate of sodium, and the respiration is to be stimulated to activity by moderately warm baths (with cold douches), carrying the child about constantly, and not letting it lie on its back. In regard to the douches, the inspiratory movements are greatly stimulated by directing a cold stream to the back of the head over the medulla oblongata.

BRONCHIAL (NERVOUS OR SPASMODIC) ASTHMA.

(Sometimes associated with the presence of pointed octahedral crystals, of microscopic size, in the sputum.)

Pure, dry, warm air. A comfortable and well-supported upright posture. Counter-irritation.

To abbreviate the attack: Morphine subcutaneously, chloral, and inhalation of chloroform, as simple narcotics; and inhalation of stramonium fumes (in powder or cigarettes), as both narcotic and expectorant. As specific remedies are further recommended: Paraldehyde (hypnotic, but not anti-asthmatic); hydrochlorate of hyosine (like the preceding, but weaker in its action, and necessitating more care in its exhibition); nitrite of amyl (a few drops on a handkerchief, to be inhaled), nitrite of sodium (one or two teaspoonfuls p. r. n. during the attack, of a solution of gr. xxiv. in $\bar{3}$ iij. water), and nitro-glycerin, all uncertain in their action; also tincture of quebracho, which is apt to nauseate; grindelia robusta, etc.; more certain, but on account of the odor very disagreeable, are inhalations of pyridin; sometimes a local application of a ten-per-cent solution of cocaine to the mucous membrane of the nose and pharynx is of service.

Finally, electricity and galvano-cauterization of the nasal mucous membrane are recommended. (Not infrequently nasal and pharyngeal polypi, and sometimes also hypertrophied tonsils, are found to be the cause of the asthmatic attacks. The most certain remedies are iodide of potassium and chloral, of each 24 grains, given once or twice at half-hour intervals during the attack, and three times a day for several months

thereafter. When the attacks have ceased to recur, iodide of potassium may be continued as an after-treatment.

Treatment of the resultant emphysema consists in the avoidance of severe bodily exercise or mental strain; change of climate; and inhalations of a weak saline solution. Terpin hydrate is given in doses of gr. iij.—vij. three or four times a day in dry catarrhs, and in doses of gr. viij.—xij. when there is profuse secretion. The pneumatic treatment demands special apparatus or the cabinet.

Diseases of the Lungs.

EMPHYSEMA.

Mechanical assistance to expiration by pressure on the thoracic and abdominal walls applied by means of the hands two or three times a day, twenty to thirty expirations being made at each sitting; or inspiration of compressed, and especially expiration into rarefied, air effected by means of one or other of the pneumatic apparatuses. Symptomatic and prophylactic treatment of the accompanying catarrh consists in the use of woollen underclothing, the avoidance of spirituous liquors or strong beer, the breathing of pure, warm, moist air, especially sea air.

The dyspnoea is to be treated according to the directions above given for the management of asthma. For long-continued use bromide of sodium may be given. The diet should be nutritious, and the bowels should be kept regular by means of compound licorice powder or other similar laxative.

ATELECTASIS.

The first condition of cure is to increase the force of respiration—in the new-born by means of cold douching in a warm bath, tickling of the throat and of sensitive parts of the body, and if necessary an emetic (syrup of ipecac or oxymel of squill); in adults by removal as quickly as possible of the causal conditions.

HYPERÆMIA OF THE LUNGS.

Symptoms.—Oppression in the chest, difficult respiration, palpitation of the heart.

Treatment.—Avoidance of the causes, counter-irritation,

cold or Priessnitz compresses, inspiration of compressed air (see under Bronchitis), digitalis, laxatives, and according to circumstances stimulants. When amenorrhœa is present, leeches may be applied to the cervix, or to the inner sides of the thighs and ankles.

HÆMOPTYSIS.

Absolute rest, bodily and mental, deep slow inspirations, dry, or in severe cases, wet, cups, and ice-bags to the chest; common salt, extract of ergot with morphine subcutaneously or by the mouth, or ergot and acetate of lead with opium, ipecac, alum, sulphate of atropine, sulphuric-acid mixture, solution of chloride of iron, hydrastis. Among the more strongly recommended domestic remedies are constriction of the limbs by means of broad bands applied over the ankles, knees, elbows, and upper arms tightly enough to compress the veins, but not the arteries, and swallowing of salt in tablespoonful doses.

Inhalations of a solution of chloride of iron (20 drops to three ounces of water), and oil of turpentine.

Carbonic acid, digitalis, and a stimulating diet are to be carefully avoided.

PULMONARY TUBERCULOSIS.

See Infectious Diseases.

PULMONARY INFARCTION, EMBOLISM OF THE PULMONARY ARTERY.

(Arising from embolism of the venous system, from phlebitis, or from disease of the right side of the heart.)

The treatment is for the most part symptomatic; most absolute bodily and mental rest, pure air, hypodermic injections of morphine, ice-bag over the region of the heart, and, when there is great dyspnœa with cyanosis, venesection.

CATARRHAL (LOBULAR) PNEUMONIA, BRONCHO- PNEUMONIA.

It is always a sequela of bronchitis and is usually bilateral; occasions rapid respiration and pain on breathing and coughing; is attended with greater dyspnœa, but never the high temperature (104° F.) of croupous pneumonia (which see); the

fever has, however, considerable daily excursions with evening exacerbations. The consolidation proceeds usually from the base to the apex of the lung. Instead of the occasionally absent dulness on percussion, there are heard numerous râles. Resolution does not occur by crisis on the fifth or seventh day, but gradually and irregularly on the fourth, fifth, or a later day.

The treatment is at first that of bronchitis; ice; an emetic to favor the expectoration of the retained mucus, but only in the case of strong persons. For weak patients a warm bath with tolerably cold douching of the back of the neck, infusion of ipecac with solution of anisated ammonia, and the enveloping of the chest in warm, moist (occasionally cold) compresses for six or eight days, and mustard plasters. When there is high fever, antifebrin, antipyrine, phenacetin, or quinine may be given, and wine in case of collapse. The diet should be light but nutritious.

CROUPOUS (FIBRINOUS, LOBULAR) PNEUMONIA.

See Infectious Diseases.

ŒDEMA OF THE LUNGS.

A large blister on the chest; stimulant expectorants, such as senega with benzoin, camphor, or carbonate of ammonium; derivatives. When dropsy exists, diuretics and drastic cathartics are indicated; and, in protracted cases, digitalis.

In idiopathic œdema of the lungs, powerful stimulants, such as black coffee, wine, champagne, musk, sinapisms to the chest, and half-hourly to hourly injections of ether or camphorated ether. In inflammatory œdema occurring with pneumonia, venesection may be practised as a last resort, but an emetic should never be given.

GANGRENE OF THE LUNGS.

Inhalations of turpentine vapor (oil of turpentine poured into hot water), or of a two-per-cent solution of carbolic acid; and internally a one-quarter-per-cent solution of carbolic acid, or better tablespoonful doses of a two-per-cent solution of boric acid sweetened with syrup; also chloride of calcium and opium:

℞ Pulv. opii, gr. xv.
 Calcii chloridi, gr. xlv.
 Ext. glycyrrhizæ, q.s.

M. et ft. pil. No. 20. S. From two to four pills a day.

Tonics, quinine, and wine are indicated. In case of hemorrhage, ice should be applied to the chest, and ergot given.

Diseases of the Pleura.

PLEURISY.

In acute pleurisy the patient should keep strictly to the bed, with Priessnitz compresses applied to the entire chest; and in case of high fever, antipyretics are to be given. For heart weakness, stimulants are indicated; and for dyspnoea with severe pleuritic pains, dry cups should be applied, with, if necessary, hypodermic injections of morphine. The bowels must be looked after. Venesection and the exhibition of mercurials are superfluous and often harmful.

To cause resorption of the effusion, in strong patients, intestinal derivation by means of drastic cathartics (six or eight stools) and counter-irritation to the chest by tincture of iodine, mustard plasters, and blisters. Diuretics and diaphoretics, and especially the so-called thirst-cure are to be used with caution. In weak persons the treatment should be strengthening by means of cod-liver oil, iron, meat broths, chops, and wine. Diuretics and especially iodide of potassium (a tablespoonful three times a day of a solution of ʒ ss. in ʒ iv. of water). A milk-cure in the country or in hilly regions may be of service. Pulmonary gymnastics are also called for.

When these methods fail, slight effusions which do not reach up to the nipple may be left to themselves to be absorbed. Larger sero-fibrinous exudations must be removed as soon as possible by thoracentesis, as must also rapidly formed effusions which seriously impede respiration or threaten life. In the case of purulent or septic exudations, the diagnosis being established by an exploratory puncture, the pus must first be removed by aspiration, and then the chest wall is to be opened, resection of one or more ribs being made, if necessary. The operation should be performed under strict antiseptic precautions.

PNEUMOTHORAX AND PYOPNEUMOTHORAX.

The treatment is symptomatic and palliative; cold compresses and morphine for the relief of severe pain; leeches only in strong patients and in pneumothorax from traumatism. For the dyspnoea and pain, small hypodermic injections of morphine and the internal exhibition of mild antiphlogistics are indicated, and attention should also be paid to keeping the bowels open. The diet should be nutritious and easily digestible.

In case of need, a simple puncture of the chest may be made or thoracentesis may be performed after four or five days.

II. DISEASES OF THE DIGESTIVE ORGANS.**Diseases of the Mouth and Pharynx.****CATARRHAL STOMATITIS.**

Causal indications are: removal of sharp edges of broken teeth, avoidance of tobacco and of irritating spices and medicaments.

For the treatment of the affection itself, mouth washes of common salt, chlorate of potassium (two per cent), or tincture of galls are to be employed; cold drinks are to be taken; and drastics, with the exception of calomel, may be called for.

For loose and receding gums, painting with equal parts of tincture of iodine and tincture of aconite, or cauterization with chloride of zinc solution (by the passing in of a fine camel's-hair pencil moistened in the solution) will be found useful.

ULCERATIVE STOMATITIS.**1. APHTHOUS STOMATITIS.**

The treatment consists in touching the ulcers with nitrate of silver or hydrochloric acid (1:3), frequent rinsing out the mouth with water or with sublimate solution (1:5,000), and the internal administration of chlorate of potassium (with care, however).

2. IDIOPATHIC STOMATITIS (STOMACACE).

Chlorate of potassium internally (3 ss. a day for adults, and gr. viij.-xv. for children) and as a mouth wash for adults; for children careful cleansing of the oral cavity; astringents such as tincture of galls, sulphate of copper, or solution of the chloride of iron.

3. MERCURIAL STOMATITIS (SALIVATION).

Discontinue at once the use of mercury. Give iodide or chlorate of potassium internally (a tablespoonful every hour of a solution of 3 ss.: $\frac{5}{8}$ iv.); apply warm poultices to the neck; and use warm gargles of 8 grains of alum to 4 ounces of sage tea or other vehicle. The teeth should be carefully cleaned several times a day with one of the following powders:

℞ Acidi lactici,	℥ xv.
Magnesii carb.,	ʒ i.
Ol. menth. pip.,	gtt. x.
M. et ft. pulvis.	

Or,

℞ Acidi salicylici,	ʒ ss.
Magnesii carb.,	ʒ i.
M. et ft. pulvis.	

SCORBUTIC STOMATITIS.

See Scurvy, under Infectious Diseases.

APHTHÆ.

Chlorate of potassium internally and as a mouth wash; painting with diluted tincture of galls or with a weak nitrate of silver solution, or if necessary, touching the ulcers with the solid stick.

THRUSH.

By way of prophylaxis the mouth should be carefully kept clean by washing out with fresh water or with red wine and water, and the nipples should also be cleaned after each nursing. The same course is to be followed if thrush is already developed, or the mouth may be washed out with solutions of

chlorate of potassium or of bicarbonate of sodium, or with a four or five per cent borax solution.

TOOTHACHE.

When due to inflammation of the pulp, the carious cavity should be treated with carbolic, hydrochloric, or nitric acid, arsenic, chloride of zinc, or creasote. Chlorate of potassium may be applied in substance, or a pledget of cotton wet with a 1:15 bicarbonate of sodium solution, or equal parts of carbolic acid and flexible collodion, or finally a warmed mixture of 8 grains of cocaine in 40 grains each of chloral and camphor. A concentrated solution of chlorate of potassium may be employed as a mouth wash.

The extraction of the teeth in these cases is less clearly indicated and more difficult than in inflammation of the periodontium. Here the gum is to be painted with tincture of iodine, alone or mixed with equal parts of tincture of aconite; a pledget of cotton wet with this mixture may be inserted into the cavity; or one or two leeches may be applied to the gum; the formation of pus may be hastened by poulticing, and the pus should be evacuated by lancing when formed.

In all cases a very mild faradic or galvanic current may be used, or narcotic substances may be applied (toothache-pills, crystals of chloral, chloroform, ether); or camphor, oil of cloves, or compound tincture of spilanthes (*Para cress*) may be used, partly in the cavity and partly, for the derivative effect, on the cheek or in the external auditory canal. Other remedies are morphine injected into the neck, opium smoking, and veratrine.

When the toothache proceeds from a cold, diaphoresis may be provoked by the Roman bath, and irritating foot-baths may be used; in cases of congestion, chloral or any other active anæsthetic or hypnotic may be employed.

PARENCHYMATOUS GLOSSITIS.

Broken ice on the tongue, ice-bags and leeches to the sub-maxillary region; long, deep incisions on the dorsum of the tongue, or the application of leeches directly to the organ. Painting with tincture of iodine. Laxatives. Opening of abscess if it exists. Finally tracheotomy may be necessary.

NOMA.

Chlorate of potassium; disinfectant injections; cauterization with concentrated hydrochloric acid; rinsing the mouth with a solution of salicylic acid, gr. xv. in $\frac{5}{8}$ ss. each of alcohol and water; local application of turpentine on lint; scraping away the diseased portion under anæsthesia. The diet should be of the most nourishing character, and the following may be given internally:

℞ Potassii chloratis,	. . . . .	3 ss.-i.
Ext. cinchonæ,	. . . . .	3 ss.
Syr. aurant. cort.,	. . . . .	3 iv.
Aq. destillatæ,	. . . . .	$\frac{3}{4}$ v.

M. S. A dessertspoonful to a tablespoonful several times a day.

TONSILLITIS, INFLAMMATION OF THE SOFT PALATE AND FAUCES.

1. CATARRHAL ANGINA.

Cold is of service only when externally applied (at the angle of the jaw), and for gargles tepid mucilaginous and weakly astringent decoctions are most useful. *Internally* carbonate of potassium may be given in solution.

Abortive Treatment.—An emetic is often serviceable if given within the first three days; alum powder may be applied to the inflamed parts; or they may be painted with a one to two per cent solution of nitrate of silver or with tincture of iodine.

In the chronic form, gargles of very hot water, application of solution of nitrate of silver (the strength being proportioned to the severity of the case), the galvano-cautery, amputation of the tonsils, and the use of various mineral waters (Ems, Kissingen, etc.) are of service.

2. PHLEGMONOUS TONSILLITIS.

At first the treatment should be antiphlogistic, ice to the angle of the jaw, or if necessary, leeches at the same point. Flat pieces of ice wrapped in a cloth, or compresses wet with cold water, applied to the angle of the jaw by means of a

bandage passing over the head, reduce the pain and inflammation better than any other remedy. When the swelling is very great and shows no disposition to subside, numerous and repeated scarifications of the tonsils should be practised. If the formation of an abscess appear to be inevitable, warm gargles and poultices should be used, and in any event these are more pleasant in the later stages and tend to hasten resorption of the infiltration.

When fluctuation is distinct (peritonsillar abscess) the pus must be evacuated by an incision.

3. CHRONIC PARENCHYMATOUS ANGINA (HYPERTROPHY OF THE TONSILS).

Painting the tonsils with tincture of iodine, or injecting iodine into the parenchyma; insertion of minute crystals of chromic acid into the crypts (with care); tonsillotomy.

4. DIPHThERIC ANGINA.

See Diphtheria, under Infectious Diseases.

PHARYNGITIS.

1. ACUTE CATARRHAL PHARYNGITIS.

Is usually associated with tonsillitis or posterior nasal catarrh, and is to be treated in the same way as these affections.

2. CHRONIC (GRANULAR) PHARYNGITIS.

The withdrawal of whatever tends to prolong the condition (smoking, drinking, much talking), and measures leading to the cure of constitutional causes.

Cleansing and astringent gargles and sprays; painting with nitrate of silver solution or sulphate of zinc (three to ten per cent solution) two or three times a week. The single granulation should be touched with nitrate of silver in stick, or tincture of iodine, or gargles of sublimate solution may be used.

Finally a course of treatment at Ems, Marienbad, Kreuznach, or Aachen.

POSTERIOR NASAL CATARRH, NASO-PHARYNGEAL CATARRH.

Acute form: frequent snuffing up of warm saline solution or milk, better done by means of Weber's nasal douche, or inhalations of a spray of chloride or carbonate of sodium solution (Ems water, etc.); Hager's olfactorium (see Acidum Carbolicum in Part II.).

Chronic form: nasal douching (less useful, gargling) several times a day with solution of chloride or carbonate of sodium, and after the condition has existed for weeks with borax (from five per cent upward) or sulphate of zinc (1:1,000); applications through the pharynx by means of a curved brush of nitrate of silver solution or sulphate of zinc (1:30); insufflation of alum with gum Arabic, or carbonic acid douches; iodide of potassium even in the absence of a syphilitic taint; galvano-cautery; and change of climate.

ŒSOPHAGITIS.

A mucilaginous and liquid diet. When the pain is severe leeches may be applied to the neck, pieces of ice may be sucked, or morphine with bitter almond water may be given. Laxatives are indicated. Warm foot-baths will be of service, and tincture of iodine may be painted over the course of the œsophagus and in the supra-sternal fossa.

PAROTITIS.

1. IDIOPATHIC (EPIDEMIC CONTAGIOUS) PAROTITIS, MUMPS.

The treatment is expectant, or at most rubbing with oil or some indifferent fatty ointment, and covering with cotton. Laxatives are useful, and possibly jaborandi. When metastasis to the testicles threatens or has taken place, the patient should lie in bed with the scrotum supported.

2. METASTATIC PAROTITIS.

At the beginning careful catheterization of the salivary duct. Poultices should be applied and any fluctuating points opened at once. For the induration an application should be made of equal parts of tincture of iodine and alcohol.

LUDWIG'S ANGINA. PSEUDO-ERYSIPELAS SUBTENDINOSUM COLLI.

Energetic antiphlogistic treatment, leeches, moist heat, subfascial injections of carbolic acid. Later surgical treatment by means of long and free incisions, and finally tracheotomy may be necessary.

Diseases of the Stomach.**CATARRHAL GASTRITIS, GASTRIC FEVER.****1. ACUTE GASTRITIS.**

Starchy or saccharine food, and a tablespoonful hourly of 20 drops of hydrochloric acid in 4 ounces of water; later mucilaginous broths, soft-boiled eggs, meat broths. (See below Leube's Diet List, and Caro in Part II.).

The removal of harmful ingesta, when necessary, by means of emetics or cathartics: ipecac or tartar emetic, or better, apomorphine; still better is washing out the stomach with carbonate of sodium or saline solutions; for laxatives, rhubarb, Carlsbad salts, calcined magnesia, or podophyllin.

To assist the weakened digestion, aromatic or bitter tincture or tincture of *nux vomica* (20 to 25 drops during the day); pepsin, gr. v.-vi., with hydrochloric acid, 5 to 6 drops, shortly before, or, better, after meals. For the anorexia and oppression in the stomach, subnitrate or salicylate of bismuth, gr. iss., with bicarbonate of sodium, gr. iij.

In the case of anæmic persons, convalescents, or the aged, neither emetics nor cathartics should be used, but rather stimulants and aromatics; pepsin with hydrochloric acid; scraped raw meat, beef peptones, and other nourishing easily digestible food.

In the case of children milk must be avoided and in its place should be given toast-water with lean veal or pigeon broth. For remedies may be given hydrargyrum cum creta, tincture of rhubarb with carbonate of potassium in fennel water, and hydrochloric acid. If the patient has taken cold, diaphoresis should be procured.

In gastro-intestinal catarrh, especially in children (gastric fever), the diet should consist at first of starchy or saccharine

matters, barley or oat-meal water, and meat broths and milk may be gradually added.

For hyperemesis and pain, broken ice, narcotics, and counter-irritation are indicated.

2. CHOLERA NOSTRAS.

See Infectious Diseases.

3. CHRONIC GASTRITIS.

The chief symptom is chronic dyspepsia.

Causal treatment: for constipation and hemorrhoids, laxatives or Carlsbad, Marienbad, or Homburg waters; in affections of the heart and circulatory system, digitalis; those who lead sedentary lives should take walking exercise. When the yeast fungus or sarcina is present, washing out the stomach is indicated.

Leube's Diet for Dyspeptics.—The greatest attention should be paid to the diet, for the regulation of which the following list of Leube is the best.

I. Boiled milk, meat broths, bouillon, softened toast (not sweetened zwieback), English cakes, natural Selters water.

II. Soft-boiled and raw eggs, rice and sago in milk (cooked soft), light soups (barley soup, egg soup, etc., but without any whole barley or other grains or vegetables in it), calves' brains, sweetbread, boiled chicken and pigeon.

III. Boiled calves' feet, scraped raw ham, scraped beef-steak (very rare), mashed potatoes, soft-boiled rice with bouillon, crackers, little coffee and tea.

IV. *a.* Oysters, rare roast-beef especially cold, roast chicken or pigeon without gravy, also better cold, venison, partridges long hung, a little white bread, maccaroni.

b. Caviar, boiled pike, hare, roast veal best cold, very simple desserts (stewed apples, fruit jellies). Strong pure wine not sweet.

When the gastric juice is deficient in quantity: alkalies (mineral waters), bitters (calamus, gentian, columbo, condurango, trifolium fibrinum, strychnine), hydrochloric acid, seldom pepsin. The body, especially the abdomen and feet, should be kept warm. Warm baths are useful.

Symptomatic Treatment.—Antacids, antifermentatives, narcotics, derivatives, laxatives (rhubarb, aloes, colocynth),

tonics, iron. Of doubtful utility are the astringents (bismuth, nitrate of silver, sulphate of zinc—on an empty stomach).

If there is no appetite and the bowels are irregular, pain being absent, then bitters (columbo, condurango, kino) may be given, and also nux vomica with rhubarb, and nutmeg.

For the gastric catarrh of drunkards, opium with bismuth, solution of nitrate of silver, lime water, or a few drops of tincture of iodine.

Fermentation should be restrained by the appropriate remedies (subcarbonate or salicylate of bismuth, creasote, benzin, thymol; or by removing the offending materials with the tube, washing out the stomach, and then giving Carlsbad salts or Marienbad, Kissingen, or other similar mineral water with milk; carbonate of sodium with morphine; bismuth with opium. Warm whey, ipecac, apomorphine.

4. TOXIC GASTRITIS.

As a general rule, irrespective of the nature of and proper antidote for the particular poison, the stomach pump is the first thing to employ. In poisoning by acids carbonate of magnesium or of potassium should be given as quickly as possible; by alkalies, sulphuric acid in oatmeal gruel or vinegar must be given and in sufficient amount to neutralize the alkali. If it is too late to attempt to neutralize the poison, then ice may be sucked in the mouth and also applied over the region of the stomach, and narcotics are to be given if necessary. Bougies may be used to dilate or prevent the formation of a stricture of the œsophagus.

In the case of poisoning by slowly acting vegetable or mineral substances, sulphate of copper and other emetics are to be given, or apomorphine subcutaneously (gr. $\frac{1}{3}$ in glycerin, ʒ ss., and water, ʒ iiss.), and substances to protect the mucous membrane, raw white of egg. (See under Poisoning.)

DYSPEPSIA.

Medicinal Treatment.—Mild laxatives (and emetics), the stomach tube, antacids, digestives and carminatives, calamus, carbonic acid, creasote, salicylic acid, hydrochloric acid, pepsin, chloride of sodium, ipecac, strychnine.

Dietetic Treatment.—See Chronic Gastritis. (*Conf.* also

Caro in Part II., and Leube's Diet List in the preceding section.)

VOMITING OF PREGNANCY.

Bicarbonate of sodium, carbonic acid, oxalate of cerium, champagne, cracked ice, tincture of iodine, columbo, carbolic acid (gr. viij. in $\frac{3}{4}$ v. of water, a tablespoonful three times a day), creasote, Fowler's solution, chloroform, podophyllin, nux vomica, bitter-almond water, bromide of potassium. Menthol, gr. xv. in alcohol $\frac{3}{4}$ v. and water $\frac{3}{4}$ v., a tablespoonful every hour until the vomiting becomes less frequent, and then every two hours until it has ceased entirely. Or morphine may be given subcutaneously, or an enema twice a day of bromide of sodium, $\frac{3}{4}$ ss.-i., or chloral, $\frac{3}{4}$ ss., in $\frac{3}{4}$ i. mucilage.

Dilatation of the cervix with the index finger; application of nitrate of silver in stick to the os. One of the milder iron preparations.

DILATATION OF THE STOMACH.

Easily digestible and rather dry food in small quantities. Pancreatin (see also Chronic Gastritis). Methodical washing out of the stomach. Cathartics (pills or Carlsbad salts). Hydrochloric acid; nux vomica. An abdominal supporter should be worn, and the constant or induced current may be applied.

CARDIALGIA, GASTRODYNIA, NEURALGIA OF THE STOMACH.

When the stomach contains some indigestible substance it is well to wash out the organ, or to give an emetic; then laxatives and emollients. Warm baths, mustard plasters; inhalations of chloroform or of nitrite of amyl; hypodermic injections of morphine; bismuth, atropine, ether, chloral, arsenic, nux vomica, nitrate of silver, acetate of lead, iodoform, oxalate of cerium.

During the attack, valerianate of bismuth (gr. iv.-vii.) with morphine (gr. $\frac{1}{2}$ to $\frac{1}{4}$); tincture of nux vomica with tincture of castor (each 12 drops); valerianate of zinc (gr. i.-ij. three or four times a day); a few drops of chloroform on sugar; morphine subcutaneously. In mild attacks trifolium fibrinum, $\frac{3}{4}$ ss., and senna, $\frac{3}{4}$ iss., of which a tablespoonful may

be added to a glass of water to make a tea. When necessary, rhubarb in combination with a bitter may be given as a laxative. The stomach should be washed out every morning, and electricity may be used. The feet and abdomen should be kept warm. For the after-treatment sea baths are useful.

ULCER OF THE STOMACH.

Liquid diet, Leube's meat solution, milk and starchy food. Beware of acids, sugar, fats, leguminous vegetables, fruit, cabbage, oat-meal, black bread, or solid food of any kind.

Leube's two weeks' cure is as follows: The patient being kept in bed, hot poultices are applied over the stomach during the day, and Priessnitz compresses at night; or ice if hemorrhage is present. In the beginning Carlsbad salt is given each morning, and for nourishment, one box a day of the meat solution, a little milk, and some softened toast—all taken warm but not hot. After two or three weeks, pigeon, chicken, purée of potatoes, thick soups, etc., and gradually a return to ordinary diet (*conf. Caro*).

For the pain, morphine with or without bismuth, choral hydrate. When much acidity is present the following will be useful:

℞ Morphinae,	gr. i.
Bismuthi salicyl.,	3 ss.
Sodii bicarb.,	gr. xl.
Sacch. lactis,	3 i.

M. et div. in chart. No. 10. ℞. One powder two or three times a day.

For the vomiting, morphine, broken ice, creasote (gtt. i. in ℥ iij. water), tincture of iodine (gtt. ij. in ℥ iss. of sweetened water); a mustard plaster over the stomach, warm baths.

For vomiting of blood, cracked ice in the mouth and ice applied over the stomach; opium and acetate of lead, each gr. ss. every three hours; solution of the chloride of iron, tannic acid, sulphuric acid; injections of ergotin. The patient should lie perfectly quiet on the back, and should receive all nourishment by the rectum. After one or two days alum whey, oat-meal water, or meat broth may be taken cold, sweet milk or buttermilk, also cold, being added gradually. No

laxatives should be given. After the hemorrhage has ceased, Carlsbad Mühlbrunn water, extract of opium, or nitrate of silver may be given to promote cicatrization.

CARCINOMA OF THE STOMACH.

When the diagnosis is uncertain, the treatment should be that for ulcer of the stomach. Liquid diet, meat solution, and if necessary, nutrient enemata. In these cases and in others in which nourishment by the ordinary way is impossible, the meat-pancreas enemata, after Leube's formula, are often of great value: The pancreas of a pig or beef is carefully cleared of fat, and then an ounce and a half is finely chopped; from five to ten ounces of beef is also scraped and chopped fine; the two are then mixed together in a mortar into a porridge with three to five ounces of tepid water, and this is thrown as high up into the bowel as possible by means of an injection syringe with a moderately wide nozzle. An hour before the injection is used the bowel should be cleaned out by an enema. It is well to add a little salt and carbonate of sodium to the injection.

The following mixtures are also recommended for use as nutrient enemas: From three to five eggs are beaten up with five ounces of a fifteen to twenty per cent solution of grape sugar, and thrown up into the bowel. Or two to three eggs are beaten up with a tablespoonful of water; as much starch as can be taken on the point of a knife is boiled in a half glassful of twenty-per-cent grape-sugar solution, and a wineglassful of red wine added; then the egg is gradually stirred in, care being taken that the starch water is not so hot as to coagulate the albumen; the entire quantity should be about eight ounces, and to this may be added a teaspoonful of meat or milk peptone. Then, the rectum having been previously washed out, the preparation is passed into the bowel, the patient lying for a time quietly on the abdomen or side to prevent its expulsion.

In addition to these nutrient enemata tonics (red wine) should be given; also alkaline carbonates, creasote, nitrate of silver, narcotics, or condurango. (See also Leube's Diet-List above, under Chronic Gastritis.) Cold applications may be made, and in addition, if stenosis at the cardiac orifice is

beginning, dilatation should be made with the sound. As laxatives, aloes, colocynth, or castor oil may be employed.

Diseases of the Intestines.

INTESTINAL CATARRH, ENTERITIS.

1. ACUTE INTESTINAL CATARRH.

First abstinence from food, then easily absorbable albuminous substances, milk, yolk of egg, meat solutions, but especially barley water, meat broths, and a little red wine. The irritating intestinal contents should be gotten rid of by castor-oil emulsion, calomel, or enemata, even when diarrhœa is present.

The patient should remain in the warm bed, and poultices or Priessnitz compresses should be applied. If a cold has been taken, diaphoresis should be promoted.

The medicinal treatment consists in the use of laudanum 10 drops repeated), astringents (by enema in catarrh of the large intestine), tannate of sodium, bela indica, carbonate or salicylate of bismuth; ipecac, nux vomica, cotoin; mucilaginous bitters and carminatives, stimulants; naphthalin.

In the case of nursing infants the greatest regularity in putting to the breast should be practised—every two hours during the day and every three hours at night—and shortly before nursing a little magnesia or bicarbonate of sodium with oil-sugar of fennel should be given. Starch enemata are useful. If necessary one of the following may be given:

℞ Mist. sulphuricæ acidæ, (Acid. sulphuric.,
 1 part; alcohol, 3 parts), gtt. v.
 Syr. papaveris, ʒ ss.
 Decocti salep. (salep., gr. viij.), ʒ iiss.

M. S. Teaspoonful doses.

℞ Hydrarg. chlor. mitis, gr. i.
 Magnesiæ, gr. iij.
 Pulv. ipecac. et opii, gr. i.
 Sacch. lactis, ʒ i.

M. et div. in chart. No. 10. S. One powder every two hours.

In the case of hand-fed infants, cows' milk should be dis-

continued and a wet-nurse procured if possible; the child should be wrapped up in cold wet cloths.

℞ Hydrarg. chlor. mitis, gr. i.
 Pulv. ipecac. et opii, gr. iss.
 Sacch. lactis, ʒ i.

M. et div. in chart. No. 10. S. One powder every two hours.

℞ Argenti nitratis, gr. i.
 Aquæ destill., ʒ iiss.

M. S. A dessertspoonful every two hours.

℞ Ferri sulphatis, gr. iv.
 Ætheris, gtt. ij.
 Syr. papaveris, ʒ ss.
 Mucil. acaciæ, ʒ iss.

M. S. A dessertspoonful every hour when vomiting is severe.

For somewhat older children one or more of the following, according to the circumstances of the case, may be given: salep, gum acacia, catechu, hæmatoxyton, tincture of coto, cotoin, rhatany, tannic acid, columbo, salicylate of bismuth, acetate of lead, solution of chloride of iron, naphthalin, antacids, or opium (with care by enema); or a dessertspoonful every two hours of a mixture of 5 drops of hydrochloric acid in an ounce and a half of water. For nourishment may be given oatmeal, grits, or farina porridge, acorn-coffee or acorn-cacao, dried figs, dried bilberries and bilberry wine, and a little red wine in water. Ice-water may be given for vomiting.

2. CHRONIC INTESTINAL CATARRH.

In adults, to arrest the abnormal discharges, opium (2 grains of Dover's powder every three hours) may be given; or nitrate of silver (gr. $\frac{1}{4}$ in pill); catechu (ʒ ss. in ʒ iv. decoction of althæa, a tablespoonful every two hours); and alum whey. At night the abdomen may be enveloped in cold wet cloths. Warm baths. Carlsbad Mühlbrunn, or Kissingen water. A carefully regulated diet.

For the paralytic condition of the intestinal muscles, small enemas of ice-water, rubbing the abdomen with camphorated oil, compound spirit of angelica, and the like; and tincture of

nux vomica (℥ iv.) with bicarbonate of sodium (gr. ij.) every two hours.

In the case of children, mercury with chalk, Dover's powder, columbo, or catechu may be given; or starch enemas with a couple of drops of laudanum or a little alum. The abdomen may be rubbed with oil or with balsam of nutmeg, and warm poultices may be applied.

When mucous or watery stools alternate with normal movements, half a teaspoonful of tincture of rhubarb may be given from one to three times a day. For anæmic children, small doses of quinine and Dover's powder. For prolapse of the rectum, nux vomica (gr. $\frac{1}{4}$ to $\frac{1}{2}$) two or three times a day, and enemas of ice-water or red wine.

3. FOLLICULAR ENTERITIS OF INFANTS. TABES MESENTERICA.

Substitution of a wet-nurse for bottle-feeding, without which success is to be obtained only in exceptional cases and with the most scrupulous attention to the diet. Scraped raw meat, sprinkled with sugar and moistened with Tokay wine, is often of great service. The yolk of one egg, beaten up with 3 ounces of water and a drachm and a half of milk sugar, forms a mixture in which protein, fat, sugar of milk, and water are present in almost the same proportions as in human milk. For a child of four months a teaspoonful of cow's milk may be added to this egg emulsion, and the quantity gradually increased until it amounts to about one-third of the whole amount; the deficiency of potassium salts in the egg may be supplied by a little potassium carbonate (or meat extract?). Demme's food (to be used when fat cannot be borne) is made of one-half the white of an egg, four ounces of water, four teaspoonfuls of milk and two teaspoonfuls of sugar of milk. For other so-called substitutes for mother's milk, see Lac, Amylacea; *conf.* also Calcii Carbonas and Phosphas, Liquor Calcis, Pepsin.

4. PHLEGMONOUS AND DIPHERITIC ENTERITIS.

When there is an accumulation of fecal matter, a dose of castor oil should first be given, then opium and astringents, enemas containing nitrate of silver solution; when the inflammatory symptoms are severe, leeches are to be applied, and ice compresses. The diet must be carefully attended to.

COLIC.

The treatment is symptomatic. For severe and long-continued pain, large doses of opium are required. Warm cloths or poultices over the abdomen, which may also be rubbed with rum or volatile liniment. Bitter-almond water, carminatives, especially peppermint, valerian; warm enemas. When the colic is due to a "cold," a protracted bath in water at about 100° F. should be taken and followed by packing with warm moist cloths, to provoke diaphoresis. If the colic is thought to be due to the presence of irritating substances in the intestinal canal, mild laxatives, especially castor oil (a tablespoonful or more for adults), and copious injections; the diet should be liquid, and nothing at all should be taken during the continuance of the attack.

LEAD COLIC.

Warm-water injections thrown well up into the bowel; hypodermic injections of morphine; poultices containing narcotics; friction over the abdomen with oil of poppy and chloroform; warm baths; opium, belladonna, chloral, chloroform internally or 10 drops by enema, and also applied to the abdomen. For obstinate constipation, cathartics must be given: podophyllin, an ounce and a half of castor oil with 2 drops of croton oil, or compound infusion of senna.

HABITUAL CONSTIPATION.

Removal of the causes. Slight changes in the mode of life (variation in the breakfast), exercise, a glass of acidulated water taken fasting, etc.

Cold rubbing for a brief period and douching of the abdomen and lumbar spine, also the Scotch douche consisting of alternate warm and cold showers; cold enemas thrown well up, and methodical water-drinking; faradization of the rectum and abdominal walls; massage; gymnastic exercises.

When laxatives are necessary, manna or tamarind is the best for mild cases; when there is a weakened condition of the intestinal walls, rhubarb, cascara sagrada, rhamnus purshiana, or podophyllin may be given; in irritable states, calomel or castor oil; when it is desired to produce copious watery

stools, Epsom or Glauber's salt, with, if need be, senna; when there is an accumulation of feces in the large intestine, aloes, white agaric, or gamboge may be given, or croton oil when the accumulation is in the small intestine. Croton oil should, however, never be used when any signs of inflammatory action are present. Various mineral waters are also of service in habitual constipation.

In peripheral paralytic conditions, nux vomica and enemata of cold water are indicated.

DIARRHŒA.

See Intestinal Catarrh.

TYMPANITES, METEORISM.

Laxatives with carminatives, or magnesia, ether, myrrh, nux vomica, antispasmodics, iron, tobacco clysters, warm and aromatic compresses, oil of turpentine. In peritonitis, typhoid fever, and puerperal fever, ice-water compresses should be applied to the abdomen and broken ice taken by the mouth. In the most severe cases, puncture with an exploratory trocar may be necessary.

INTESTINAL HEMORRHAGE.

The treatment is symptomatic as in hemorrhage from the stomach, abstinence from food, the use of opium internally, ice or a large mustard plaster over the abdomen, ice-water enemata; solution of chloride of iron, acetate of lead with opium, ergotin hypodermically, and, if necessary, restoratives.

TYPHILITIS, PERITYPHILITIS, CIRCUMSCRIBED PERITONITIS.

A differential diagnosis of these conditions is often difficult to make.

In simple typhilitis stercoralis without actual inflammatory symptoms, but with an accumulation of hard fecal masses in the cæcum, injections by means of an enema syringe, or, better, Hegar's intestinal irrigation, should be resorted to; in exceptional cases castor oil or calomel may be given. In the inflammatory forms, the application of cold compresses or light ice-bags may be conjoined with local bleeding (ten or

fifteen leeches) and the use of opium. The cold should be continued only as long as the increasing dulness on percussion, fever, and pain indicate that the local inflammatory process and the exudation are still present in high degree or increasing. When the inflammation has subsided and only the results of the process remain, poultices or hot-water compresses, warm baths, and opening of the abscess, if present, are indicated. The diet must be the lightest possible, only a little weak broth in spoonful doses, and absolute rest should be enjoined. In very severe and rapidly acute cases, surgical interference (extirpation of the vermiform appendix, etc.) will probably be called for.

PROCTITIS AND PERIPROCTITIS.

Local treatment by cold, or in certain cases warm, mucilaginous and astringent enemas, leeches, sitz-baths, narcotic suppositories, and ointments. If fluctuation appears, then poultices, incision, and other surgical measures are indicated.

PROLAPSE OF THE RECTUM.

The correction of diarrhœa or constipation; enemas of ice-water or red wine; cold sitz-baths; local application of borovaseline; longitudinal streaks along the mucous membrane of the prolapsed portion by means of the solid stick of nitrate of silver; nux vomica internally; ergotin subcutaneously; and faradization.

Reposition is to be accomplished by means of the two index fingers or thumbs, covered with a not too small well-greased rag.

FISSURE OF THE ANUS.

Mild laxatives so that the stools may be soft but not watery; narcotic ointments; iodoform; nitrate of silver. Or several times a day, especially after defecation, the following ointment may be applied to the part, being kept in place by a wad of cotton retained between the nates:

℞ Cocainæ hydrochlor.,	gr. viij.
Acidi boricæ,	3 ss.
Lanolini,	℥ ss.
M. et ft. unguentum. S. For external use.	

Suppositories of salicylic or boric acid and opium in cacao butter may also be used. Sometimes a cure is obtained only by cauterization or the division of the sphincter by means of a Paquelin apparatus.

HEMORRHOIDS.

Change of the mode of life, non-irritating diet, avoidance of alcoholic liquors, active bodily exercise stimulating respiration, cold baths and sponging, cold-water enemas, reposition of the marginal and strangulated nodules, lead water when excoriations are present, opium, and leeches to the anus to relieve the tenesmus. Cathartics may be necessary (see Habitual Constipation), but aloes and colocynth must be given only when there is very obstinate constipation; the best laxatives for the purpose are the hemorrhoidal powder (washed sulphur and potassium tartrate), compound licorice powder (a teaspoonful several times a day), podophyllin, frangula, and Kissingen, Carlsbad, Marienbad, and other laxative mineral waters.

Only in case of very profuse bleeding should cold compresses and sitz-baths, or ice-water or alum clysters, be used. The ruptured veins may be painted with solution of chloride of iron, or pressure may be made by means of compresses. Internally witch hazel is recommended. Ligation or cauterization of the larger hemorrhoidal tumors may be necessary.

INTUSSUSCEPTION—VOLVULUS. ILEUS.

In very severe cases the treatment should begin with large doses of opium, and the swallowing of cracked ice. Afterward calomel, castor oil, croton oil, and then repeated intestinal irrigation. In case of invagination, ergotin should be given, and in the beginning reposition may be attempted by a sponge-tipped sound, or by the hand introduced during anaesthesia, or by alternating injections of water and air; less advisable is the injection of carbonic-acid gas. Faradization may be used, one pole being applied to the anus and the other to the abdomen. Metallic mercury has been used. Puncture by means of a fine aseptic trocar may be practised. These measures must not be continued too long, to the prejudice of early laparotomy.

INCARCERATED HERNIA.

Reposition is often possible when the fecal contents of the intestinal loop can be squeezed back through the abdominal ring by means of the thumb and fore-finger. Gentle pulling on the hernial sac is sometimes of service. The resistance of the abdominal ring may be lessened by protracted warm baths, anæsthesia, hypodermic injections of morphine, local applications of ether, poultices containing belladonna or hyoscyamus, or ice-bags, and chloral internally. The use of strong coffee or of a grain of caffeine every half-hour often facilitates reposition, probably by exciting active peristalsis; nux vomica also acts in the same way.

Taxis should never be done roughly nor be too long continued. It is much better to resort early to herniotomy, antiseptic precautions being taken.

HELMINTHIASIS (INTESTINAL PARASITES).

ASCARIS LUMBRICOIDES (ROUND WORM).

Santonica (or santonin) is the proper remedy.

℞ Santonini,	gr. v.
Hydrarg. chlor. mitis,	gr. iij.
Pulv. rhei,	gr. xl.
Sacch. albi,	3 iss.

M. et div. in chart. No. 10. S. One powder three times a day.

OXYURIS VERMICULARIS (THREAD OR SEAT WORMS).

Enemas of cold water or vinegar, followed with oil; or, better, sublimate solution (1:1,000). Blue ointment may be applied to the anus and rectal mucous membrane. Decoction of garlic may be given internally and by enema.

TRICHOCEPHALUS DISPAR (WHIPWORM).

Laxatives with anthelmintics. Intestinal irrigations.

TÆNIA SOLIUM AND MEDIOCANELATA. BOTHRIOCEPHALUS LATUS.

The first is derived from the pig, the second from horned cattle, and the third probably from fish.

Male fern, especially the freshly prepared ethereal extract

in capsules, about ʒij. being taken in divided doses at short intervals, fasting; followed by one or two tablespoonfuls of castor oil. Pelletierine, pomegranate bark, kousoo, kamala, benzin, picro-nitrate of potassium (gr. iij.—ix. two or three times a day in pill form), dog-rose, turpentine, oxide of copper, and chloroform. The following method of treatment is also recommended: For several days the patient takes any one of the salts of quinine, 1 grain each night, and at the end of that time a full dose of castor oil; then for three days a pill every hour of $\frac{1}{2}$ grain of carbolic acid with powdered licorice (look out for toxic symptoms), and morning and evening a laxative of rhubarb and jalap; finally a paste made of 500 or 600 pumpkin seeds with sugar and water is taken in the morning in teaspoonful doses, washed down with copious draughts of water, and at noon a dose of castor oil. Care must be taken, while the worm is passing, to prevent its breaking. The patient should sit over a vessel containing warm water, and it is well to assist the passage with a high injection of about two quarts of water.

ANCHYLOSTOMUM DUODENALE (GOTTHARD WORM).

Is met with chiefly among the brick and tile workers of Italy, the Rhine provinces, and other places, in brick-makers' anæmia.

The remedy is extract of male fern in large doses.

Diseases of the Peritoneum.

PERITONITIS.

In mild cases, absolute rest, a low diet, warm poultices, and Dover's powder are often sufficient. In more severe cases, fifteen to thirty leeches may be applied, and then opium. Cold is to be applied at first, as long as it produces comfort, and broken ice given internally, and after a few days moist heat. Mercurial ointment may be used. After five or six days, the bowels may be moved by means of simple enemas, castor oil, or calomel, especially in case of fecal accumulation. For the tympanites, ice-water compresses; giving vent to the gas by the introduction of a rectal tube; internally calcined magnesia, carbonate of potassium or sodium, and lime water; and in extreme cases puncture of the distended intestine with

a fine trocar. After the inflammatory symptoms have subsided, resolvents may be used.

For singultus, repeated small doses of chloral or extract of hyoscyamus are useful. Collapse calls for stimulants and irritant applications.

In puerperal peritonitis, calomel is indicated at first.

Chronic peritonitis is to be treated by moist heat externally, warm baths, opium (in certain cases), cod-liver oil, iodide of iron, resolvents; acetate of ammonium or of potassium, borotartrate of potassium and sodium, digitalis, squill, etc. (*conf.* Perityphilitis, Perimetritis, Puerperal Fever.)

For the pain which remains after the disease has subsided, warm baths and painting the abdomen with tincture of iodine are of service.

ABDOMINAL DROPSY, ASCITES.

Treatment of the causal disease: peritonitis, diseases of the heart, lungs, blood-vessels, liver, and kidneys, circulatory disturbances, new growths, cachexiæ, etc.

For the ascites itself, dependent or not upon any discoverable cause, of the first importance are diuretics, especially calomel (gr. iij.) with opium (gr. $\frac{1}{2}$) three times a day for three or four days; if no result is obtained, this course may be repeated in a week; and if still unsuccessful, it had better be abandoned. Species (see Part II.) of juniper, parsley, and fennel may be tried, or Wildungen, Assmannshausen, Brückenaue, or other natural diuretic waters.

If diuretics are of no avail, and there is no gastric or intestinal catarrh, drastics should be given. At the same time, especially if general œdema is present, vapor baths, alcoholic vapor baths, hot sand baths, fumigation with juniper berries, warm bran baths, enveloping the body in cotton, etc., may be resorted to. Finally, puncture may be necessary for the evacuation of the fluid.

Diseases of the Liver, Bile Ducts, and Portal Vein.

CONGESTION OF THE LIVER (ACTIVE OR PASSIVE).

The etiological factors which call for treatment are the abuse of alcohol, plethora, a sedentary life, heart and lung diseases, amenorrhœa, constipation, and hemorrhoids.

The symptomatic treatment consists in local abstraction of blood over the region of the liver or at the anus, warm applications, blisters, saline laxatives. Carlsbad (except in cardiac or pulmonary affections), Friedrichshall, Marienbad, and other similar waters; aloes, rhubarb, rhamnus purshiana, etc.

HEPATITIS.

1. INTERSTITIAL HEPATITIS, OR CIRRHOSIS OF THE LIVER.

The most frequent cause is the inordinate use of spirituous liquors, but also of wine or beer; further, though seldom, malaria, gall-stones, and syphilis.

The treatment, in addition to careful regulation of the diet, is in the beginning that of congestion of the liver—Carlsbad or, in debilitated persons, Franzensbad or Kissingen water; also the iodine waters, such as Kreuznach; nitric acid; and, in syphilis, iodine or iodide of iron.

Later, symptomatic treatment and tonics, but not alcoholics. When ascites is present in sufficient amount to cause dyspnoea, the fluid must be removed by puncture.

2. SYPHILITIC HEPATITIS AND PERIHEPATITIS.

If the condition is recognized in its early stages, success may be looked for from the iodine treatment.

3. SUPPURATIVE TRAUMATIC AND METASTATIC HEPATITIS.

In the case of traumatism, antiphlogistics are first called for. Warm poultices containing narcotics, mild laxatives. When chills are present, quinine is indicated; and when an abscess is detected, it must be opened.

4. DIFFUSE PARENCHYMATOUS HEPATITIS. ACUTE YELLOW ATROPHY OF THE LIVER.

The treatment is purely symptomatic. In the stage of exudation, antiphlogistic measures and mild laxatives; in that of atrophy, the individual symptoms are to be met by their appropriate remedies.

The other diseases of the liver, as well as inflammation of the portal vein, furnish no particular indications and are to be treated on general principles.

CATARRHAL JAUNDICE. ICTERUS GASTRO-DUODENALIS.

Strict attention to the diet, indigestible and fatty foods being avoided. When diarrhœa is not present, mild laxatives (bitter water, compound infusion of senna) are called for; and when diarrhœa exists, small doses of calomel with bicarbonate of sodium. Warm baths are of service, especially for the itching of the skin. When there is pain in the liver a few leeches may be applied. In recent, acute cases emetics are also of service.

If the jaundice still persists at the end of two weeks, stronger cathartics are called for, such as calomel with rhu-barb, aloes, podophyllin, rhamnus, senna, or three or four wineglassfuls daily, fasting, of warm Carlsbad Mühlbrunn water, or of Kissingen, Neuhaus, etc.

When no cause can be discovered, then foot-baths with 2 ounces of nitrohydrochloric acid to the bath may be taken; diuretics (lemon juice, $\frac{5}{\text{ij}}$ iss.-ij. a day), especially when diarrhœa is present. In addition drastics may be given, or irrigations of the bowel with one to two quarts of warm water (66° to 72° F.) repeated until the stools begin to be again colored with bile.

For the itching of the skin, lotions of diluted vinegar may be used, rubbing with slices of lemon, chloral (three to five per cent solution), and baths.

CHOLELITHIASIS AND HEPATIC COLIC.

Carlsbad, Marienbad, and Vichy waters; ether and oil of turpentine, the well known, but not especially to be recommended, Durand's remedy: 20 to 30 drops several times a day in meat broth, of a mixture of 5 parts of turpentine in 20 of ether, continued until about 8 ounces of the remedy has been taken; podophyllin. Salicylic acid may be taken in doses of gr. xv. dissolved in a pint of hot water three times a day, and in addition a high rectal injection twice a day of $\frac{5}{i}$ of the acid in a quart of tepid water. Olive oil is highly recommended in doses of $\frac{5}{ij}$ iij.-vi., taken at once or in four doses at intervals of one hour, and repeated in a few days; or it may be given in the following form:

R̄ Mentholi,	gr. viij.
Spir. vini gall.,	ʒ v.
Vitell. ovi,	No. ij.
Ol. olivæ,	ʒ vi.

M. bene. S. Take in four to eight portions during the course of two or three hours.

Opium in large doses (up to 40 drops of the tincture, repeated in smaller amount), morphine (gr. $\frac{1}{3}$ to $\frac{1}{2}$ hypodermically), chloroform, chloral, belladonna. For collapse, ether or camphorated oil may be injected subcutaneously.

Other remedies are, leeches, narcotic poultices, chloroform stupes on the abdomen, and protracted hot baths.

Diseases of the Spleen.

HYPERTROPHY OF THE SPLEEN.

For the treatment of hypertrophy resulting from intermittent fever (ague-cake), see under this disease.

When it is due to chlorosis, iron and quinine are indicated; when due to anæmia, quinine with pentasulphide of antimony, or iodide of iron; when due to syphilis, mercurials.

III. DISEASES OF THE ORGANS OF CIRCULATION.

Diseases of the Heart.

PERICARDITIS.

Antiphlogosis, ice, if necessary abstraction of blood. When pain is severe, morphine; in palpitation of the heart (but not when the pulse is small and irregular, when paralysis of the heart threatens, or in adynamic conditions) digitalis in large doses, but when the heart is weak, in small doses with nitrate of potassium or acids; tincture of strophanthus, convallaria majalis, sparteine, with caution. Calomel, blue ointment, later resolvents, diuretics, especially acetate of potassium (with digitalis), diaphoretics, laxatives, Priessnitz compresses, tincture of iodine. For the relief of the dyspnoea, Dover's powder, morphine, ice-bags; of singultus, cracked ice, chloral hydrate.

ENDOCARDITIS.

As a prophylactic measure in rheumatism, subcutaneous injections of carbolic acid, and salicylate of sodium internally (?).

Digitalis in moderate doses alternating with quinine; convallarin, sparteine; ice-bags over the heart, but no bleeding. Absolute bodily and mental quiet; the avoidance of all stimulating beverages, etc. For the strong a restricted, and for the weak a strengthening, diet. In collapse, stimulants, coffee, wine, camphors, etc.

VALVULAR LESIONS.

The treatment must be more especially hygienic and symptomatic according to the general principles of promoting and maintaining compensation, and moderating over-compensation.

All exciting factors should be avoided, the patient should drink only mild beer, should seek fresh air, indulge in moderate exercise, and take good care of the skin.

Drugs that may be necessary are: Digitalis, strophanthus, convallaria, sparteine, and tonics, iron and quinine.

Symptomatic Treatment.—Bitters, rhubarb, mildly laxative saline mineral waters (Homburg, Kissingen, Soden).

In the case of ascites or anasarca, diuretics, acetate of potassium, squill, digitalis, and in certain cases drastics. Bandaging the legs and keeping them elevated may be of service in reducing the œdema.

In case of aortic insufficiency with over-compensation, digitalis in large doses, or strophanthus, may be given. In severe paroxysms, morphine injections will be required, with ice-bags to the chest.

The breathing of compressed air is useful in passive congestions, and in mitral affections with insufficient compensation.

HYPERTROPHY OF THE HEART.

The treatment is symptomatic: Cold, digitalis or strophanthus.

PALPITATION OF THE HEART.

Etiological Factors.—Organic diseases of the heart, anæmia, dyspepsia; psychic affections, hypochondriasis, hysteria, sexual disorders, chlorosis, excesses in venery or in

studies; abuse of tobacco, tea, or coffee; plethora; tumors along the course of the nerves in the neck or in the thorax.

Treatment.—Cold applications, ice internally; sitting in a bent position; nervines, valerian, castor, quinine when the attacks recur with regularity. Fowler's solution (3 drops several times a day); digitalis in large doses, convallaria; narcotics, morphine hypodermically, chloral, bromide of sodium; wine for anæmic patients.

Diseases of the Blood-Vessels.

ANEURISM.

Keep up the strength, avoid plethora and increased heart's action.

Compression, Esmarch's bandage, etc.; ergotin, perfect quiet, low diet; narcotics; cold externally applied. Digitalis is contra-indicated, because it increases intra-arterial pressure.

Electrolysis. Strong, but careful, flexion for several hours at a time of the joint above the aneurism when it is seated in one of the extremities (?).

TELANGIECTASIS, VASCULAR NÆVUS.

Children may be vaccinated on a small nerve, or suppuration may be established at the place by means of a tartar emetic plaster (1 to 3), corrosive collodion, or fuming nitric acid; the galvano-cautery; excision; cauterization with a pointed Paquelin cautery at several sittings. In the case of pedunculated growths the elastic ligature may be used.

Electro-puncture.

VARICOSE VEINS.

Compression by elastic or other bandages, laced stockings, adhesive plaster, starch bandage. Depletion of the vessels by means of saline laxatives and low diet. Vidal's operation. Injections of ergotin and alcohol.

IV. DISEASES OF THE NERVOUS SYSTEM.

Diseases of the Brain and Meninges.

ANÆMIA OF THE BRAIN.

Causes.—General, and especially acute, anæmia, hemorrhage, shock (the massing together of large quantities of blood

in the mesenteric vessels, etc., in consequence of reflex vasomotor paralysis, especially of the splanchnic), insufficient action of the heart, inanition, protracted diarrhœa in childhood.

Treatment.—Stimulants and tonics, ammonia salts, musk, wine. In infants, a return to breast-milk, if bottle-fed, and a few drops of Tokay wine several times a day; in older children, yolk of egg, scraped raw meat, pomated tincture of iron, cod-liver oil. The horizontal position should be maintained. For the delirium of inanition opium should be given.

SEASICKNESS.

Anæmia of the brain with consecutive functional disturbances in the parts supplied by the vagus nerve.

Prophylaxis.—Remaining on deck in the middle of the ship, if necessary in the horizontal position; the carrying out of opposed movements with closed eyes; a hearty meal taken before going on board, and while on ship nourishment in small quantities taken at frequent short intervals; champagne; aromatic bitters; chloral, antipyrine, cocaine.

To relieve the nausea and vomiting: Creasote, lemon juice, Haller's acid elixir, carbonic acid, chloroform in five drop doses several times a day, chloral, quinine in large doses; inhalations of nitrite of amyl; counter-irritation to the gastric region, cold compresses to the forehead and back of the neck; stimulating odors; morphine subcutaneously; and keeping the bowels open.

HYPERÆMIA OF THE BRAIN.

Removal of the causes as far as possible.

General and local bleeding; ice bags, cold douches; drastic cathartics (calomel with jalap), derivatives, irritant enemata; avoidance of stimulants. (Leeches to the cervix uteri and to the anus). Active bodily exercises. Saline mineral waters, Friedrichshall, Kissingen, Marienbad, etc., and if necessary stronger cathartics, such as aloes, etc.

SUNSTROKE, HEATSTROKE.

Removal of the patient into the shade or a cool chamber; absolute quiet; cool water in gradually increasing amounts, cold douching every hour, applications of ice bags; leeches

behind the ears (beware of venesection); sinapisms; calomel and jalap; subcutaneous injections of quinine.

CEREBRAL AND MENINGEAL HEMORRHAGE (APOPLEXY).

Prophylaxis.—The reduction of any existent hyperæmia of the brain and removal of its causes.

Treatment during the Hemorrhage.—Small venesection in cases of marked hyperæmia and at least normally full radial pulse; raising the head; mustard to the extremities, and ice to the head. When, however, the respiration is hesitating and the heart's action weak, a stimulant treatment is indicated; irritation of the skin, musk, ammonia salts, wine; ether and camphor subcutaneously; irritating enemata.

When hyperæmia is not marked, but inflammatory symptoms are present, drastic purgatives, cold cloths to the head, leeches to the mastoid process or to the nasal septum, and dry cups to the nucha, are called for.

When symptoms of pulmonary hyperæmia are present together with severe cough, digitalis with tartar emetic may be given, and dry cups applied.

Treatment of the Stage of Reaction (fever, headache, encephalitis).—Cold applications, in severe cases leeches; laxatives; chloral, opiates. For the subsequent weakness and anæmia: arnica, iron, quinine.

Treatment of Hemiplegia (only after three to five months).—Electricity, tepid baths. Stimulating spirituous and other liniments cannot be avoided in ordinary practice. Various spas are resorted to for bathing purposes.

MENINGITIS SIMPLEX (LEPTOMENINGITIS), PACHYMEMINGITIS.

Energetic antiphlogistic treatment is necessary, such as leeches to the mastoid processes, cups to the nucha, ice to the shaved head and in compresses or in a narrow bag along the vertebral column. Laxatives, calomel; mercurial ointment; seldom quinine.

In persistent excitement and severe pain, in spite of the antiphlogistic treatment, opium must be given, especially small hypodermics of morphine in the back of the neck; ether dropped or sprayed on the head. Chloroform liniment.

Chloral, bromide of sodium. In case of collapse, stimulants; later, resolvents (warm baths, iodine). Derivatives. Cold douching should only be practised in the paralytic stage.

**TUBERCULAR BASILAR MENINGITIS (ACUTE HYDRO-
CEPHALUS).**

See Infectious Diseases.

CONGENITAL OR CHRONIC HYDROCEPHALUS.

Good nourishing food (milk, broths, wine) with iron and baths, and occasionally a diuretic or cathartic (calomel, if necessary with digitalis); iodide of potassium; the application of tincture of iodine to the head; flying blisters.

**ENCEPHALITIS (INFLAMMATORY SOFTENING OF THE
BRAIN).**

Local antiphlogistic remedies and laxatives are indicated in strong individuals when inflammatory symptoms are present, also later when signs of irritation are evident, headache, irritable pulse, etc.

In encephalitis following otitis, poultices should be applied to the ear to bring back the discharge.

In symptoms of depression and paralyses, tolerably active intestinal derivation and a nourishing diet are called for. For the nervous excitement, morphine or bromide of sodium.

Diseases of the Spinal Cord and its Envelopes.

Of the numerous diseases belonging to this category the following may be more particularly referred to.

ACUTE MYELITIS.

The early stages demand absolute quiet and antiphlogistic measures, such as local blood-letting, Chapman's ice bags, Priessnitz compresses renewed every hour or two; mercurial ointment, blisters along the spinal column, tincture of iodine, and in severe cases the actual cautery. Iodide of potassium internally, and in appropriate cases ergot, belladonna, laxatives, and diuretics.

For the paralysis, electricity, tepid baths, and in the later stages mineral water baths at Teplitz, Warmbrunn, etc.

CHRONIC MYELITIS.

Thermal baths (Teplitz, Nauheim, etc.), cold-water treatment, galvanism; in certain cases, ergot and nitrate of silver. Care must be taken to prevent cystitis and bed-sores.

TABES DORSALIS. LOCOMOTOR ATAXIA (SCLEROSIS OF THE POSTERIOR COLUMNS).

Absolute avoidance of all venereal excesses; treatment of priapism and pollutions by camphor and lupulin. Sweating of the feet to be repressed by dusting with unslaked lime, or excited by powdered mustard in the stockings or by foot-baths. The body should be kept warm by woollen underclothing. Cold or alcoholic lotions, cold packing, river and sea baths, douches etc. (cold-water cure). When cold water is not tolerated, then a course of warm baths at one of the various thermal spas may be taken. Nourishing diet, iron, cinchona, nitrate of silver, iodide of potassium. For the lancinating pains and twitchings, antipyrine or morphine may be given. The constant current with hydrotherapy.

POLIOMYELITIS ANTERIOR ACUTA INFANTUM (INFANTILE PARALYSIS).

When the short, feverish stage of the acute inflammatory condition is recognized, it should be treated on the lines laid down for acute myelitis.

Treatment of the resulting paralysis, atrophy, contractures, and deformities should be by means of thermal, saline, and sea-water baths, galvanism, passive movements, and orthopædic apparatus.

In addition, blisters, tincture of iodine to the spine; laxatives (calomel, occasionally with jalap); iodide of potassium with hypodermic injections of strychnine, 2 drops of a one-per-cent solution; 12 to 14 drops three times a day of a mixture of equal parts of *nux vomica*, camphor, and pyrethrum, and at the same time frictions to the skin of equal parts of water of ammonia and tincture of *nux vomica*; nitroglycerin (?).

POLIOMYELITIS ANTERIOR CHRONICA (PROGRESSIVE MUSCULAR ATROPHY).

By way of prophylaxis the members of families in which the disease already prevails should guard especially against taking cold and excessive muscular strain.

The treatment consists only in active and passive movements and electricity, especially the constant current. Peripheral (local) galvanization and faradization are more serviceable than central (of the sympathetic).

GLOSSO-LABIO-PHARYNGEAL PARALYSIS.

Degeneration of the large ganglion cells in the motor ganglia of the medulla oblongata. Galvanization transversely through the mastoid processes and longitudinally through the skull; galvanization of the cervical sympathetic. Production of swallowing movements by the anode resting at the back of the neck and the cathode rapidly passed along the sides of the larynx; galvanization or faradization of the tongue, lips, and soft palate.

For excessive salivation, atropine may be given. Nutrition in the later stages must be provided for by the stomach tube and by nutrient enemas. Internally nitrate of silver may be given.

Neuroses of the Sympathetic Nerve.**HEMICRANIA, MIGRAINE (*Conf.* NEURALGIA OF THE FIFTH NERVE).**

Pain coming on in attacks, affecting one side of the head, usually introduced or accompanied by vomiting, and accompanied also by vaso-motor disturbances; it lasts for hours or days, and during its continuance renders the patient unfit for any bodily or mental work. The attacks are followed by longer or shorter periods of freedom from pain, but recur at intervals often for years.

Treatment of the causal conditions consists in the removal of any constitutional defects, the institution of a suitable diet, regulation of the functions of the stomach and intestine, and proper alternation of work and rest. In aemia, iron or a course

of chalybeate waters may be taken; in hemorrhoids, Kissingen, Carlsbad, and other waters; in a neuropathic constitution, cold frictions, cold-water treatment, sea-baths, etc.

To reduce the frequency and violence of the attacks, when anæmia is marked, arsenic is usually given empirically in doses of gr. $\frac{1}{12}$ a day; when vaso-motor disturbances are a prominent symptom, atropine should be given in daily doses of gr. $\frac{1}{60}$ for at least a month; if improvement should follow, then one or the other remedy is to be continued for a long time, if need be for years.

During the attack the first thing is for the patient to remain in bed in a darkened room and withdrawn from anything that may cause mental excitement; then the application of heat or cold, bandaging the head or leaving it free, according as one or the other gives the greater measure of relief, and irritant foot-baths. In case of very acute pain, morphine must be given subcutaneously in doses of gr. $\frac{1}{4}$ to $\frac{1}{2}$. Sometimes salicylic acid, in doses of 15 to 30 grains, is of service; caffeine, beginning with 2 grains and increasing to 15 grains if necessary; antipyrine, gr. xv. to xxx.; antifebrin, in doses of gr. iv. several times repeated; or phenacetin, in repeated doses of gr. vi. As a domestic remedy table-salt in doses of $\frac{1}{2}$ to 1 teaspoonful at the beginning of the attack, followed by a little water, is highly esteemed.

In angio-spastic hemicrania (contraction of the vessels during the attack, the affected side of the head being pale, and the pupil dilated), the inhalation of a few drops of nitrite of amyl or bisulphide of carbon is of service.

In angio-paralytic hemicrania (dilatation of the vessels, the affected side being reddened and the pupil contracted), ergotin subcutaneously or gr. viij. to xv. internally. Galvanization of the sympathetic for one or two minutes at a time, two or three times a week (positive pole at the inner border of the sterno-cleido-mastoid muscle, the negative pole over the first dorsal vertebra, with alternate closing and opening of the current) is also a palliative measure.

ANGINA PECTORIS.

Palliative Treatment.—Inhalation of ether, chloroform, nitrite of amyl; hypodermic injection of morphine; ice; derivatives; avoidance of harmful influences, of tobacco-smoking, etc.

General Treatment.—Iron, preparations of zinc, nitrate of silver, nitrite of amyl, nitrite of sodium, nitroglycerin, arsenic, bromide of potassium, digitalis, quinine; derivatives, such as mustard plasters or volatile liniment with chloroform.

The faradic brush is both palliative and curative; galvanization with the positive pole having a broad surface of contact on the sternum, and the negative over the lower part of the cervical spine; in other cases galvanization of the sympathetic and vagus is useful.

EXOPHTHALMIC GOITRE (BASEDOW'S OR GRAVES' DISEASE).

Quinine alternating with iron (carbonate); a nutritious diet; bodily and mental repose; in women the genital functions must be attended to.

Ice bags; cold-water treatment; long-continued use of the constant current (10 to 12 Daniels' cells), the electrodes being applied to the back and front of the neck; galvano-puncture of the enlarged thyroid. Internally iron and arsenic may be given when anæmia is present. From the use of iodine and digitalis there is little improvement to be hoped for.

NEURITIS.

In acute cases, antiphlogistics and narcotics; in more chronic cases the Priessnitz pack, followed by half-baths, counter-irritation (though not immediately over the diseased nerves), galvanism.

For the severe pain, tepid baths; the various anæsthetics and narcotics, especially morphine internally and hypodermically; antipyrine, phenacetin; rubbing with chloroform and olive oil, or benzin for the relief of neuralgia remaining after the subsidence of the more acute symptoms. In certain cases it may be necessary to excise a cicatrix or a portion of the nerve. If there is any ulceration of the cervix, it must be energetically treated.

For any paralysis remaining, thermal, peat, or saline baths, or an active cold-water treatment, and electricity.

NEURALGIA.

The entire mode of life must be looked into and regulated, and the constitution must be cautiously toughened.

Electricity is usually applied by means of the cathode resting upon some indifferent part and the anode on the painful points and nerve trunks. The faradic current is to be used in peripheral neuralgias where the nerves can be reached by it, the galvanic in addition in central and deep-seated neuralgias (of the nerve roots, cerebral and spinal).

Cold is applied by means of ice, ether spray, douches, sea baths, cold-water treatment, and local douches of carbonic acid; heat in natural thermal baths, vapor, hot-air, and prolonged warm sand baths.

Other remedial measures are: traction by weights (in nervous coxalgia), neurotomy, and nerve-stretching.

NEURALGIA OF THE FIFTH NERVE, TIC DOULOUREUX (*Conf.* HEMICRANIA).

Very severe attacks of pain, excited by the slightest causes, along the course of one, seldom of all three (ophthalmic, supra- and infra-maxillary) branches of the trigeminal nerve on one side.

Internal remedies: Arsenious acid (Fowler's solution) or atropine, both in small doses at first and gradually increased; quinine, with caffeine, in large doses; oil of turpentine; salicylate of sodium (up to 3 iss.— $\frac{3}{4}$ ss. a day); antipyrine (gr. xv.) or antifebrin (gr. iv.—vii.) a few times a day; corrosive sublimate in very small doses; also chloral, ergotin, bromide of sodium, etc.

Subcutaneously, morphine in doses of gr. $\frac{1}{4}$ gradually increased to gr. iss. and then decreased; atropine in doses of gr. $\frac{1}{12}$, cautiously increased a little.

External remedies: Veratrine, gr. xij. in lard 3i. with a little alcohol; mercurial ointment; cantharidal collodion along the course of the affected nerves; tincture of iodine; ether spray; morphine as a snuff; a weak constant current.

In extreme cases, ice is to be applied to the head and back of the neck; leeches (applied to the nasal septum when the pain is in the frontal sinuses); rest; fresh air.

Stretching or resection of a nerve; excision of any cicatrix compressing a nerve.

In a similar way are to be treated all the other neuralgias of the neck, trunk, etc.

SCIATICA.

Differential Diagnosis.—In rheumatism of the thigh movements of the individual muscles cause great pain; in rheumatism of the hip-joint every motion causes pain, and in addition the neighborhood of the joint is usually swollen; in coxitis the pains are especially increased by rotation and pressure of the head of the bone into the cotyloid cavity; in psoriasis there is fever, the patient complains of pain above the crest of the ilium, and usually holds the thigh flexed on the abdomen.

Treatment.—The stools should be kept regular and of soft consistence by means of castor oil or a saline laxative. In recent cases relief may be obtained by cups over the sacral region and on the skin along the course of the nerve; also by sinapisms and flying blisters. Usually excellent results are obtained by a not too weak galvanic current applied in rather long séances several times a day, the anode being placed on the sacrum, the cathode along the course of the nerve.

Among the remedies empirically employed are iodide of potassium, rectified oil of turpentine in doses of ʒij–iij. a day mixed with clarified honey; morphine subcutaneously; veratrine in ointment, as given above under neuralgia of the fifth nerve, or applied endermically in doses of gr. $\frac{1}{60}$ – $\frac{1}{30}$. Heat locally applied; vapor and prolonged hot sand baths; Kissingen, Teplitz, etc.

PARALYSES, PARESES, ANÆSTHESIÆ.

When the nerve substance is degenerated or destroyed treatment is useless as far as concerns repair of the damage already done, yet a proper electrical and gymnastic treatment should be instituted in the endeavor to arrest the degenerative process; and in diseases of this kind arising from other causes than destruction of nervous tissue electricity is the first measure to be resorted to; in paralysis following disease of the central nervous system, galvanic electricity is the form to employ, while in peripheral paralysis, and when it is desired to stimulate the paralyzed peripheral parts, faradism should be used. In hysterical paralysis of the vocal cords, cutaneous faradization or faradization of the large nerve trunks in the neck is sufficient.

In addition to electricity, appropriate exercises, active and passive, frictions of the skin with alcohol, and strychnine internally. Various baths are also useful, such as saline, sulphur, vapor, and hot sand baths; also in special cases carbonated iron, peat, and mud baths; in strong patients sea baths and the cold-water treatment may be of service.

SPASMS, CONVULSIONS.

Enemas of chamomile tea with castor; in certain cases emetics.

Narcotics, especially morphine injected beneath the skin or into the muscles, or atropine, chloral, chloroform; bromide of sodium, nitrite of amyl, and Calabar bean.

Nervines, nearly the entire list.

Derivatives, among others warm baths with cold douches to the head, mustard plasters, and in inveterate cases the actual cautery.

Galvanism, ascending current along the nerves and muscles, or alternating current, or the stable action of the anode.

Stretching of the facial nerve is sometimes advised in mimic spasm.

Neuroses without any known Anatomical Cause.

CHOREA (ST. VITUS' DANCE).

The mode of living must be first attended to; a suitable nutritious diet and little or no alcohol; abstinence from all mental effort, no study; plenty of sleep, even during the day if the child so desires, and late rising in the morning. The protracted warm baths should be given, or better yet a daily wet pack of $\frac{1}{2}$ to $\frac{3}{4}$ hour's duration. (The sheet used for the purpose should be wet in water at a temperature of about 88° F.) The child should take moderate exercise, but be much in the open air. The value of electricity is doubtful.

Medicinal Treatment.—Fowler's solution in doses of 3 to 5 drops for children, and 8 to 10 drops for adults, three times a day, slowly increased. The combined treatment by antipyrine and the bromides, after the following plan, has proved itself of value: Three times a day immediately after meals antipyrine gr. viij. with bromides gr. xv., best in the form of Erlenmeyer's bromine water (see Potassii Bromidum in Part II.); at the

end of three days the antipyrine is increased to gr. xij. three times a day, and after three days more to gr. xv., combined with $\frac{3}{4}$ iv. of the bromide solution; thus the daily amounts are 45 grains of antipyrine and 12 ounces of the bromine water (containing 75 grains of bromine salts). In addition, the body should be rubbed several times a week with soft soap, or some other bland soap, and sponged with cold water. As an after-treatment chalybeate peat baths are recommended. Various nervines, oxide of zinc, valerianate of zinc, strychnine, and inhalations of a few drops of chloroform, are also recommended.

TETANUS AND TRISMUS.

Removal of the irritating cause, incision of the nerves, morphine locally applied; the most perfect quiet, and removal of all disturbing influences. A gradually cooled bath may be given at the period of greatest fever. Spinal ice-bags, and the cold wet pack. In rheumatic tetanus, diaphoresis, vapor baths, hot diaphoretic drinks with spiritus Mindereri, and opium in large doses.

The strength must be kept up, in severe trismus by means of nutrient enemata. In trismus, intra-muscular injections of morphine are to be given.

Narcotic Remedies.—Chloral in a single evening dose of 40 grains if the temperature does not rise above 101.5° F., if it does rise another dose may be given; or chloral may be given in doses of 30 to 45 grains alternating every two hours with 15 grains of sodium bromide until sleep comes. Other remedies are: opium or morphine, Calabar bean, belladonna, nitrite of amyl, carbonate of ammonium, strychnine, curare, inhalations of chloroform, or enemata of oil of turpentine.

Scars should be excised. The room should be kept dark and perfectly quiet. In some cases early amputation of the extremity where the primary wound was received has saved the patient.

EPILEPSY.

The first thing is to attend to the diet and to regulate the mode of life; a milk and vegetable diet is the most appropriate.

Atropine may be given in initial doses of gr. $\frac{1}{10}$, gradually increased to gr. $\frac{1}{2}$, at bed time; the increase should be at the rate of gr. $\frac{1}{10}$ each week, the maximum dose continued for two

weeks, and then gradually reduced at the same rate until the initial dose is again reached. To reduce the number and violence of the attacks and eventually to cure the disease, the bromides are to be given in solution in doses of 15 grains three times a day, increased each week by 15 grains until in the eighth week the patient is taking 150 grains a day; and if the attacks have not ceased to recur, this may be increased up to the fifteenth week, when a daily dose of 225 grains will have been reached; if improvement occurs, the dose is to be gradually reduced in the same way, to be again increased if the attacks begin to recur. This treatment may be continued, under the observation of the physician (because of the possibility of bromism being produced), for years if necessary.

In addition are recommended: A teaspoonful of powdered wormwood every two days, an extra dose being given immediately upon the appearance of the aura; powdered valerian in doses of gr. viij. increased to gr. xvij. four to six times a day; nitrate of silver in solution in maximum dose of gr. iss. a day, but with care on account of the danger of argyria; ammonio-sulphate of copper in beginning doses of gr. $\frac{1}{4}$ a day, increased to the maximum of gr. iv., in pill form; Fowler's solution in daily doses of 5 to 15 drops; lactate or oxide of zinc in powder, beginning with gr. iss. a day, and rapidly increasing to gr. xxx.-xl. Opium and chloroform inhalations are not to be recommended; better is the cold-water or electrical treatment (mild current). Quinine is indicated in cases where the attacks recur with marked periodicity, and iodide of potassium in syphilitic cases. Subcutaneous injections of curare and strychnine (?), excision of cicatrices, neurotomy, and nerve-stretching have been recommended.

For cutting short the attack, a ligature around the limb whence the aura starts, or compression of one or both carotids near the cricoid cartilage may be useful. In domestic practice a handful of salt, taken at the appearance of the aura, and cold compresses are often used.

ECLAMPSIA.

1. INFANTILE ECLAMPSIA.

Any exciting causes should be removed as far as possible; dentition, cerebral hyperæmia, fever; irritating ingesta, foreign bodies in the digestive tract, worms; dyspepsia or mental

disturbance of the nurse, etc. Children should be toughened by cold sponging and by being carried out into the fresh air, even when it is cold.

The gums should be lanced if necessary, or they may be rubbed with chloroform when there is irritation from dentition. Sprinkling with water sometimes cuts short the convulsion; an overloaded stomach should be emptied by an emetic; calomel may be given, or oxide of zinc (up to gr. iss. a day), or valerianate of zinc; stimulants in collapse; bromide of sodium, chloral, nervines; cold douching is safer; enemas of asafœtida, valerian, musk; or of a few drops of chloroform, bitter-almond water, tincture of opium; or of soap-suds and salt, or vinegar. Inhalations of chloroform may be given at the beginning of an attack or when the child is unable to swallow.

2. PUERPERAL ECLAMPSIA (*Conf.* URÆMIA).

First Indication.—Chloral hydrate by the mouth or rectum, or morphine hypodermically; inhalations of chloroform to narcosis (during which delivery may be accomplished), or also of nitrite of amyl; bromides, opiates by enema; ice to the head.

Second Indication.—Rapid delivery of the child; mustard plasters to the back of the neck; in some cases life may be saved by venesection.

In protracted cases, when uræmia is the cause of the convulsions, warm baths may be given, or the cold pack with subsequent sweating.

3. SATURNINE ECLAMPSIA.

No active antiphlogistic treatment, but rather expectant. Cold compresses, blisters; in all forms, good nutritious food, iron, beef tea, wine. (*Conf.* Lead-Poisoning.)

CATALEPSY.

During the attack, cutaneous irritation of various kinds, electricity, cold douches; chloroform by inhalation.

In the intervals, treatment of the causal condition; diaphoresis if a cold has been taken; warm water or sulphur baths; continued counter-irritation; issues, etc.

HYSTERIA.

Psychic, dietetic, and hygienic treatment; tonics; in many cases alcohol with aromatics, in doses of 1 to 5 teaspoonfuls a day, renders good service.

Suitable treatment for any affections of the sexual organs that may be present, for anæmia or chlorosis; chalybeate tonics, Roncegno water; regulation of the bowels. When psychic influences are active, muscular exercise is necessary; also cold-water treatment, enemata of cold water, sea and river baths.

The Weir-Mitchell treatment, which is highly recommended for nervous disorders of various kinds, consists in absolute rest in bed, isolation from all disturbing influences, and a great abundance of the most nourishing food. Massage and electricity are very useful later.

For the convulsive attacks, castor, asafœtida, bromide of sodium, solution of anisated ammonia, and tribromethyl are of service.

For the neuralgic pains and paralyses, electricity, cold douching, cold and spirituous frictions, and hypodermics of morphine.

For the insomnia, narcotics are to be given only in very exceptional cases, and instead of them should be used bromide of sodium, chloral, lactucarium, or a glass of beer at night.

NEURASTHENIA.

General Symptoms, often varying in individual cases: Pressure and pain in the head, hyperæsthesia of the scalp, incapacity for methodical mental work, sometimes weakness of vision, and a feeling of pressure in the eyes (neurasthenic asthenopia), and insomnia. Depression of the mind; a feeling of anxiety and a hypochondriacal frame of mind; sensations of vertigo, general bodily weakness, poor appetite, costiveness; a dry skin and sluggish circulation, cold hands and feet; nervous palpitation; profuse sweating, salivation; pains in the back, paræsthesiæ and pains in the extremities, etc., etc.

The condition demands psychic treatment and encouraging words; general dietetic rules according to the individual requirements. Severe mental labor, the use of much alcohol or

tobacco, and sexual excitement are to be forbidden. Moderate exercise in the open air, with avoidance of bodily fatigue, and house gymnastics are advisable; also electro- and hydrotherapy, sea baths, but not laborious mountain-climbing.

Medical Treatment, for the most part symptomatic: Preparations of iron and quinine and Fowler's solution in case of anæmia; stomachics, pepsin, hydrochloric acid, and bitters in dyspepsia. For the insomnia, morphine and chloral should be avoided if possible, and resort be had to general measures. In the evening a warm bath of a half-hour's duration, a cold compress to the head or nucha, or a cold foot bath with rubbing of the legs; general faradization; and a glass of beer or a little generous wine. When these means fail, resort must be had to bromide of potassium (gr. xlv.-3 i.), extract of cannabis indica or tannate of cannabin (gr. iiij.-viiij. in powder), urethane (gr. xx.-xlv. in aqueous solution), or paraldehyde (℥ xlv.-3 i. at night).

DELIRIUM TREMENS.

See Poisoning.

DIFFICULT DENTITION (*Conf.* INFANTILE ECLAMPSIA).

In convulsions for teething, the swollen gum should be incised, and calomel (gr. $\frac{1}{3}$) with jalap (gr. v.) may be given every three hours; if need be, the gums and cheeks may be rubbed with chloroform. Enemas of chamomile tea; warm baths with cold affusions. Bromide of sodium in aqueous solution.

In catarrhal affections of the bronchial mucous membrane, mild laxatives are indicated, but an emetic should be given only in case of absolute necessity. When gastric and intestinal symptoms are present (vomiting and purging), the treatment must be circumspect, especially if the trouble is not catarrhal but reflex, the tongue being clean and the appetite good. Here no astringents are to be given; only a warm bath or perhaps an oil emulsion with a drop or two of tincture of opium. If actual gastro-duodenal catarrh is present, then milk with lime water is to be given; and calomel (gr. $\frac{1}{4}$) with chalk (gr. iss.) every 2 hours.

Skin eruptions, especially crusts on the head and face, are to be treated with an application of poppy-seed oil, which is to

be allowed to soak in for a while; also mild laxatives. Roseolous spots on the skin have no significance.

V. DISEASES OF THE URINARY ORGANS.

Diseases of the Kidneys.

NEPHRITIS (BRIGHT'S DISEASE).

1. ACUTE NEPHRITIS.

Antiphlogistic remedies, leeches and ice-bags over the region of the kidneys, and mild laxatives. The patient is to remain in bed, and take nourishing food suited to the condition of the digestive organs, especially milk and also buttermilk, but no coffee or tea. Methodical diaphoretic treatment; warm baths, prolonged according to circumstances to an hour, beginning at a temperature of 97° F. and gradually increased by the addition of hot water to 108°; followed by a sweat under woollen coverings; when the fever is high, wet packing continued for a considerable time is enough. Beware of Russian or Turkish baths, or too energetic diaphoresis in general, for the dropsical fluid is a reservoir for the harmful constituents of the urine the too rapid condensation of which may lead to the production of uræmic symptoms. As a medicinal diaphoretic, jaborandi may be cautiously used. As a mild diuretic, acetate of potassium is sometimes useful. For the treatment of ascites, see above under that heading.

In case of suppression of urine, laxatives (senna, frangula) are to be given; for the fever, quinine and digitalis; for the anæmia in long-continued cases, the iron preparations.

2. CHRONIC NEPHRITIS (INTERSTITIAL NEPHRITIS).

A non-nitrogenous diet to supply the loss of albumin by the urine—eggs, milk, oysters. The digestion may need to be assisted.

Methodical diaphoresis as above (see Acute Nephritis), or injections of hydrochlorate of pilocarpine (8 minims of a solution of a grain and a half to the drachm). The patient should drink large quantities of a mildly carbonated water, or milk from a pint to several quarts a day. The dropsy is to be treated by digitalis, acetate of potassium, or calomel (see Ascites).

PERI- AND PARA-NEPHRITIS.

Antiphlogistic treatment in the beginning: ice as long as it is grateful and relieves the pain; mercurial ointment, narcotics; later, poultices. When an incision is necessary it should be made two fingers' breadth below the last false rib on the outer side of the sacro-lumbalis, at the thinnest part of the wall where the aponeuroses of the transverse and oblique muscles unite (nephrotomy).

URÆMIA.

Diuretic measures and derivation to the skin, as for nephritis (hot baths or the pack, and pilocarpine subcutaneously); laxatives; when the fever is high, digitalis and acetate of potassium.

When uræmic symptoms threaten, drastics are called for (colocynth, aloes, croton oil); when they appear, ice-bags to the head and cold affusions to the same part; in case of convulsions, subcutaneous injections of morphine. In severe attacks in strong individuals, venesection is indicated; chloral. In the intervals between the attacks, warm baths and the ingestion of large quantities of fluid are called for in the hope of restoring the secretion of urine.

PYELITIS.

In acute cases antiphlogistic remedies (leeches or cups over the kidneys), and cold compresses only in the beginning. Diaphoresis. In cases of severe pain with vomiting, warm baths, warm narcotic poultices over the region of the kidney; morphine by the mouth, subcutaneously, or in suppository; for the tenesmus, lupulin with or without tannin.

In chronic cases, an abundance of carbonated waters, Kissingen or Vichy; tepid baths, milk. In cases following on gonorrhœa, the balsams.

To reduce the suppuration in the pelvis of the kidney, tannin, lycopodium, rhatany, catechu, and lime water with milk. In cases of hemorrhage, drop doses of solution of chloride of iron in water, fluid extract of hydrastis, and acetate of lead; the last is also recommended for use by injection into the bladder (gr. i. in $\bar{\zeta}$ iv.).

CONCRETIONS, RENAL CALCULI.

For sand and gravel of uric acid or urate of ammonium, the alkaline carbonated waters, Kissingen, Wildungen, Kreuznach, Vichy; bicarbonate or phosphate of sodium, carbonate of potassium or of sodium, carbonate or salicylate of lithium, natural lithia waters. Active exercise, vegetable diet, with pigeons and fruit, much water, no alcoholic liquors, very little nitrogenous food, cheese, gravies, etc.

For ammonio-magnesium phosphate, amorphous phosphates, carbonate of calcium: pure (non-sodic) carbonated waters, vegetable acids, lactic acid.

For cystin and oxalate of calcium, general hygienic treatment, avoidance of excesses of all kinds, moderate exercise, an abundant of water (hot water, seltzer water). The acid phosphate of sodium is a solvent for oxalate of calcium.

RENAL HÆMATURIA.

Absolute rest; ice bags over the region of the kidneys, very cold enemata with vinegar, derivatives. Tannin with acetate of lead, alum, ergotin, lime water, phosphate of calcium, acids, and solution of chloride of iron in the drinking-water.

AMYLOID KIDNEY, AND ADDISON'S DISEASE.

See Constitutional Diseases.

Diseases of the Bladder.

CYSTITIS.

1. ACUTE CYSTITIS (ACUTE CATARRH OF THE BLADDER).

Rest in bed, active diaphoresis, and a low diet, mucilaginous decoctions, almond mixture, milk, but not any spices nor much salt. Ten or twelve leeches may be applied to the perineum, in women to the labia majora. Hot poultices, sitz-baths, prolonged warm baths. Morphine ($\frac{1}{2}$ grain every 3 hours), belladonna, cannabis indica, opium by the mouth or rectum, or with calomel; morphine suppositories. A tablespoonful every two or three hours of a five-per-cent solution of chlorate of potassium. The digestion and the bowels must be looked after. For the tenesmus a vesical injection of 3 or 4 ounces of

starch water with 20 drops of laudanum at a temperature of 99.5°.

In the later stages tannin, hæmatoxyton (3 ss. a day), oil of turpentine. The catheter (elastic and thoroughly aseptic) should be used only in cases of necessity. Wildungen water, or decoction of uva ursi ($\frac{3}{4}$ ss. : $\frac{3}{4}$ iv.).

In case of the formation of an abscess (parenchymatous cystitis, pericystitis) a careful incision will be necessary.

2. CHRONIC CYSTITIS.

To be avoided: Coffee, tea, beer, carbonic acid, fatty foods, indigestible vegetables. May be taken: Mild claret, fruits, grapes, meat, milk.

At first warm, gradually changed to cold, baths or sitz-baths. Alkalies as long as the urine is acid; Wildungen, Ems, Vichy, Carlsbad waters; lime water, carbonate of sodium. When the urine is alkaline, acid drinks, phosphoric and benzoic acids.

Astringents: Alum whey, tannin, uva ursi, copaiba, turpentine, tar water, quinine. When the general health is impaired, mild chalybeates, cinchona wine.

Care must be taken that the bladder is completely emptied; in case of atony, ergotin may be given by the mouth, but only when necessary; in cases of long standing, injection of warm starch water (see above) with the addition later of tannin (from $\frac{1}{2}\%$ increased up to 3%) or acetate of lead (1 to 1,000), best given by means of Hegar's funnel apparatus acting only by hydrostatic pressure; if a catheter is introduced into the bladder, it must be previously thoroughly disinfected. Washing out the bladder twice a day with resorcin is highly recommended, and this is to be combined with the drinking of Carlsbad Schlossbrunn water.

VESICAL CALCULUS.

Conf. Renal Calculi. In addition to the measures there recommended in the case of small concretions, injections of solvents appropriate to the special form of calculus may be made; drinking of Carlsbad, Vichy, or Obersalzbrunn waters; alkalies. Large stones demand lithotomy or the crushing operation.

VESICAL SPASM (SPASMODIC ENURESIS OR DYSURIA).

Warm, general, and sitz baths, warm compresses of hyoscyamus, belladonna, or nicotiana; later, cold baths. Lycopodium 3 ij. and tincture of opium 3 ss., in water $\frac{3}{4}$ vi., in tablespoonful doses; flaxseed tea.

Enemata of aromatic nervines, opium, or belladonna.

Narcotics by the mouth, hypodermically, or in suppositories. In hysterical cases, vaginal suppositories of one grain of opium (also with chloral), and morphine internally with bitter-almond water and tincture of valerian; the bromides, camphor.

Wax bougies with morphine salve may be introduced and allowed to remain for a few minutes. The diet should be the same as that prescribed for catarrh of the bladder. In addition, iron and quinine may be useful.

VESICAL PARALYSIS.

In mild cases, massage over the region of the bladder, cold-water treatment. When hyperæmia of the spine exists, wet cups may be applied to the sacral region.

Catheterization, the introduction of a soft catheter which is to be immediately withdrawn on the appearance of tenesmus, and reintroduced frequently. If catheterization does not succeed, aspiration by means of a fine needle is called for; the needle should be thrust exactly in the middle line just above the symphysis pubis. Injection of cool water, or cold douches and enemas. Mildly astringent vesical injections of red wine, tannin, or zinc. Electricity, tonic hygienic and medicinal treatment. Extract of nux vomica (gr. $\frac{1}{4}$ to iss.), cantharidal oil (1 to 6 drops several times a day), ergot, cinchona, valerian, asafoetida with camphor and ammonium preparations.

NOCTURNAL ENURESIS.

If the use of chloral at night, conjoined with abstinence from fluids, is ineffectual, trial is to be made of iron and quinine, cold frictions along the spine, and electricity. Other remedies that are recommended are: Lupulin, gr. i. morning and night; a mixture of tincture of nux vomica 3 i., tincture of opium 3 ss., tincture of ergot 3 ij., 8 to 15 drops morning

and evening; or a pill of extract of *nux vomica* gr. $\frac{1}{4}$, and black oxide of iron gr. ij., three times a day; one drop several times a day in sweetened water of solution of the chloride of iron; strychnine. The last-named, injected in not too small dose every two or three days in the sacral region, and later only on a recurrence of the wetting of the bed, is a very efficacious remedy. The faradic current, with one ball-pointed metallic electrode in the rectum, is also of service.

Further, cold sitz-baths, warm aromatic baths (aromatic species with the addition of a glass of brandy), and the introduction of a thin catheter, left *in situ* for 5 to 10 minutes several times a day.

VI. DISEASES OF THE SEXUAL ORGANS.

I. Diseases of the Male Sexual Organs.

GONORRHŒA.

See Infectious Diseases.

EPIDIDYMITIS AND ORCHITIS.

At first energetic antiphlogistic treatment, applications of ice, leeches to the scrotum, supporting the testicles on a cushion, rest in bed; laxatives, morphine.

In cases of severe inflammation in gonorrhœa all injections should be discontinued, and the parts painted with one part of tincture of iodine to 2 to 4 of glycerin or flexible collodion; cold sitz-baths.

Later, iodide of potassium internally, iodide of lead, collodion externally, and strapping with adhesive plaster. A suspensory bandage should be worn.

PROSTATITIS.

The patient should maintain the horizontal position, with leeches and then hot poultices to the perineum; narcotic poultices; hypodermic injections of morphine; mercurial ointment to the perineum; oleaginous enemata. Large quantities of alkaline water should be taken. When distinct fluctuation is made out, a free incision should be made from the rectum.

HYPERTROPHY OF THE PROSTATE.

In the beginning of the affection, laxatives, especially Carlsbad salts, and, when this is no longer sufficient, the catheter must be used. Parenchymatous injections of ergotin or tincture of iodine, and internally iodide of potassium.

FREQUENT POLLUTIONS.

The patient should be watched to see that onanism is not practised during sleep. The evening meal should be light, the patient should sleep on a hard mattress with light bed covering, and should rise early. The action of the bowels should be regulated.

When hemorrhoids exist, Homburg and Marienbad waters are useful; in tuberculosis a whey cure; cold sponging and sitz-baths are of service.

Medicinal treatment consists in the exhibition of lupulin, bromide of potassium, uva ursi, camphor, chloral, iron, cinchona.

Further, the introduction of wax bougies, mild escharotic applications to the prostatic urethra, the cold-water treatment, sea baths.

SPERMATORRHŒA.

Tonics, hydrotherapy, sea baths, exercise, a non-stimulating diet, milk cure. Lallemand's caustic applications are seldom called for. Galvanization of the rectum and perineum. Iron, quinine, lupulin, camphor, bromides, nux vomica, ergot. Regulation of the bowels.

SYPHILIS.

See Infectious Diseases.

2. Diseases of the Female Sexual Organs.

A. DISEASE OF THE UTERUS.

AMENORRHŒA.

Treatment of any anæmia, chlorosis, scrofula, or tuberculosis, to which the absence of the menses may be referred; the diet should also be looked after, and the action of the bowels

regulated. Eminentagogues are to be used only when no local nor general causative disease can be discovered. In certain cases good results follow scarification of the portio vaginalis; or the application of leeches to this part, to the inguinal region, or to the inner sides of the thighs or the ankles; or cupping. Irritant foot baths, warm sitz-baths, or peat baths; vaginal douches; or operative enlargement of the cervical canal may be called for.

DYSMENORRHOEA.

It may be organic (mechanical), nervous, or congestive.

Rest, warm applications to the abdomen.

Opium, belladonna, cannabis indica in enemata, or vaginal or rectal suppositories; anæsthetics, alcohol, chloral, iron with nervines, borax, nitrite of amyl; the waters of Marienbad, Homburg, or Kissingen.

Discission of the cervix uteri, especially of the internal os; leeches to the portio vaginalis or thighs; foot baths with the addition of nitro-hydrochloric acid.

MENORRHAGIA.

Symptomatic Treatment.—Ergot, gr. xv. in powder or infusion twice a day, ergotin; fluid extract of hydrastis continued for a considerable period during the flow, and in the intervals acids, acetate of lead, digitalis.

Local Treatment.—Cold enemata, prolonged vaginal douches, or injections of hot water (120° F.).

METRRORRHAGIA.

The treatment in general is that of menorrhagia. Ice; cold, or much better hot (120° F.), vaginal irrigations with carbolic water, or in extreme cases with solution of chloride of iron, diluted with 1 to 3 parts of water. The clots so formed must be removed, a day or two later, by repeated irrigations of a two-per-cent carbolic-acid solution. In certain cases intra-uterine injections may be cautiously made. The granular mucous membrane of the uterus may be scraped out with the sharp spoon, the operation being preceded by an injection of a one-half-per-cent solution of carbolic acid and followed by one of diluted tincture of iodine. Any foreign body (blighted

ovum or retained membranes) in the uterine cavity must be most carefully removed; and further measures are kneading and compression of the uterus through the abdominal walls, compression of the abdominal aorta, tamponade of the vagina. Ergotin may be administered hypodermically. In collapse, stimulants, injections of ether or camphorated ether, and warmth applied to the skin are called for.

Polypi or other intra-uterine growths are to be removed.

ACUTE PARENCHYMATOUS METRITIS.

Usually complicated with catarrhal inflammation of the mucous membrane.

Local blood-letting, scarification of the portio vaginalis, or the application of leeches to this part or to the abdominal walls. Priessnitz compresses or ice to the abdomen. Narcotics, by the mouth, rectum, vagina, or skin. Tepid baths. Saline purgatives or castor oil. Absolute rest, with the pelvis raised.

Mercury and stimulating emmenagogues must not be given.

CHRONIC METRITIS (CHRONIC INFARCT).

Causes.—Circulatory disturbances, difficult menstruation, interrupted or too frequent pregnancies with subinvolution of the uterus and disturbed lactation; untreated acute metritis or endo-, peri-, and parametritis; excessive or incomplete coitus, onanism; chronic heart and lung affections, and anything that causes frequent hyperæmia of the organ.

Chief Symptoms.—Anæmia, hysteria, enlargement of the uterus, and pain on pressure; frequent desire to urinate; pressure on the bladder and rectum (sacral region); enlargement of the cervix, and cervical catarrh.

Treatment.—A quiet mode of living, nourishing diet; regular evacuation of the bladder, and regulation of the bowels by dietetic or mild medicinal laxatives; scarification of the portio vaginalis once or twice a week. Ulcers of the cervix must be treated, and any malposition of the uterus must be rectified if possible.

Ergotin, by the mouth or subcutaneously, or especially injected into the cervical tissues.

Prolonged vaginal irrigations with water at 120° F., twice

a day, and a saline sitz-bath at night. Priessnitz fomentations (Neptune's belt) to the abdomen. A small sponge, dipped in a solution of iodide of potassium in glycerin (3 i. : $\frac{5}{8}$ i.), may be introduced into the vagina at night, and left *in situ* until morning. Uterine douches, tepid at first, and gradually cooled or warmed, as may seem best, are to be used with care.

Balneotherapy.—In mild recent cases, associated with anæmia and irregular action of the bowels, Ems, Neuenahr, and Vichy waters; in cases associated with venous congestion of the pelvic organs, Marienbad, Kissingen, etc.; in simple anæmia, Schwalbach, Brückenau, etc. For bathing, the carbonated and saline baths of Kreuznach, Dürkheim, Kissingen, etc.; in the case of strong women, sea baths; for weakly and very nervous women, the indifferent thermal waters of Landeck, Schlangenbad, etc., are suitable; also peat baths. The different waters for drinking and bathing may be advantageously combined to meet the special indications in individual cases.

ENDOMETRITIS (CATARRH OF THE UTERINE MUCOUS MEMBRANE).

Acute endometritis, which is of rare occurrence, is caused usually by taking cold while menstruating, by excessive sexual intercourse or onanism, gonorrhœa, irritation (cauterization) of the mucous membrane, ill-fitting pessaries, etc. It is manifested, in addition to local pain and slight fever, by a profuse serous, later purulent, discharge and a dark red color and swelling of the cervix.

The chronic form usually follows the acute, or arises from the same causes that produce chronic metritis (see above).

Cervical endometritis (often associated with ulcers or polypi) proceeds from the same causes as corporeal endometritis, and in addition is not infrequently the result of long-continued working of the sewing-machine by a treadle.

Acute endometritis demands removal of the causes as far as may be, rest and free movements of the bowels. Priessnitz fomentations, local astringents only when it has persisted for a long time. Indeed, all local treatment is to be avoided as far as possible, the only exception being local abstraction of blood from the cervix in the case of severe pain.

The treatment of chronic endometritis is first of all causal and hygienic; saline, chalybeate, and sea baths; mild laxatives. Scarifications, weak cleansing injections; repeated washing out with a two-per-cent carbolic-acid, or five-per-cent sulphate-of-copper solution. Only in very obstinate menorrhœa or parenchymatous disease (indicated by tenderness on pressure) should the following method be undertaken: Local application of the solid stick, intra-uterine injections of a very dilute solution of chloride of iron, tincture of iodine, glycerin, and stronger nitrate of silver and tannin solutions. The latter must be done only when there is a perfectly free outlet to the injected fluids; and in case there is none the cervical canal must be dilated with thoroughly aseptic sponge or tupelo tents; or the fluid, after remaining in contact with the mucous membrane for a time, must be drawn up again into the syringe. A very effective method is the application of tincture of iodine, chloride of iron, or carbolic acid (1 to 4 of water) by means of a sound, the end of which for about an inch is wound with a cotton thread. This mode of treatment requires a long time. Douches of a one-per-cent solution of chloride of zinc warmed to 99.5° F., and the use of tampons soaked in the same are highly spoken of. Astringent applications may be made in glycerin ointment or suppositories. The treatment of cervical catarrh is in general that of corporeal endometritis; especially useful being applications of a one-per-cent solution of chloride of zinc, of nitrate of silver in strong solution or solid stick, and of carbolic acid; astringent (tannin) pencils, or applications by means of a sound wrapped around with cotton. For the repression of granulations, the sponge tent is useful. The Nabothian glands should be frequently punctured; in case of exuberant growths, tincture of iodine, solution of chloride of iron, or the actual cautery should be used. Finally, amputation of the cervix may be necessary.

RETRO-UTERINE HÆMATOCELE.

The treatment is expectant and symptomatic. In the beginning, cold injections into the rectum and vagina; ice on the abdomen and in the vagina; mild laxatives, narcotics.

Only in urgent cases should a puncture be made from the vagina, and in case of sepsis drainage should be made and

antiseptics injected. The entrance of air is to be carefully guarded against.

PERIMETRITIS AND PARAMETRITIS.

Etiology.—Metritis and endometritis, malpositions of the uterus, ovarian tumors, rupture of small ovarian cysts, bleeding from a Graafian follicle, gonorrhœa, menstrual disorders, traumatisms (also difficult labor).

Treatment is that of peritonitis, viz., actively antiphlogistic; leeches, opium, ice. In chronic perimetritis, scarification of the cervix, Priessnitz fomentations, sitz-baths of 95° cautiously warmed or cooled, according to the patient's sensations. The bowels are to be kept open. Iodine, and saline baths containing iodine or bromine. Parametritis without any complications, calls for rest, Priessnitz compresses, and mild laxatives. After the fever has disappeared, iodide of potassium is to be used to promote absorption of the exudate; or peat baths or a course at Marienbad. When fever is high, quinine in effective doses, or salicylic acid or some other antipyretic. Good wine should be given in generous quantity.

B. DISEASES OF THE OVARIES.

ACUTE AND CHRONIC OÖPHORITIS.

Sexual intercourse is to be forbidden, the diet must be regulated, and mild laxatives given. Repeated abstraction of blood from the cervix (scarification). Cold or hot applications, according to the sensations of the patient; Priessnitz compresses during the night. Morphine or opium suppositories; tincture of iodine to the abdomen; saline sitz-baths. The anæmia, when present, calls for treatment.

OVARIAN CYSTS.

Tonics and mild laxatives. Iodine (Krankenheil waters) relieves the distressing symptoms and retards the development of the tumor only for a short time. Puncture is only palliative; but when it is combined with injection of iodine, in the case of simple cysts, it is sometimes curative. Ovariectomy is usually the only cure.

C. DISEASES OF THE VAGINA.

ACUTE AND CHRONIC CATARRHAL VAGINITIS.

The general treatment is the same as that of metritis and endometritis.

In the acute form, after the subsidence of the inflammatory stage, one or more cauterizations may be made with nitrate of silver; tincture of iodine; later milder astringents, irrigations, with a weak, tepid solution of permanganate of potassium; cleansing injections, followed by dusting the entire vagina with iodoform through a speculum, and during the night a tampon smeared with alum ointment (5 to 30 of lard), or glycerin, pure or containing tannin or boric acid; also tannin suppositories in the vagina.

Chronic vaginitis (*fluor albus*) demands lukewarm cleansing douches of one of the alkaline mineral waters (*Ems*, *Neuenahr*), and the more protracted cases solutions of tannin, alum, or sulphate of zinc. In country practice among the poor, injections may be ordered several times a day of a decoction of oak bark. Applications may be made by the douche, tampons, small sponges, or tannin pessaries.

VAGINISMUS, HYPERÆSTHESIA OF THE VAGINA.

All attempts at cohabitation should be forbidden. Any anomalous condition or disease should be treated. The parts may be painted with lead-water, nitrate of silver (1 to 50 solution), carbolic acid (1 to 30), or cocaine (1 part in 2 of alcohol and 3 of water). Finally, gradual dilatation of the *introitus vaginae*, by means of glass cylinders, which may be left in position for an hour; or forcible dilatation under chloroform, which is more rapid. The most certain method consists in the careful excision of all the remains of the hymen and splitting of the vaginal mucous membrane throughout its entire length, as recommended by Marion Sims. Internally, iron and the bromides.

PRURITUS VULVÆ.

When anæmia is present, iron may be given; the bromides; veratrine. Any eczema that may be present must be treated. Twice a day a warm sitz-bath, to which some potash has been

added, is to be taken. Applications of carbolic acid of a strength at first of 1 to 60, and gradually reduced to 1 to 20 or 1 to 10; also alum or diluted solution of the chloride of iron. Ichthyol or boric-acid ointment with cocaine (1 to 100); lotions and compresses of a concentrated solution of borax.

D. DISEASES OF THE BREASTS.

MASTITIS.

Removal of all mechanical sources of irritation. Priessnitz fomentations before, and warm applications during, suppuration; moderate pressure (bandaging the breast). Large incisions in a direction radiating from the nipple (not transversely, for fear of cutting through some of the milk ducts) under strict antiseptic precautions, drainage being provided for. Mild laxatives.

SORE NIPPLES.

Touching with five-per-cent carbolic-acid solution once or twice a day, and in the intervals an application of three-per-cent carbolic oil, a nipple-shield being used; or dusting with powdered gum Arabic after each nursing. Liniments of balsam of Peru, castor oil, benzoin, borax, glycerin, oxide of zinc. Cauterization with nitrate of silver; or compresses wet in red wine (very painful).

As a prophylactic measure, the nipples should be bathed frequently with water, brandy, or weak tannin solutions.

TO ARREST OR INCREASE THE SECRETION OF MILK.

Chloral, bromide of potassium, atropine, sulphate of potassium, melilot (sweet clover), and sage appear to be of service in arresting the secretion of milk; domestic applications for the same purpose are made of hops or walnut leaves. Strychnine, digitaline, caffeine, and jaborandi are credited with the property of increasing the lacteal secretion.

VII. CONSTITUTIONAL DISEASES NOT DUE TO INFECTION.

CHLOROSIS.

Iron, as much as possible in a short space of time, but only in preparations which are well borne by the patient, and do not disturb the digestion. Chalybeate waters. Tonics, milk-cure, regulation of the action of the bowels, hygienic measures, change of air.

PERNICIOUS PROGRESSIVE ANÆMIA.

The most nutritious diet possible. Iron and other blood-forming remedies. Transfusion. Arsenic; phosphorus in small and gradually increasing doses. If the presence of intestinal parasites is suspected, anthelmintics, preferably male fern, should be given.

SCURVY.

Prophylaxis.—Fresh vegetable diet, lemon juice, pure air, dry living apartments, good drinking-water, dry warm clothing.

General Treatment.—Juices of fresh herbs of all kinds, especially of the family of Crucifers, water-cress, radishes, mustard, horse-radish; then cabbage, lettuce, sauerkraut; acid fruits, lemons, apples, black cherries; vegetable acids, citric, acetic, and tartaric acids; fresh beer-yeast mixed with equal parts of honey, in doses of a tablespoonful every two hours; mulled wine; mineral acids; tonics, especially quinine, bitters, and aromatics.

Diet.—Fresh meat, soft-boiled eggs, egg and milk, wine, beer.

For scorbutic affections of the mouth, spirit of cochlearia diluted with water as a mouth wash; also sage tea, rhatany, chlorate of potassium, alum; painting the gums with equal parts of tincture of iodine and tincture of aconite with warm vinegar and a little brandy. For the bad odor from the mouth, washing out with permanganate of potassium (gr. i. : $\frac{3}{4}$ vi. of water), salol, or linden-wood charcoal with water. For the scorbutic ulcers of the gums, applications of nitrate of silver,

chromic acid (5 parts to 300 of water), or hydrochloric acid (1 to 6 of water). For the ecchymoses of the skin, washing with cold water, spirit of camphor, beer-yeast poultices.

PURPURA HÆMORRHAGICA, MORBUS MACULOSUS
WERLHOFFII.

An affection identical in its essence (blood changes) with scurvy, and for which the treatment is in general the same, only here the mineral instead of the vegetable acids are to be given; also styptics, solution of chloride of iron, acetate of lead.

℞ Acidi sulphurici,	3 i.
Alcohol.	3 iij.
Syr. rubi idæi,	℥ ss.
Decoct. cinchonæ (Cinchon., 3 v.),	℥ viij.

M. S. A tablespoonful every two hours.

In addition restoratives are indicated, and the strictest rest must be enjoined.

LEUCOCYTHÆMIA.

Fowler's solution in small initial doses gradually increased to 45 minims a day in divided portions, but never on an empty stomach. Quinine in large doses; douching over the spleen. In the joint affections, iodide of potassium (gr. x.-xxx. a day). In vomitign, broken ice. In diarrhœa, solution of chloride of iron in proper dilution. Repeated transfusions. To reduce the size of the spleen, in cases of chronic enlargement, parenchymatous injections of fluid extract of ergot, also of Fowler's solution (?).

SCROFULA.

Hygienic measures, fresh air, healthy sleeping-apartments, nitrogenous (meat) diet, tonics, especially iron (pyrophosphate).

Cod-liver oil; phosphate of lime; iodine, either the syrup of iodide of iron or iodide of potassium, or the iodine waters; acorn coffee, butternut leaves, calamus, rhubarb; mineral-water baths, saline and sea baths (not in scrofulous ophthalmia); cold-water treatment (in the torpid form with sluggish metabolism); frequent cold wet packs.

At the same time local treatment of the bone and joint affections, skin eruptions, catarrhs, eye troubles, and especially

the enlarged glands (parenchymatous injections of iodine; arsenic, collodion, idiode of lead externally, early evacuation of pus, or extirpation). To avoid the production of scars, the abscesses may be punctured in several places with a hollow needle, through which aspiration may be made; after the removal of the needles, further evacuation of pus may be secured by pressure. The punctures are to be repeated every few days. The posterior surface of the body and legs should be methodically rubbed twice a week in the evening with a tablespoonful of soft soap, and washed off at the end of ten minutes.

DIABETES INSIPIDUS.

An abundance of good food, with careful attention to the digestion. Good care of the skin. Water may be taken as desired. Extract of valerian in large doses, up to $\frac{z}{i}$ a day. Extract of ergot. Jaborandi or pilocarpine, and carbolic acid. Opium for the relief of the manifold troubles associated with the disease, but not in doses large enough to disorder the digestion. The constant current may be applied to the spine and over the region of the kidneys.

DIABETES MELLITUS.

The patient must avoid all substances which are excreted in the form of sugar, as starchy and saccharine matters; bread, potatoes, sugar, leguminous vegetables, rice, sago, beer, sweet wines and fruits such as grapes, plums, cherries, and all kinds of flour and meal. Instead of ordinary bread the patient may take bran or gluten bread; or thin slices of bread treated with an infusion of malt (by means of the diastase of which the starch is converted into sugar and dissolved out), then washed, dried, and toasted. Those surrogates of bread (which are not very digestible) cannot usually take the place of the latter for any great length of time, and, as a rule, a small quantity of bread must be allowed from time to time. Saccharin is recommended as a harmless sweetening material, but it often excites disgust after use for a little while.

On the other hand, milk can be taken in moderate quantities, for milk sugar has often no influence on the excretion of sugar in the urine; its effect should, however, be watched, and

it should be discontinued if the amount of sugar is sensibly increased. Sour milk is often better borne than sweet. Green vegetables are also allowed, such as spinach, cauliflower, and the lighter cabbages; kidney beans, asparagus, celery, radishes, cucumbers, cress; lettuce and endive salads, walnuts and almonds; edible mushrooms; also the fruits containing little sugar, such as strawberries, raspberries, and currants, and peaches, lemons, and oranges.

The chief and, as far as possible, sole article of diet should be meat (combined with the administration of lactic acid in the form of lactic-acid lemonade—containing from ʒi.-v. of lactic acid and ʒi. of fennel, anise, or cinnamon water to the quart—of which ʒiij. with gr. viij. of bicarbonate of sodium may be taken every two hours). The patient should therefore subsist chiefly on bouillon, rare beefsteak, and the like, caviare, fish, oysters, crabs, eggs (the white in any amount, the yolk in limited quantity), cheese, butter (in large quantities up to five ounces a day), lard, and other fats. Coffee and tea (not too strong) may be allowed in moderation; they may be sweetened with mannit, glycerin, or saccharin; red wine in water, carbonated waters, and also pure well water in quantity sufficient to satisfy the thirst. A “diabetic drink” consists of citric acid ʒiiss. and glycerin ʒiij. in a quart of water.

In case of digestive disturbances and a repugnance to meat, which are very apt to arise, the meat must be reduced in quantity, and a little bread allowed temporarily. The medicinal treatment consists in the administration of opium (gr. iss.-v. in the twenty-four hours), morphine up to gr. iss. a day, or codeine up to gr. vi. a day. Little good results from the administration of alkalies, salicylic or carbolic acid, glycerin, or arsenic. Exercise, short of fatigue, attention to the cutaneous functions, warm clothing. Carlsbad and Neuenahr waters are recommended.

RHEUMATISM.

ACUTE ARTICULAR RHEUMATISM.

Salicylate of sodium is the capital remedy; also antifebrin and antipyrine. The affected joints must be immobilized by padded pasteboard splints; flying blisters and other forms of counter-irritation; anæsthetics (ether, benzin, chloride of

ethyl); methodic subcutaneous injections of a two-per-cent carbolic-acid solution, or morphine; ice to all the affected joints; chloral, salol. The so-called specific antirheumatics (colchicum, aconite, citric acid, nitrate of potassium and of sodium, iodide of potassium, propylamin) are for the most part superfluous. For the troublesome sweating, atropine may be given in dose of gr. $\frac{1}{16}$.

When the symptoms are intermittent in character, quinine may be given in large doses (gr. xv.-xxx. twice a day). By way of prophylaxis against complications, bicarbonate of sodium may be given in doses of ʒ v.-x. a day in sweetened water until the urine is neutral in reaction, and then continued in smaller doses; or one drop of stronger water of ammonia several times a day.

CHRONIC ARTICULAR RHEUMATISM.

In acute exacerbations of the chronic disease, painting with iodine, blisters, and especially the constant galvanic current. Leeches if the joint is very painful and greatly swollen. The remedies mentioned under the acute form may also be tried.

For the occasional pains in the joints, protracted warm-water, Russian, Turkish, or hot sand baths. Cold douches. Foot baths.

When the disease is very obstinate, sulphurated potassa baths ($\frac{1}{4}$ to $\frac{1}{2}$ a pound to the bath, which should be at a temperature of 99.5° , and be continued from one-half to one hour), after which the affected joints should be rubbed with camphorated oil and enveloped in camphorated cotton. In the morning and evening a blister may be made with cantharidal plaster near the joint, and then veratrine, gr. $\frac{1}{16}$, mixed with gum Arabic, gr. v., applied to the raw surface; this is to be repeated in two days, and the parts then covered with oxide of zinc ointment.

Baths of Teplitz, Wiesbaden, or Aachen; strong hot saline baths; sulphurated peat baths.

MUSCULAR RHEUMATISM, RHEUMATIC MYALGIA.

In very recent cases, cupping or painting with iodine; the electric brush with a strong galvanic current; rubefacients, soap liniment, etc.; veratrine, aconite, or ichthyol ointment; morphine subcutaneously; massage.

In traumatic lumbago, ice compresses.

Internal remedies: Chloral, colchicum, guaiac; diaphoretics; iodide of potassium; salicylate of lithium.

Balneotherapy.—At the beginning in acute cases, warm tub, vapor, or hot-air baths; in chronic cases, methodically repeated very warm baths (sometimes with sulphurated potassa), followed by a sweat under woollen coverings; in inveterate cases, cold-water treatment. Among the mineral baths may be mentioned Teplitz, Aachen, and Wiesbaden; sulphur, peat, saline, and carbonated baths; hot sand baths.

GOUT (PODAGRA).

Treatment of the Gouty Diathesis.—A preponderatingly vegetable diet with but little fatty food; exercise; avoidance of beverages which retard metabolism (the alcoholics in general, especially champagne, with the exception of a little mild claret, coffee). An abundance of fruit and vegetables. Milk, whey, and water (containing soda) cures, but better yet the mineral-water cures (Kissingen, Carlsbad, Teplitz, Wildbad, Wiesbaden, and the lithia waters, natural and artificial). Sponging with cool water. Regulation of the digestion and improvement of the general strength.

Bicarbonate of sodium, a heaping teaspoonful three times a day, one-half to one hour before meals, in a pint of water at a temperature of 86° to 104° F. Carbonate or salicylate of potassium or of lithium; acetate of potassium; lime water.

Treatment of the Attack.—Low diet, watery soups, cooked fruit, avoidance of meat; waters containing soda, no alcoholics; in case of heartburn, magnesia.

The affected member should be wrapped in cotton and kept elevated, with applications of oil of hyoscyamus with chloroform, opium ointment, benzin, ichthyol salve; and in sluggish cases, tincture of iodine, afterward covering the part with gutta-percha tissue.

Internally the chief remedy is salicylate of lithium (gr. xv. every half to one hour) in about half a pint of slightly warmed acidulated water; and when the pain begins to subside, the same dose is to be continued three times a day, until perfect recovery is established. Salicylate of sodium may be given instead in doses of 45 grains twice a day. Aconite, colchicum

(20 to 30 drops four times a day of tincture of the seeds); chloral, morphine subcutaneously. Turkish baths.

ARTHRITIS DEFORMANS.

Internally.—Salicylate of sodium, iodide of potassium, bicarbonate of sodium with rhubarb, until the bowels have been moved two or three times.

Externally.—Avoid wetting the hands; painting with iodide of potassium; enveloping the hands in hot bran; sand baths. Wildbad, Aachen, and Teplitz.

RACHITIS (RICKETS).

Prevention and cure of digestive disturbances and diarrhoea; suitable nourishment (for infants mother's milk or efficient substitutes therefor), animal food, glutens. Hungarian wine. Baths, especially salt-water baths. Fresh dry air. The child should lie on a tolerably hard mattress with a ring-shaped pillow.

Cod-liver oil, calamus, rhubarb, phosphorus, pyrophosphate or albuminate of iron, phosphate or carbonate of calcium, lime water. Orthopedic treatment after the complete subsidence of the disease.

OSTEOMALACIA.

Improvement of the hygienic conditions. Lime, cod-liver oil, iron. The woman should be cautioned concerning the danger of a new conception.

PROGRESSIVE MUSCULAR ATROPHY.

See Diseases of the Spinal Cord.

TRICHONOSIS.

Benzol. Glycerin. See these drugs in Part II.

RHEUMATIC, CATARRHAL, HERPETIC, EPHEMERAL FEVER.

A mild, sometimes high (but not long continued) fever, standing in no relation whatever to the slight local symptoms present.

Diaphoresis, jaborandi, occasionally also symptomatic remedies.

AMYLOID DISEASE.

Progressive amyloid degeneration of the liver, kidneys, spleen, and lymph-nodes.

Etiology.—Scrofula, rickets, phthisis, protracted suppuration, cancerous, mercurial, or malarial cachexia, syphilis, gout.

Therapy.—As far as possible causal; removal of incurably suppurating limbs, energetic treatment of syphilis if present, etc. In addition, iodide of potassium, syrup of iodide of iron, ammonio-ferric chloride; easily digestible nutritious food; baths. For the dropsy, boro-tartrate of potassium and sodium, diaphoresis. (*Conf.* Bright's Disease.)

ADIPOSIS (OBESITY).

1. BANTING-VOGEL METHOD.

Avoidance of all fats such as butter, oil, lard, fat fish, and fatty foods of every kind; and also of fat-forming substances, such as starches, gums, sugar, honey, potatoes, farinaceous food, bread, beer rich in malt, heavy sweet wines, grog, etc.

Diet List.—1. Breakfast: Coffee with very little or no milk or sugar, a little toast, no butter, no sweet cakes.

2. Luncheon: For rather large eaters, two soft-boiled eggs, a little raw lean ham or other lean meat, a cup of tea or a glass of thin sour wine.

3. Dinner: A plate of thin meat broth, boiled or roast lean meat, green vegetables, stewed fruit, a little potato and a small quantity of bread; followed by a cup of black coffee.

4. Supper: Meat broth or tea with cold meat, lean ham, soft-boiled eggs, salad, and a little bread.

Voit computes the average daily amount of the different kinds of food, taken under the Banting system, as follows: Albumin, 8 oz. $2\frac{1}{2}$ dr.; fat, 2 dr.; carbohydrates, $1\frac{1}{2}$ oz. This method is effectual in reducing the flesh, but when too long continued is dangerous to life.

2. EBSTEIN'S METHOD.

This consists in reducing the amount of nourishment taken without causing the patient to suffer greatly from hunger, or reducing his capacity for work. Three meals only are to be

allowed, no luncheon and no late supper. The amount of carbohydrates is reduced, and sugar, sweetmeats, potatoes, and beets are forbidden.

Diet List in Uncomplicated Obesity.—1. Breakfast (in winter at 7:30, in summer at 6 or 6:30): A large cup of black tea (about one-half pint) without milk or sugar; an ounce and a half of white bread or toasted brown bread, with plenty of butter (up to one ounce).

2. Dinner (between 2 and 2:30): Soup, often with bone marrow served in a fatty layer floating on the soup, and not melted and incorporated with it; from four to six ounces of roast or boiled fat meat with plenty of gravy; vegetables in moderate quantity, preferably the leguminous kinds and also cabbage, but very little beet, because of the sugar it contains, and no potato; salad or some stewed dried fruit, apple sauce, steamed cherries without sugar. Two or three glasses of a light white wine. For dessert a little fresh fruit, and soon after dinner a large cup of black tea without milk or sugar.

3. Supper (about 7:30 or 8 o'clock): In winter almost regularly, in summer occasionally, a large cup of black tea without milk or sugar; an egg or some fat roast meat, or both, or fat ham, German sausage, fresh or smoked fish, about an ounce of white bread well buttered (3 to 5 drachms), and sometimes a small piece of cheese and some fresh fruit.

Voit reckons the average daily amounts in this diet (containing about $8\frac{1}{2}$ ounces of roast meat, or $\frac{3}{8}$ of the amount allowed in the Banting treatment) as follows: Albumin, 3 oz. $1\frac{1}{2}$ dr.; fat, 2 oz. 5 dr.; carbohydrates, $1\frac{1}{2}$ oz.

By reason of the large amount of fat in the food, the feeling of satiety is sooner produced, thus rendering possible the reduction of the amount of nourishment taken to the lowest limit.

3. OERTEL'S METHOD.

It consists in general of a change in the quality and quantity of food taken, as well as in the patient's mode of life; a transition from a life of comfort and ease, to one of activity and work; but especially in a reduction of the amount of fluids taken, and the avoidance of drinking at meal-time.

The method is divided into two parts—1st, reduction of the amount of fluid in the body, especially in the blood; and 2d,

mechanical correction of circulatory disturbances and strengthening of the heart muscle.

Diet List.—(Patients who suffer from a simple excess of adipose tissue, without any complications, are allowed much latitude; but those whose obesity is complicated with respiratory or circulatory changes are bound strictly to the prescribed quantities.)

1. Breakfast: Coffee or tea with milk (in all 5 ounces) and $2\frac{1}{2}$ ounces of bread.

2. Dinner: No soup, and at most 3 to 6 ounces of boiled or roast beef, veal, game, or not too fat fowl; salad or light vegetables in any desired amount; fish cooked with little grease; 6 drachms of bread, or occasionally some farinaceous food, in quantity not to exceed 3 ounces. For dessert 3 to 6 ounces of fruit, preferably fresh, but, if need be, occasionally a little preserved fruit. It is better to drink nothing during the meal; but when the weather is very hot, and in the absence of fruit, from 5 to 8 ounces of light white wine may be taken.

3. Tea: Coffee or tea as at breakfast, with not to exceed 5 ounces of water; in exceptional cases, about 6 drachms of bread may be taken.

4. Supper: One or two soft boiled eggs, 5 ounces of meat, 6 drachms of bread, a small bit of cheese, salad, and fruit; as a drink 5, to 8 ounces of wine mixed with 4 ounces of water.

It is specially enjoined not to take fluid in large quantities at a time, but to drink the prescribed amount for the day in small portions.

The heart is to be strengthened by methodical exercises, either walking on a level or climbing ascents, according to the ability of the patient.

ADDISON'S DISEASE.

Symptomatic treatment, a quiet mode of life, good nourishing food, cardiac stimulants, iron and quinine; tonic sea baths.

DROPSY. (*Conf.* ACUTE NEPHRITIS AND ASCITES.)

Local or general anasarca, often combined with ascites.

Etiology (it is always a symptom of some other disease).—Bright's disease, valvular disease of the heart and obstruction to the circulation in the lungs (chronic pneumonic exuda-

tions, tuberculosis, emphysema, and atelectasis); great debility and disorders of nutrition (anæmia, chlorosis, malarial cachexia, typhoid fever); abdominal tumors.

When the cause cannot be removed, only temporary relief can be looked for from the use of the following:

Resorbents.—Methodical diaphoresis by means of baths of one-half to one hour's duration with the temperature gradually raised by the addition of hot water to 104° F.; alcoholic and other vapor baths. (Beware of cases of weak heart, capillary bronchitis, fever, too great exhaustion); packing in warm bran, fumigations with juniper. Diuretics, especially borotartarate of potassium and sodium, acetate of potassium, in infusion of digitalis, squill; Wildungen water. In some cases drastic purgatives may be used with caution. Cockroach (gr. v. daily in powder).

Tonics.—Cinchona, iron, blessed thistle, etc. An albuminous diet, improved conditions of living, etc.

In the case of ascites with great dyspnoea, paracentesis; removal of the fluid in small quantities at a time, combined with compression of the abdomen with a bandage. Beware of scarifications.

VIII. INFECTIOUS DISEASES.

TYPHOID FEVER.

Fresh, cool air (56° to 66° F.), obtained by treating the patients in tents or huts; perfect cleanliness; rest in a smooth bed, avoiding creases in the sheets, and sponging the back with cold water; cleaning the teeth with a brush several times a day.

Wine in abundance to drink—light clarets, etc.; in mild cases, stronger sherry, port, or champagne; in severe cases, in amounts varying from a pint up to several quarts in the twenty-four hours, according to the severity of the disease. In fever alcohol reduces the temperature, but does not intoxicate. In cases of collapse, hot tea or coffee with brandy; as much water as the patient will drink, especially when the tongue is dry and fissured.

For nourishment, easily digestible nitrogenous and carbonaceous food—by preference milk, from one to several quarts

a day, with $1\frac{1}{2}$ to 3 ounces of brandy. Meat broth with egg, meat juice, peptone preparations, prepared foods.

Whether calomel acts as an abortive remedy is a debatable point, but certain it is that the drug in three or four doses of gr. viij. each, given within the first nine days of the disease, does almost always, after several watery stools have been had, lower the temperature very decidedly for a day or two, and apparently renders the subsequent course of the disease milder. A possible explanation of this effect is that it destroys some of the bacilli by the formation of corrosive sublimate in the intestinal canal.

Of antipyretics quinine only is to be considered, given when necessary in large single doses (gr. xxx.-xlv.) or in smaller divided doses (gr. viij.-xv.) every second evening. Of all the means recommended for reducing the temperature and keeping it from rising, the only one which is effectual and at the same time exerts a favorable influence on the course and termination of the disease, is the immediate abstraction of heat by cold water after Ernst Brand's method. By means of this the cerebral symptoms—broncho-pneumonia and decubitus—can be almost wholly prevented; the weak heart is strengthened, the appetite is preserved, and the second stage as well as the convalescent period is decidedly shortened. The following are the directions for employing the water treatment, by which we mean the cold bath: It should be begun early, even when the diagnosis is still uncertain. The colder the water, the shorter should be the bath (from three to at most ten minutes). The higher the temperature remains after the bath, the more frequently must it be repeated, and the cooler should the water be. In general, in moderate cases in strong adult patients, when the rectal temperature is from 102° to 104° , one bath of ten to fifteen minutes' duration at a temperature of from 59° to 68° , day and night, will suffice. The number of baths may, however, in severe cases during the first and second weeks reach twelve to sixteen or more, while later half that number and less will be sufficient. After each cold bath the hands and feet should be well dried, and a warm bottle should be placed at the feet. Before and after each bath the patient should take a good swallow of some strong wine.

This method has been employed repeatedly, even in the case of pregnant women, with good results.

Children, the weak and the aged, and also patients in the later stages of the disease, are to be placed in a bath at a temperature of 86°, and then cold water may be poured on the head in quantity sufficient to cool the bath down to about 77°. The baths may be of five or ten minutes' duration, and can be repeated several times a day.

Absolute contra-indications to cold baths are: peritonitis, whether preceding or following perforation; also profuse intestinal hemorrhage (not a mere tinge of blood), in which cases symptomatic treatment is in order.

If the baths are absolutely refused, cold sponging must be resorted to; and if this is resisted, then sponging the entire body with wine or vinegar every one to three hours, alternating with cold enemata.

When the temperature rises above 102°, in addition to the baths, packing with cold wet sheets (covered with blankets), the legs being left free, for ten minutes at a time, from four to six times in succession, will render good service. For this purpose two beds must be placed alongside of each other, and the patient changed from one to the other. Or, if only one bed can be used, the packing may be longer continued, the sheets being sprinkled every fifteen to thirty minutes with as cold water as can be borne. This packing may in a measure replace the baths if the temperature does not rise above 102°, and is useful especially in children when there is great excitement, active delirium, and jactitation.

For capillary bronchitis, cold douching in a warm bath, mild expectorants, solution of anisated ammonia.

Immoderate diarrhœa, more than two or three stools a day, is to be treated with tannin, acetate of lead (gr. $\frac{1}{2}$) with opium (gr. $\frac{1}{3}$), nux vomica, subnitrate or salicylate of bismuth, nitrate of silver, alum, columbo; enemas of starch water with laudanum or nitrate of silver (gr. iss.-iij.).

Intestinal Hemorrhage.—Broken ice, ice to the abdomen, opium in frequent small doses, alternating with 5 drops of solution of chloride of iron, alum-whey; ergotin subcutaneously; and in addition ice-water enemata with opium and alum.

In constipation and fecal accumulation, which is strenuously to be avoided, enemas are to be given of plain water, or soap-suds and oil, every day if necessary.

Meteorism.—Cold compresses on the abdomen, changed

every half-hour; applications of oil of turpentine; cool enemas with oil; or the introduction of a rectal tube.

Retention of urine must be relieved at once by the catheter.

Perforation.—Opium, gr. i. every two hours; absolute rest; no drinks—only ice in the mouth.

Laryngeal Ulceration.—Warm mucilaginous drinks.

Bed Sores.—Prophylaxis consists in bathing the back with alcohol or brandy, and the use of air or water cushions. When excoriation has occurred, lotions of lead-water or carbolic-acid solution, collodion, ointment of tannate of lead, cataplasma ad decubitus (see *Plumbi Tannas* in Part II.).

TYPHUS FEVER.

The treatment should follow the same lines as that laid down above for typhoid fever, viz.: careful nursing, preservation of the nutrition, rational reduction of the temperature by baths, etc. In only exceptional cases are antipyretics to be given, and then preferably quinine.

RELAPSING FEVER.

The treatment is expectant and symptomatic; a cooling regimen, ice to the head, good nursing, nourishing food, wine; antipyretics and heart stimulants when necessary; large doses of quinine are highly recommended; restoratives in collapse.

Morphine in severe muscular pain and delirium after the crisis (from inanition); for the pains, rubbing with chloroform liniment.

Acute Exanthemata.

SCARLATINA (SCARLET FEVER).

Complete isolation of the patient as early as possible, and thorough disinfection of all articles used in the sick-room.

The temperature of the room should be low (59° to 66°), and ventilation should be secured. Plenty of water to drink (acidulated if desired), keeping the bowels open with stewed fruits, enemas, or very mild laxatives. The body may be rubbed with bacon or ointments (1:100 carbolic-acid salve).

Avoid giving calomel. The patient must keep to the bed, even during the stage of desquamation; baths at the body temperature assist this latter process. In high fever (102° to 103°), cold baths (59° to 68°) for five or ten minutes at a time; or packing in cold wet sheets repeated whenever the temperature rises to this point. Or quinine or some of the other antipyretics may be cautiously given.

Cerebral symptoms will require narcotics; convulsions, cold water on the head. For the sore throat, cold or Priessnitz compresses, disinfectant gargles.

For the treatment of complicating diphtheria, see below under this head.

Nephritis.—If there is blood in the urine, a few leeches may be applied over the kidneys, and mild laxatives given. Diuretics are not advisable. If the urine is free from blood, but dropsy exists, warm baths may be given, followed by wrapping the body in blankets. Water (containing soda) is to be taken in abundance. In collapse, wine.

MORBILLI. MEASLES.

Good nursing and an appropriate diet; fresh, pure air of about 70° F.; an only moderately darkened but roomy apartment, direct light in the eyes being avoided. Tepid drinks, milk, sweetened water, linden-flower tea; rubbing of the skin with bacon; cold, mildly astringent compresses in conjunctivitis. Baths of ten or fifteen minutes' duration in water at a temperature of 81° to 84° are often grateful.

Very mild laxatives in case of constipation; emulsions, astringents (no narcotics), and cold compresses for diarrhœa. For irritable cough, sweet mucilaginous tepid drinks; if necessary, bitter-almond water or decoction of althæa with $\frac{1}{2}$ grain of tartar emetic.

In case of severe bronchial catarrh, handkerchiefs wrung out of cold, or sometimes warm, water should be applied to the chest and throat, and covered with gutta-percha tissue; warm baths may be given.

In false croup, hot milk, hot poultices, baths at the body temperature for a half-hour, followed by douching of short duration; hot wet cloths or sponges around the neck, or a piece of bacon to the throat; and if necessary, emetics.

RÖTHELN (GERMAN MEASLES).

Requires no treatment, or at most a symptomatic one similar to that for measles.

VARIOLA AND VARIOLOID (SMALL-POX).

The treatment is expectant and symptomatic. Pure, fresh air, light bed-covering, and good nourishing food.

In case of high fever with a burning skin, ice-bags or cold compresses to the head; cold sponging of the entire body, or cold baths to reduce the temperature. Ice-water compresses on the inflamed skin, Priessnitz packing of the hands and feet. Xylol has been proposed as a specific (?). The mouth must be kept scrupulously clean by rinsing out with a 1:50 solution of chlorate of potassium. When the pustules are drying up, frequent prolonged warm baths should be given.

To prevent pitting, the face should be painted with collodion, or better with a diluted tincture of iodine, several times during the eruptive stage; other applications that have been recommended are compresses wet with a 1 or 2:2,000 sublimate solution, or an ointment composed of 3 parts of tar, 5 of yellow wax, and 12 of mercurial ointment.

Cold drinks should be allowed freely, Seltzer water; mild stimulants, diluted wine. The treatment of the complications should follow the general rules. Abscesses of the skin and furuncles should be opened early.

VARICELLA (CHICKEN-POX).

Requires no treatment, or at most mildly antipyretic measures in the beginning, and protection of the vesicles from rubbing.

MILIARIA.

A cooling regimen, acidulated drinks (mistura sulphurica acida or muriatic acid, 20 drops to 4 ounces of water). Change of the underclothing. For the sore throat, sinapisms, dry cups. Sponging with tepid vinegar. Mild laxatives.

ERYSIPELAS.

Simple dietetic treatment. Collodion; tincture of iodine. To limit the spread of the erysipelas, subcutaneous injections of a three-per-cent carbolic-acid solution may be made around

the diseased part, the needle being passed into the skin at a distance of $\frac{2}{3}$ to $\frac{3}{4}$ of an inch from the margin of the redness and directed toward it; too large doses must not be injected, and the method should not be employed on the scalp. Another procedure is to encircle the reddened portion with a ring of ichthyol-collodion (ten per cent).

To relieve the tension and pain, applications of oil, covering with cotton, or Priessnitz compresses may be employed; over the latter ice-bags may, if thought best, be laid, but not if sloughing is to be feared. For the rest, symptomatic treatment.

In traumatic erysipelas, injections of morphine may be made in the limiting zone of healthy skin; or applications of carbolic acid and turpentine.

Strengthening diet; antipyretics; quinine; salicylate of sodium; saline laxatives in case of sluggishness of the bowels.

PSEUDO-ERYSIPELAS. DIFFUSE PHLEGMONOUS DERMATITIS.

Local and general antiphlogistic treatment; subcutaneous injections of carbolic acid; mercurial ointment; incisions; antiseptics; strengthening diet.

DIPHTHERIA.

Prophylaxis.—Strict isolation from the sick; scrupulous avoidance of injury to the mucous membrane of the throat by pencilling, escharotics, etc.

Oertel's Treatment.—Rapid production of a limiting area of suppuration by means of hot vapor. The steam from a vessel of boiling water is conducted by means of a funnel into the patient's mouth every one-quarter to one-half hour (interrupting the sessions for not more than three or four hours during sleep) until the greater part of the membrane has been thrown off, then every hour, and later every two to four hours. Or a two-per-cent solution of salt or of chlorate of potassium may be applied by means of a steam atomizer. In addition antiseptic gargles (chlorate of potassium), or syringing (rough applications must be avoided) with permanganate of potassium solution (3 to 5:1,000), carbolic acid (one-half per cent), or thymol (one-half per cent in equal parts of alcohol and water). As a specific, chlorate of potassium is used in gargles and (very cautiously) internally.

Sublimate solutions, applied by careful swabbing, gargles, or spray inhalations, enjoy a great reputation; for children under two years the strength of the solution should be 1 grain to 6 ounces; between two and six years, $1\frac{1}{2}$ grain to 6 ounces; over six years, 3 grains; and for adults, 6 grains to 6 ounces.

Large quantities of salt may also be applied to the diseased parts by means of the moistened back of the bowl of a dull-edged spoon. Or finely powdered sugar may be abundantly insufflated, and the throat syringed out frequently with a weak solution of common salt.

When the nasal cavity and posterior nares are invaded, the most careful cleansing must be made by syringing through the nostrils every hour or two by means of a conical-pointed syringe or the nasal douche, with lime water diluted with 2 parts of distilled water, or permanganate of potassium, or carbolic-acid solution, alternating with a one-and-one-half-per-cent salt solution or chamomile tea.

In laryngeal diphtheria, inhalations of fifteen minutes' duration, at intervals of fifteen to thirty minutes, of lime water, lactic acid, bromine, or carbonate of sodium or potassium; sulphate of copper as an emetic. Tracheotomy must be performed early, that is, before carbonic-acid poisoning has taken place; and then lime-water inhalations are to be given through the canula.

General Treatment.—Antipyretic and tonic (stimulant), strong wines (Burgundy, Port, Tokay), brandy ($\frac{3}{5}$ i.— $\frac{3}{5}$ iss. a day for children of three to four years) with syrup; tincture of chloride of iron; quinine as an antipyretic. In addition to the above enumerated remedies, are recommended—

External Remedies.—In the beginning, cracked ice taken very often; ice compresses, but also hot poultices worn day and night around the neck and covered with rubber tissue; inhalations of carbonate of lithium, bromine (or bromide of potassium); insufflations of sulphur; gargles with boric-acid solution; syringing or inhalation every fifteen minutes of lime water, or after each gargling from two to four teaspoonfuls of lime water internally; gargling with a five to ten per cent solution of common salt, and insufflation of $1\frac{1}{2}$ to 6 grains of calomel once or twice a day; pencilling with pilocarpine solution, or with balsam of Peru thinned with alcohol and a little

oil of turpentine, and at the same time turpentine internally combined with yolk of egg or in emulsion.

Internal Remedies.—Salicylic acid, carbonate of potassium; a tablespoonful of a two-per-cent solution of bromide of potassium with a teaspoonful of chlorine water, every hour at first and later every two hours (first employed in scarlatinal diphtheria); cyanide of mercury, gr. $\frac{1}{8}$ to $\frac{3}{8}$ iv. water, a teaspoonful to a tablespoonful, according to the age of the patient, every hour; also local applications of the same in a solution of gr. $\frac{3}{8}$ to $\frac{3}{8}$ x. (both strongly recommended by Loeffler); a teaspoonful of oil of turpentine morning and evening, combined with inhalation continuously day and night of the following:

℞ Ol. terebinth.,
 Tr. eucalypti,
 Ac. carbolicæ, āā ʒi.
 Alcohol, $\frac{3}{8}$ x.
 Aq. destillatæ, Oij.

M. S. For inhalation.

Diphtheritic paralysis is successfully treated with iron and electricity.

ASIATIC CHOLERA.

Prophylaxis.—Disinfection of the stools, body and bed linen, etc., of the sick with a carbolic-acid or, better, a sublimate (1:5,000) solution; moderate living; avoidance of anything that will in the least disorder digestion; attention to and treatment of even the slightest bowel trouble, such as flatulence, tendency to diarrhœa, etc.

Mild cases require rest in bed; keeping the body, and especially the abdomen, warm by means of Priessnitz compresses; a very simple diet, a little barley water, mucilaginous drinks, and red wine or brandy in boiled water. If the number of the stools increases, opium with bitters (for example, a teaspoonful several times a day of laudanum ʒi., in compound tincture of cinchona ʒx.), and 3 drops every two or three hours of strong muriatic acid in water; a dose of castor oil is to be given only in case of evident fecal accumulation or when the presence of undigested and decomposing food is suspected.

In the actual choleraic attack the cold surface of the body

must be wrapped up in warmed blankets, and be surrounded with hot bottles, heated sand-bags, etc. No food is to be taken, but from time to time small quantities of cold (rather than warm) or carbonated beverages may be given; or sometimes hot tea or coffee with brandy; hot poultices on the abdomen; and, if the stage of asphyxia has not already set in, opium in large doses (gr. ss.-i.) or laudanum (10 to 20 drops) every one to three hours.

Another mode of treatment is to rub the patient with a cloth, dipped in water below 59°, until the skin is markedly reddened, and at the same time two or three gallons of cold water are poured over the head every three or four minutes. The patient is then wrapped in warm blankets and placed in a warmed bed, hot bottles being placed at the feet and a cold compress, renewed every half-hour, on the abdomen. Fresh water may be taken to drink *ad libitum*. If sweating follow within three hours, then the rubbing is made with somewhat warmer water (64°) for the space of five minutes at intervals of three to six hours, and later every six to twelve hours.

For the cramps in the calves of the legs: rubbing with spirit of mustard or chloroform; brushing the skin; subcutaneous injections of morphine—this may be given as well for the vomiting, for which mustard plasters also are useful; iced Seltzer water.

In the stage of reaction: rest, diaphoresis. For diarrhœa, calomel with or without opium. For vomiting in this stage, morphine, mustard plasters, ice to the head.

A much-praised method consists in rectal irrigations of one to four pints of water at 100° to 104°, containing from 1 to 2½ drachms of tannin; the reservoir of the fountain syringe should be hung at a height of from six to ten feet. From three to six such injections are to be given, each time after a discharge from the bowels, in the twenty-four hours.

Heart weakness, with a small weak pulse, calls for subcutaneous injections of ether or of camphorated oil (3 i.-iiss.).

On the theory that cholera patients die from the loss of water from the blood, and not from the intrusion of the cholera bacillus, some have given large injections of a one-and-one-half-per-cent solution of salt at the temperature of the blood, into the cellular tissue of an infra-clavicular fossa or beneath

the costal arch, and regard that as the only logical treatment.

CHOLERA NOSTRAS.

For the diarrhœa and vomiting of infants (acute gastro-duodenitis of bottle-fed children—summer diarrhœa—cholera infantum):

℞ Hydrarg. chlor. mitis, gr. i.
 Cretæ præparatæ, gr. viij.
 Sacch. albi, ʒ ij.

M. et div. in chart. No. 8. S. One powder every two hours.

In adults, with cramps in the legs and collapse: treatment the same as that for Asiatic cholera of mild form; extract of opium, gr. $\frac{1}{3}$ to $\frac{1}{2}$ every two hours. For children or adults: resorcin with castor oil; swallowing cracked ice; iced Seltzer water, but no fluids in large quantities; rest in bed enveloped in warm sheets; warm applications to the abdomen.

MALARIAL DISEASES.

MALARIAL CACHEXIA. INTERMITTENT, REMITTENT, PERNICIOUS MALARIAL FEVER.

Prophylaxis.—Avoidance, as far as possible, of malarious regions, or while there of the damp, foggy morning and evening air; and also of gastric derangements, and great bodily and mental exertion; water should be taken only when mixed with wine; no watery fruits; quinine may have to be taken regularly as a prophylactic.

Treatment of the Attacks.—Quinine, preferably the hydrochlorate, never during the attack in the milder cases, but either in one large dose (ʒ ss. in wafers, with hydrochloric acid and water taken immediately after) at least six hours before the attack is expected, or the same dose in divided portions, beginning immediately after the subsidence of one paroxysm, so that it shall be all taken some time before the next one is due; in severer cases larger doses must be given; if the temperature rises again at the same hour of the next regular fever day, then the drug is to be repeated as before. If the attacks do not recur, the remedy is to be given in the same way but in half the dose on the seventh, fourteenth, twenty-

first, and twenty-eighth days. In cases of severe infection, 15 to 30 grains of quinine should be given daily in divided doses during the first and second weeks, and then once a week for the two following. In pernicious cases the remedy is to be given also during the attack.

In inveterate, irregular, and constantly relapsing cases, and in remittent neuralgia, Fowler's solution should be given for a long period in daily doses of $\text{ʒ} \text{ viij.}-\text{xv.}$, and half or full doses of quinine at the pyretic periods.

In all accompanying affections or sequelaë of malaria (leucocythæmia, enlargement of the spleen or liver, dropsy, etc.) quinine is of course to be given in suitable doses.

The new antipyretics have not proved to be of value in malarial fevers.

Among the more common domestic remedies are: Melilot; 5 drops of oil of turpentine and the same quantity of alcohol in tea or water; dried alum in two doses of gr. viij. each, taken three hours and one hour respectively before the attack is due.

INFLUENZA (GRIPPE).

Rest in bed, mild diaphoresis, and symptomatic treatment. For the adynamia, stimulating expectorants, and also quinine and wine; for the cough, narcotics, ipecac, and inhalations. In the last epidemic, antipyrine was found to be very useful. Lately salipirin has been recommended as better, given in doses of $\text{gr. xv.}-\text{xxx.}$ (It is also of service in colds and coryza.) For the oppression, cutaneous irritants and mild laxatives. Tonics will be needed during convalescence.

AUTUMNAL CATARRH, HAY FEVER, HAY ASTHMA.

Symptomatic treatment by syringing out the nose with a one-per-cent quinine solution or (less strongly to be recommended) a 1:500 or 1,000 carbolic-acid or 1:500 salicylic-acid solution, about 45 grains of table-salt to the pint being added; a snuff of menthol, gr. iij. (or cocaine, gr. iss.) in 3 i. each of roasted coffee and white sugar may be used; galvano-cauterization. Internally iodide of potassium is given.

The patient may escape the disease by a temporary sojourn in regions where it does not exist.

PERTUSSIS (WHOOPIING-COUGH).

Prophylaxis.—Strict isolation of the sick from the well.

Hygienic Treatment.—Good, pure air, free from carbonic acid; being much in the open air; in stormy weather the atmosphere of the room should be impregnated with carbolic acid by means of a spray of a five-per-cent solution. Change of air, warm baths for one-half hour a day. Nourishing meat diet.

Internally.—Quinine in doses of gr. iss.—viiij. several times a day; extract of belladonna, gr. $\frac{1}{8}$ to $\frac{1}{6}$ from three to five times a day; atropine very carefully in doses of gr. $\frac{1}{80}$ per day; bromide of sodium gr. xv.—xlv. a day; chloral; morphine (3 to 5 drops, two or three times a day, of morphine gr. i., in bitter almond water ʒ iiss.—but of course not for small children); expectorants, ipecac, pentasulphide of antimony; Ems water with boiled milk; bicarbonate of sodium with syrup of licorice; fluid extract of castanea.

Inhalations of a solution of salicylic acid; carbolic acid, bromide of potassium (one per cent); quinine (one and one-half per cent); 20 to 30 drops of a mixture of equal parts of turpentine and benzin poured on a sponge wrung out of hot water; one or two teaspoonfuls of a mixture of oil of turpentine (ʒ i.), chloroform (ʒ iij.), and ether (ʒ vi.) inhaled from a handkerchief. The throat and larynx may be pencilled with a ten to fifteen per cent solution of cocaine.

CROUPOUS (LOBAR) PNEUMONIA.

Diagnosis.—A high fever beginning with a severe chill in a previously healthy person; dyspnoea with cough and bloody sputum; bronchial breathing; dulness on percussion, usually over the right lower lobe; crisis usually on the seventh, sometimes on the fifth, day succeeding the chill.

The treatment is mainly symptomatic; a tolerably warm room; pure air; little conversation; not too cold drinks; usually only light broths; but in cases of great weakness a nourishing diet is called for, wine, especially in the weak and aged, strong broths, yolk of egg, milk, raw scraped meat, roast meat, etc., several times a day.

In case of high fever (above 103°), quinine in moderate doses or, less to be recommended, salicylate of sodium, antifebrin, antipyrine (none of these to be given shortly before the expected crisis); digitalis when the heart's action is weak and irregular. For the pain in the side, dry (only exceptionally wet) cups; morphine injections; Priessnitz compresses; baths at a temperature of 75° to 80°; cold baths only in strong individuals with a fever persistently remaining at 104° to 105.5°.

In symptoms of collapse, much wine, hot tea or coffee with brandy or rum, and subcutaneous injections of ether or camphorated oil.

In cases of circumscribed œdema of the lung with great dyspnoea, small pulse, beginning cyanosis, and prune-juice expectoration, in weak patients, dry or wet cups, or in extreme cases venesection to the amount of 6 to 12 ounces; in children a few leeches and ice applications; and in strong individuals a venesection is often of service. Withdrawal of blood must be accomplished with great caution, especially in children and the aged.

In painful, irritable cough an injection of morphine, and bicarbonate of sodium with morphine internally. When the sputum is tough and difficult to dislodge, expectorants are to be given.

℞ Ant. et pot. tartr.,	gr. ʒ.
Sodii bicarb.,	gr. viij.
Syr. glycyrrh.,	ʒ ss.
Aq. destillatæ,	ʒ iv.

M. S. A tablespoonful every two hours.

When there is also great weakness, infusion of ipecac with solution of anisated ammonia, or infusion of arnica with benzoic acid and syrup of senega.

In obstinate insomnia and tremor potatorum, chloral in doses of ʒ ʒ-ij. preceded by a few drops of dilute hydrochloric acid.

When convalescence is tedious and resolution tardy, the diet must be of the most nourishing character, Priessnitz compresses are to be applied, and oil of turpentine given in doses of 10 to 12 drops from four to six times a day.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Absolute quiet; good food; preservation of the heart's power; ice-bag to the head, but no baths. In cases of high temperature, quinine or some other antipyretic. For the severe pains, sleeplessness, and delirium, morphine, chloral; leeches behind the ears only in very severe cases. The formerly prized treatment by calomel and iodide of potassium in large doses, rubbing the shaved head with tartar emetic or mercurial ointment or applying blisters to the head, has with justice been abandoned as being useless if not harmful. Painting with iodoform-collodion (1:15) combined with the internal administration of iodoform in 3-grain doses would appear also to be useless.

DYSENTERY.

Isolation of the patient and disinfection of the discharges; rest in bed; warm applications to the abdomen; abstinence from all food in the beginning, later meat broths and peptone, bouillon with egg, barley-water, etc.

From time to time, when necessary, castor oil, rhubarb, or salines to empty thoroughly the intestine; and according to circumstances, and cautiously, an emetic. In cases of marked tenesmus, the rectum should be washed out three or four times a day with a one-half-per-cent solution of salt warmed to from 76° to 99° F., followed by a suppository containing 1 grain of opium. Opium may also be given internally if necessary.

Restoratives are to be given when called for; solution of anisated ammonia; camphorated oil or ether subcutaneously; punch, brandy, red wine, wine-soup.

TUBERCULOSIS.

PULMONARY TUBERCULOSIS (PHTHISIS).

Tuberculosis is a disease caused by the presence of a specific micro-organism, the tubercle bacillus of Koch.

Prophylaxis.—1. Avoidance of breathing in the tubercle bacilli. The well should not live continuously in the room with the sick, nor sleep in the same bed with them; handker-

chiefs and other receptacles for expectorated matters should be treated with a 1:3,000 sublimate solution; clothing which has been worn by the sick should not be used by others, or at least not until it has been thoroughly disinfected.

2. The prevention of tuberculous inheritance by forbidding the marriage of those who are apparently inclined to tuberculosis, especially if they come from a family in which tuberculosis exists.

3. The power of resistance of the individual is to be strengthened, and any tendency to the disease removed, by a toughening and toning-up process.

In the case of poorly developed and poorly nourished youths, with flat and narrow chest, etc., as also of those who show signs of beginning pulmonary phthisis, cold frictions and cold douching for a few seconds. A good way is to pass a wet towel across the back, and rub with it energetically. But care must be taken not to cause too great a loss of heat, which, like too active exercise, tends to cause emaciation; and cold should not be used in the hectic stage. Deep respiration should be taken of fresh, pure, dust-free air. Exercise should be taken, but in moderation. A residence in the country or some climatic health resort will be of great service. The diet should be abundant and varied, for the purpose of building up the blood, and to a less extent the adipose tissue. Brehmer advises, when the digestion is good, fatty food with plenty of wine. Cod-liver oil is to be given, avoiding disordering the stomach; milk in abundance, and alcoholics. For the appetite, bitters, compound tincture of cinchona or bitter tincture, wine of cinchona.

As a specific, creasote (guaiacol) is recommended (see Part II.). In addition to that, a symptomatic treatment with as few drugs as possible.

Treatment of Fully-Developed Tuberculosis.—For the distressing cough: Seltzer water with hot milk; inhalations of a solution of salt or of bromide of potassium; morphine is to be given as sparingly as possible. For the bronchitis: Oil of turpentine in initial doses of 5 drops, gradually increased to 10 or 12 a day and continued for a long period. To loosen the expectoration: Inhalations of a salt solution; avoidance of cold drinks and raw, dusty air; keeping the body warm; pentasulphide of antimony, apomorphine, or the following:

℞ Ant. et pot. tartr., gr. $\frac{1}{8}$.
 Sodii bicarb., gr. viij.
 Syr. glycyrrh., $\frac{3}{5}$ ss.
 Aq. destillatæ, $\frac{3}{5}$ iv.

M. S. A tablespoonful every two hours.

For high fever, a bath, of not too long duration, may be cautiously taken once or several times a day, the temperature of the water being from 75° to 85°; or if necessary, antifebrin, antipyrine, thallin, quinine, etc.; ice-bags over the heart and on the head; alcohol in moderate doses.

Profuse sweating: Sulphate of atropine, gr. $\frac{1}{10}$ in pill with licorice, at night; or hydriodide of hyosine in doses of gr. $\frac{1}{10}$. Brandy ($\frac{3}{4}$ iij.) taken at bed-time in cold milk has been highly recommended. Other remedies are, agaricin, sulphonal, hydrobromate of homatropine; cold sponging, powdering with salicylic acid and talc; sponging with vinegar. Sage tea is a favorite domestic remedy.

For the diarrhœa: Opium and acetate of lead or tannin, columbo.

For slight hæmoptysis (bloody sputa): Relief of the cough by morphine subcutaneously, at first in doses of gr. $\frac{1}{8}$ to $\frac{1}{2}$, and later gr. $\frac{1}{4}$, at most gr. i. in the course of the day; or

℞ Morph. hydrochlor., gr. iss.
 Syr. prun. virg., $\frac{3}{5}$ i.
 Aq. destillatæ, $\frac{3}{5}$ v.

M. S. A tablespoonful for a severe attack of coughing.

Morphine should, however, not be given when there is profuse hemorrhage. Extract of ergot by the mouth or subcutaneously.

For severe hemorrhage: Perfect quiet; ice-bags to the chest; cracked ice, and for the first attack a teaspoonful of salt in water repeated several times; inhalations of diluted solution of chloride of iron.

For vomiting: bromide of sodium or chloroform.

ACUTE MILIARY TUBERCULOSIS.

The treatment is purely symptomatic. For fever: antipyretics and local applications of ice. For cough and dyspnœa: morphine by the mouth and subcutaneously. For diarrhœa:

Opium with acetate of lead; easily digestible nourishing food, milk, chocolate, raw meat, raw ham, red wine.

TUBERCULAR MENINGITIS (ACUTE HYDROCEPHALUS).

For a consideration of the prophylactic measures, see under Pulmonary Tuberculosis.

In the beginning, before a diagnosis is definitely established, the treatment should be the same as for simple meningitis. When the diagnosis is certain, ice applications to the head; occasionally local abstraction of blood; quieting remedies (opium or chloral) as necessary; mild vegetable and saline laxatives; iodide of potassium in large doses up to the appearance of slight iodism; quinine; cold packing in fever, and cold douching in coma; stimulants, wine, musk.

PUERPERAL FEVER.

A whole series of morbid phenomena following septic infection in puerperal women: Ulceration, colpitis and endometritis, metritis, perimetritis and pelvi-peritonitis, parametritis, phlegmasia alba dolens, local or general symptoms of septic infection, or secondary affections of distant organs.

Prophylaxis.—Strict cleanliness and disinfection of the hands and instruments by means of solutions of carbolic acid, corrosive sublimate, or resorcin before and after every examination during labor or in the puerperal period; careful irrigation and disinfection of all wounds of the genitalia, and dusting the same with iodoform.

Treatment of the individual local affections above enumerated: The puerperal ulcers by means of carbolic-acid solution, tincture of iodine, or iodoform; the others according to the rules above given under the separate headings. For phlegmasia alba dolens: ice-bags, leeches, tincture of iodine, mercurial ointment, narcotics, mild laxatives. When peritonitis is present, leeches and ice applications to the abdomen. Calomel, gr. ij., with rhubarb repeated until there have been several soft stools.

The general symptoms are to be treated according to the indications presenting, by quinine, salicylate of sodium, acids, and good wine in generous amounts.

Venereal (Non-syphilitic) Diseases.

GONORRHŒA.

1. GONORRHŒA IN THE MALE.

When possible, the patient should keep to his bed until the termination of the first stage, or in any case walk about very little. The diet should be as light as possible, with little salt or spices, no beer, and at most a small quantity of light wine; better only milk and water. A suspensory bandage should be worn, and the penis should be kept by means of a bandage with the dorsum resting against the abdomen.

In the acute inflammatory stage, milk and almond emulsion for drinking; ice-water compresses on the penis; mild laxatives; no astringent injections should be given, but thallin (1:100) has been recommended. For the pain on micturition (and for that caused by injections), a previous injection of a two-per-cent solution of cocaine may be given.

After the inflammation has begun to subside, injections may be carefully begun. The patient first urinates, injects about two teaspoonfuls of fluid, and allows it to flow out again immediately; then injects the same quantity again, and this time retains it in the urethra for from three to five minutes by compression of the meatus. This process is repeated from three to six times in the twenty-four hours, according to the severity of the case. The most commonly employed injections are: sulpho-carbolate of zinc in one-per-cent solution; sulphate of zinc, 2 to 5:1,000; alum, one per cent; tannic acid, $\frac{1}{2}$ to 1 part in 100 of red wine; thallin, one per cent; acetate of zinc, 2:1,000; boric acid, three per cent; resorcin, 2:150; salol, 10 parts, gum Arabic, 5 parts, water, 200 parts; permanganate of potassium, 1:5,000; nitrate of silver, gr. $\frac{1}{4}$ to i. in $\bar{3}$ iij. The injections should never be irritating, and must be discontinued immediately upon symptoms of inflammation of the epididymis, prostate, or bladder.

After the inflammatory symptoms have disappeared (sometimes before), in addition to the injections, balsam of copaiba may be given in capsules in single doses of \mathfrak{m} viij., up to $\bar{3}$ ss. ij. per day; or powdered cubeb in doses of $\bar{3}$ v. a day (extract, $\bar{3}$ i.); these two may be given separately or combined.

℞ Bals. copaibæ,	3 ij.
Pulv. cubeb.,	3 iij.
Ceræ albæ,	3 i.
M. et div. in bol. No. 15. S. One bolus four times a day.	

The best remedy for the painful erections is bromide of sodium, gr. xlv. dissolved in $\frac{5}{3}$ vi. of water, taken about five o'clock in the evening and repeated shortly before retiring. Or lupulin in 15-grain doses may be given.

In chronic gonorrhœa (gleet), injections may be used once or twice a day of sulphate of thallin, sulpho-carbolate of zinc, or sulphate of zinc in somewhat stronger solutions than those given above; and a pencil of thallin or a silver bougie dipped in glycerin may be introduced every second day before the injection; or a bougie dipped in iodoform-glycerin may be used instead of the injection to prevent stricture. A useful coating for a bougie may be made of sulphate of zinc, tannin, ergotin, or nitrate of silver (according to the special indications) in a stiff ointment of spermaceti, wax, and balsam of Peru; a bougie of small size is to be coated with this to about the thickness of a sheet of paper, and then introduced and left *in situ* for five or ten minutes. In hot weather, it should be laid on ice for a few minutes before being introduced. If it is desired to make an application to the neck of the bladder only, the eye of a catheter may be filled with the ointment. The method is serviceable in acute, but especially in chronic, gonorrhœa. In addition to the medicinal treatment, the genitals are to be bathed in cold water, or cold sitz or tub baths may be taken. The diet must be non-stimulating, without either beer or wine.

The abortive treatment of gonorrhœa consists in the employment of injections of a three-per-cent nitrate of silver solution or of sulphate of zinc in ten-per-cent solution, the root of the penis being pressed against the pubic arch to prevent the admission of any of the solution into the bladder. This is a very painful procedure and not to be recommended.

Gonorrhœal rheumatism is to be treated on general principles.

In cases of balanitis the glans should be kept perfectly clean and painted with a solution of nitrate of silver (gr. iv.-viij. in 3 v.) or with sulpho-carbolate of zinc.

2. GONORRHOEA IN THE FEMALE.

Perfect cleanliness. In the acute inflammatory stage cold sitz-baths and douches of cold water; and later, injections and internal remedies as in the disease in the male. The following method of treatment is to be specially commended: Twice a day, after cleansing of the vagina and vulva with pure water and pledgets of cotton dipped in cold water, a cylindrical speculum is introduced, then filled with any of the above-enumerated astringent solutions (in from three to five times the strength used for men), and at the end of a few minutes slowly withdrawn, a tampon with a string attached being introduced at the same time through it. The latter must be frequently renewed. Chloride of zinc and crude pyroligneous acid have been particularly recommended for injection by this method. Another method which has found considerable favor consists in swabbing out the vagina thoroughly with a 1:1,000 sublimate solution, followed by a liberal dusting with iodoform and the introduction of an iodoform tampon; this to be repeated in three or four days, and for two weeks thereafter irrigations with a 1:2,000 sublimate solution. (Instead of iodoform, calomel may be used, the vagina being previously moistened with a five-per-cent saline solution.) If the disease has spread to the uterus, continuous irrigations with a 1:5,000 to 2,000 sublimate or 1:50 carbolic-acid solution are useful, combined with an intra-uterine application of tincture of iodine or solution of chloride of iron.

Urethral gonorrhœa in the female is to be treated in the same way as the disease in the male, but care must be taken not to allow the injection fluid to enter the bladder; for this reason the medicated bougie is to be preferred.

PARAPHIMOSIS.

The prepuce is to be drawn forward by means of the index and middle fingers, firm pressure on the glans being made with both thumbs. If necessary, the constricting band must be divided. Cold compresses.

GONORRHOEAL ORCHITIS AND EPIDIDYMITIS.

To be treated in general like traumatic orchitis, the injections and administration of the balsams being discontinued.

ACUMINATE CONDYLOMATA, VENEREAL WARTS.

Cauterization with chromic acid, 1 part to 3 of water; corrosive sublimate, one to two per cent; or solution of chloride of iron: care being taken to protect the healthy portion from the action of the escharotic; frequent snipping off the growths with scissors, and subsequent cauterization; dusting the moist surface with powdered savine; or destruction with the Paquelin or galvano-cautery.

SOFT CHANCRE, CHANCROID.

A purely local affection which appears immediately or within four days after exposure to infection. From this time until the eighth day abortive treatment may be successful. This may be accomplished with the Paquelin or galvano-cautery, or by means of deeply acting caustics, such as sticks of chloride of zinc, gr. xv., and nitrate of potassium, gr. v., melted together; caustic potassa, which, however, makes a hard cicatrix; or nitrate of silver. After the cauterization the patient should remain in bed, with the organ elevated, and use cold applications.

Subsequently, or if the abortive treatment is not employed, the patient should keep to the bed, bathe frequently in a tepid one-half to one per cent saline solution, use cleansing injections under the prepuce, and powder the ulcers with iodoform. A low diet is indicated.

For gangrenous ulcers, warm compresses wet with camphorated wine are to be used, and the parts are to be dusted with iodoform. Diphtheritic ulcers are to be covered with compresses dipped in a warm one-per-cent saline solution and also dusted with iodoform.

ACUTE BUBO.

The most certain preventive of a bubo is energetic, but not irritating, treatment of the soft chancre. When it appears, it is to be treated by applications of ice, tincture of iodine, or solution of chloride of iron, the patient keeping in bed. If, despite this treatment, the bubo continues to increase, hot poultices frequently renewed are called for; and as soon as fluctuation appears, the pus must be evacuated by the aspira-

tor or by small incisions, light pressure being made. If suppuration is extensive, a free opening must be made and a tampon of iodoform gauze inserted; disinfection may also be accomplished by means of solutions of carbolic acid or chloride of zinc, and dusting with iodoform or salol. Any exuberant growths are to be touched with nitrate of silver. The diet should be low, and mild laxatives may be called for.

Syphilis.

Indurated, hard, or Hunterian chancre. Indolent syphilitic bubo. Syphilis of the skin and mucous membranes, of the bones, nerves, brain, and internal organs.

Local Treatment.—Thorough excision of the initial sore, and cauterization of all erosions and ulcerations with the solid stick. Successful results from this treatment are uncertain.

General Treatment.—"Hunger cure," a diet of milk and white bread with at most a little broth, lean meat, vegetables, and fruit, but no fats and no alcohol. "Sweating cure," by drinking linden-flower or wood tea while wrapped up warmly in blankets. Inunctions with mercurial ointment. Internally: mercury, iodide of potassium or of iron, sarsaparilla, sassafras, Zittmann's decoction, jaborandi. Parenchymatous injections of calomel. Sulphur baths. Russian baths.

CONGENITAL OR HEREDITARY SYPHILIS.

Calomel, gr. $\frac{1}{4}$ a day; or corrosive sublimate cautiously administered in a daily dose of gr. $\frac{1}{12}$ in divided portions; mercury with chalk. Inunctions of gr. v.-viiij. of mercurial ointment every second day, after a warm bath, provided the infant's skin will tolerate it, and if there are no cutaneous ulcers present. Sublimate baths (3 ss. to the bath) at the temperature of the body. Iodide or pyrophosphate of iron. Nourishing food, preferably mother's milk.

Infection from Animal Poisons.

HYDROPHOBIA, RABIES, LYSSA.

The immediate application of a ligature about the wounded limb, thorough washing of the wound, sucking by means of cups or the mouth, and fomentations with salt water, until it is possible to cauterize with the hot iron, Vienna paste, car-

bolic acid, or caustic potassa. If a scar has formed, it must be excised and the wound kept suppurating for months. The person who has been bitten must be reassured as far as possible and made to believe that no evil consequences will result.

When the disease has already appeared, there is little to do except to treat the symptoms as they arise. Everything that may excite the patient, such as noises, light, and an attempt to drink, must be avoided. In robust individuals a venesection may be of service. Enemas may be given of bromide of potassium, and also of cold water as a cooling measure. Morphine subcutaneously; chloral. The following is said to have effected a cure:

℞ Curare, gr. ss.
 Glycerini,
 Aq. dest., āā ℥ xlv.

M. S. Fifteen minims hypodermically every three or four hours.

Arsenic is also recommended, given in doses sufficient to produce slight toxic symptoms.

GLANDERS, MALLEUS.

Thorough destruction, if possible, of the poison *in loco*, by nitric or carbolic acid (the latter also subcutaneously), etc. Early opening of the boils. Compresses of chlorine water or carbolic-acid solution. Injections of creasote solution in the nose. Internally, in acute cases, laxatives, quinine, muriatic acid; in chronic cases, iodide of potassium. Nourishing food, wine.

TRICHINOSIS.

The treatment is chiefly symptomatic. In recent cases, emetics and cathartics. In muscular trichinosis, a nourishing diet is called for; antiphlogosis by means of salicylic acid, quinine, cold applications; morphine injections or chloral for the pain. Glycerin is recommended for the destruction of the trichinae, and also ergotin, benzin, and naphthalin.

MALIGNANT PUSTULE, CHARBON.

Thorough cauterization by means of Vienna paste, the actual cautery, equal parts of chromic acid and water, carbolic or nitric acid, or cantharidal ointment, followed by the

application of an antiseptic dressing. A still better plan is to excise the diseased parts and then cauterize.

A few large doses of calomel should be given, and then large doses of quinine with hydrochloric acid. Tonics are indicated.

IX. SKIN DISEASES.

Anomalies of Secretion.

SEBORRHŒA.

The crusts are to be softened and removed by rubbing in oil, lard, vaselin, or best one part of glycerin to four of water or alcohol, and then covering the parts with a piece of flannel soaked in the same substance used for rubbing, and leaving them covered for twelve hours. This is to be repeated three or four times, and then the parts are washed off with warm water and soap. After this, soft soap is rubbed in three times a day for three days in succession; or, when the hair is long, the tincture of green soap may be used.

If eczema is produced, stop the rubbing, but leave the soap on for three days, then wash off, and two days later apply rose-water ointment.

To prevent a recurrence of the disease the parts should be washed twice a day with a five-per-cent alcoholic solution of chloral, or carbolic acid (1:1,000), or a ten-per-cent tannin ointment. The following is to be used when the hair is falling out:

℞ Tinct. cantharidis,	. . . . .	3 ss.
Ext. cinchonæ,	. . . . .	3 i.
Ol. rosmarini,	. . . . .	gtt. x.
Medull. bovis,	. . . . .	3 i.

M.

In seborrhœa of the genitals, the parts may be washed three times a day with a one-per-cent carbolic-acid solution, and afterward dusted with some indifferent powder.

COMEDONES, ACNE.

In comedones and simple acne (suppuration of the sebaceous glands), the parts are to be rubbed several times a day with a cold, damp, rough woollen cloth, the comedones being

previously pressed out with a watch-key, and in the evening an application of tincture of green soap, solution of caustic ammonia, ichthyol, naphthol, iodide of potassium, or equal parts of precipitated sulphur, alcohol, and glycerin.

In acne indurata, the hard papules may be destroyed by rubbing with an ointment of iodide of sulphur, gr. viij., in lard, ʒ ss. (prepared fresh every day), or a lotion of 1 grain each of corrosive sublimate and chloride of ammonium in 6 ounces of bitter-almond water.

In acne rosacea occurring in drinkers, the amount of alcohol must be reduced. The pustules are to be scarified and the protuberances scraped out; or they may be cauterized three times a week with carbolic acid and alcohol (1:3). Here also may be used the corrosive sublimate lotion or sulphur ointment, above given; but ichthyol is especially commended.

SWEATING OF THE FEET.

Washing several times a day with soap or diluted alcohol, and frequent changing of the stockings. The feet are carefully washed and then oiled and covered with linen spread with a thick layer of diachylon ointment; this is to be done every day for two or three weeks. The stockings are dipped in a bowl of water containing 1 or 2 ounces of tartaric acid, then dried and ironed; or salicylic acid with talc, or plain starch, is dusted into the stockings. Tannin soap. Lukewarm foot-baths twice a day with borax soap, followed by the application of a lotion of permanganate of potassium (about 1:200). Acetate of aluminum. Painting with a one-per-cent chromic-acid solution.

Acute Inflammations of the Skin.

ERYSIPELAS.

See Infectious Diseases.

ERYTHEMA EXUDATIVUM MULTIFORME.

No treatment, or at most a constitutional symptomatic one.

Cold lead-water compresses, with removal of any sources of irritation. In the case of erythema nodosum of the lower extremities, the legs must be kept in a horizontal position.

INTERTRIGO.

Scrupulous cleanliness, cold lotions, baths. Diarrhoea, when present, must be checked. Astringent drying ointments with tannic acid or subnitrate of bismuth and glycerin, equal parts, or oxide of zinc in powder. If ulcers form they are to be treated with nitrate of silver. Fomentations three times a day for an hour at a time with corrosive sublimate solution (1:2,000). Diachylon ointment with olive oil. Separation of the opposing surfaces with a wad of salicylated cotton.

Cleaning with Unna's superfatted soap.

The following drying powders are to be used only when the epidermis is intact: carbonate of magnesium, lycopodium or starch with $\frac{1}{2}$ part of oxide of zinc, tannin, salicylic acid with talc.

URTICARIA, NETTLE RASH.

For the acute form, cold douches or lotions of vinegar and water (1:3), or nitric acid 3 ss. to ten quarts of water; citric acid (rubbing the skin with lemon), alcohol, Cologne water; washing the skin with elder tea, and then dusting with a powder of camphor and oxide of zinc each 1 part, starch 20 parts. Ichthyol vaselin. For the itching, $\frac{1}{2}$ grain of morphine subcutaneously. Saline laxatives.

In the chronic form, arsenic in doses of gr. $\frac{1}{12}$ to $\frac{1}{6}$ a day, or atropine $\frac{1}{10}$ gr. to $\frac{1}{30}$ a day; aconite in small initial doses gradually increased; salicylate of sodium in doses of gr. xxiv. three times a day with aconite, and ichthyol externally. Cups frequently applied; mustard foot baths; lotions of 1:2,000 of corrosive sublimate. Frequently nothing relieves.

Fatty food, milk, shell-fish, etc., are to be avoided.

HERPES.

The vesicles and inflamed portions of the integument should be covered with cloths spread with vaselin, or dusted with lycopodium or starch; flexible collodion, mild ointments, or lotions of lukewarm lead water may also be used.

Herpes genitalis (on the prepuce, glans penis, labia, or mons Veneris) is to be treated with sheet lint wet in lead water or spread with zinc ointment.

In herpes zoster, an ointment composed of extract of belladonna 5 parts, in lard 30 parts, may be serviceable; morphine may be used subcutaneously or in the form of ointment; non-irritating plasters containing extract of opium; vaselin, flexible collodion. (See also Neuralgia.)

FURUNCLES AND CARBUNCLES.

In the beginning, tincture of iodine, mercurial ointment, ice; emollient plasters, poultices, Priessnitz compresses; iodiform, iodol. Early opening after previous congelation with ether spray.

Habitual furunculosis: A teaspoonful in sweetened water twice a day of arseniate of sodium gr. iss., in water $\frac{3}{4}$ vi.; after this amount has been taken, a saline laxative is to be given, and then in a short time the arsenic is to be resumed. In addition, fresh herb juices or decoction of sarsaparilla may be given, followed later by a grape-cure.

Subacute and Chronic Inflammations of the Skin.

ECZEMA.

Correction of all nutritive disturbances by means of a suitable diet and treatment, and attention to any constitutional vices. Arsenious acid is to be given internally, and all mechanical or chemical sources of cutaneous irritation must be avoided. Dry crusts must be removed by gentle but thorough swabbing with cotton dipped in olive or almond oil. If the previously excoriated parts are cicatrized and the eczema in process of healing, the parts are to be cleansed with water and superfatted soap; the more severe cases with tannate of sodium soap with or without the addition of oxide of zinc. Moist eczema is to be treated by applications of Lassar's paste, the amount varying according to the severity of the case, spread on sheet lint and frequently changed. The parts must be cleansed with oil and superfatted soap.

℞ Zinci oxidi,	
Amyli,	āā 3 iij.
Acid. salicyl.,	gr. xv.
Vaselini flavi,	3 vi.
M. et ft. unguentum.	S. Lassar's paste.

Acute eczema calls for expectant treatment with indifferent applications, drying powders, or bland ointments.

Simple eczema of the face (crusta lactea of infants): Applications of a greasy zinc ointment; or preferably of sublimate solution (gr. $\frac{1}{2}$ to $\frac{1}{4}$ in water $\frac{2}{3}$ iss.). If this is not well borne, the parts should be liberally powdered with oxide of zinc.

In cases of very extensive eczema: Local shower-baths at a temperature of from 57° to 66° ; sublimate baths (3 iiss. to the tub); or avoidance of all water, the body being enveloped in linen cloths dipped in olive or cod-liver oil. Applications of ointments of birch-tar oil or tar; or the following:

℞ Camphoræ,	. . . . .	gr. xv.
Acidi tannici,		
Hydrarg. ammoniati,	. . . . .	āā 3 ss.
Adipis,	. . . . .	3 iiss.
M. et ft. unguentum.		

Small places obstinate in healing are to be touched with nitrate of silver, acetic or chromic acid. Internally tinctura calladii seguini (an expensive proprietary remedy) in 15 to 20 drop doses three times a day has been highly recommended.

On the hairy portions of the skin a lotion of one-per-cent boric-acid solution or boric-acid ointment (boric acid and olive oil each 1 part, and lanolin 9 parts) may be used.

If the skin is no longer moist, but is thickened and covered with crusts, it should be covered with strips of linen spread with Hebra's diachylon ointment, or with zinc, ichthyolate of zinc, or carbolate of lead mull. In mild cases superfatted ichthyol soap may be used, the lather being allowed to dry on the skin; in severer cases, the skin being no longer moist, but thickened, hyperæmic, and covered with scales, equal parts of tar and cod-liver oil may be applied. In very obstinate cases, the skin being thickened and sometimes also moist, tincture of green soap is to be applied; or long rubbing with soft soap and painting with solution of caustic potassa (1 part to 2 of water); and after the crusts are removed, rubbing with the hand or a soft flannel dipped in water; finally covering the parts with one of the above-mentioned plaster mulls. Alcohol may be used to relieve the itching.

As an aid in the treatment, the baths of Kreuznach, Ems, or Leuk, or carbonic-acid baths may be employed. After a cure

has been effected, a course of the waters at Friedrichshall or Mergentheim will be useful.

ECZEMA MARGINATUM.

See below, under Parasitic Skin Diseases.

PEMPHIGUS.

Bran baths, Priessnitz compresses; boro-vaselin (1:50); carbolic-acid dressings; enveloping in salicylated cotton; touching with nitrate of silver. Tonics, and quinine when there is fever.

For syphilitic pemphigus, mercury must be given.

RUPIA.

Softening applications to the crusts; touching the base of the ulcers with nitrate of silver. Antisiphilitic remedies or tonics.

MENTAGRA, SYCOSIS.

Softening of the crusts by poultices; epilation; application of pieces of flannel thickly spread with Hebra's diachylon ointment, left on the skin for twelve to twenty-four hours; green soap (solution of caustic potassa 1 part, lard 2 parts); precipitated sulphur with equal parts of alcohol and glycerin; red or white precipitate ointment. In obstinate cases, cauterization of the epilated parts with acetic or carbolic acid, chloride of zinc, or caustic potassa in stick. As an after-treatment an ointment of equal parts of precipitated sulphur, alcohol, and glycerin may be applied at night.

IMPETIGO AND ECTHYMA.

These are not, properly speaking, independent skin diseases, but are the accompaniments or results of other affections, such as eczema, and are more commonly caused by scratching.

The hair is to be cut short and the crusts softened by oil. After removal of the crusts, an ointment of calomel (4 parts to 30) or nitrate of mercury (1:20) should be used, and the ulcers touched with nitrate of silver.

The cachexia is to be treated by tonics and cod-liver oil with iron.

In syphilitic ecthyma, mercurials are indicated.

PITYRIASIS.

Pityriasis Simplex.—Washing with tincture of green soap, followed by a thorough inunction with some oil or fat that will not become rancid. An application may be made every evening of borax ʒss. in lard ʒi, which is to be washed off in the morning with a one-per-cent solution of carbonate of potassium. Or an ointment may be used of sublimed sulphur 5 parts, in lard 30 parts. A favorite domestic remedy consists in rubbing the scalp energetically with yolk of egg and then washing off with tepid water; the hair should be previously cut close.

Pityriasis Versicolor.—The treatment is very tedious, but a cure may be finally obtained by thorough rubbing with green soap and alcohol repeated at regular intervals for a long period of time. Also by means of an acoholic sublimate solution, 1 part of corrosive sublimate to 1,000 of fifty-per-cent alcohol.

Pityriasis Rubra.—The disease is very obstinate, running along for years, yet may sometimes be favorably influenced by the internal administration of arsenious acid or carbolic acid.

PSORIASIS.

Internal Remedies.—Fowler's solution, 5 drops a day for the first week, increasing by 1 drop every week up to 10 drops a day, then decreasing at the same rate. Or the following may be given:

℞ Acidi arseniosi,	gr. i.
Opil pulv.,	gr. iij.
Saponis,	q.s.

M. et ft. pil. No. 16. S. One pill morning and evening after meals.

Arsenic must not be given in case of diarrhoea or dyspepsia. The diet must be plain, and alcohol is to be avoided.

External Treatment.—Twice a day Priesnitz compresses are to be applied for three hours at a time, active diaphoresis

being maintained, and followed by a brief cold bath. Oil of cade or birch-tar oil is to be rubbed in once or twice a day, the scales and remains of the former application being previously removed by tincture of green soap, pumice stone, or a protracted bath with soap and warm water. After each application a sweat should be taken of several hours' duration in blankets. Instead of the tar, a five to twenty-five per cent chrysarobin ointment may be applied, after removal of the scales (care being taken to protect the eyes), then an eight to ten per cent pyrogallic-acid ointment or solution; this is, however, not without danger when used in large quantities.

Green soap may be applied twice a day for six or eight days, the individual spots being specially rubbed, the patient remaining in bed well covered up in blankets; a bath is to be taken a few days later, after desquamation has taken place.

When the disease is of slight extent, green soap may be applied like an ointment on a piece of flannel; the parts may be painted with a 1:1,000 solution of corrosive sublimate in equal parts of alcohol and water; cantharidal collodion may be applied; the spots may be touched with nitrate of silver in stick; an ointment of white precipitate (1:25) may be applied twice a day, or 1 part of carbolic acid to 10 parts of flexible collodion; or finally resorcin.

In syphilitic psoriasis, mercurials are indicated.

Of mineral-water baths, those of Aachen or Kreuznach may be recommended.

· ICHTHYOSIS.

The condition may be improved by rubbing with soft soap followed by alkaline baths; arsenic internally.

LICHEN.

Lichen Scrophulosorum.—Cod-liver oil in daily doses of $\frac{3}{4}$ ss. for children, $\frac{3}{4}$ i.-ij. for adults, combined withunctions of the same twice a day, the patient wearing close-fitting flannel underclothing. The constitutional trouble must be treated.

Lichen Ruber.—Arsenic is to be given until every trace of the disease has disappeared. Externally, corrosive sublimate or carbolic acid is to be used. The diet should be nourishing.

Lichen Syphiliticus.—Mercurial inunctions. Zittmann's decoction. Syphilitic treatment.

PRURIGO.

Arsenic internally.

The diseased parts should be rubbed with green soap or with the Wilkinson-Hebra ointment:

℞ Sulph. loti,
 Ol. fagi, āā ʒ ss.
 Sapon. viridis,
 Adipis, āā ʒ i.
 Cretæ, ʒ iiss.
 M. et ft. unguentum.

At the same time the patient should take a long sweat in blankets every day for six days, and should repeat it frequently, even after desquamation has occurred. Or Vlemingx's solution may be applied to the affected parts daily by means of a sponge, to be followed in a few minutes by a bath of one or two hours' duration; after this a five to ten per cent chloral ointment or cod-liver oil is to be used, and the patient enveloped in linen sheets. Vlemingx's solution is made by mixing together 12 drachms of sublimed sulphur and 5 drachms of quicklime in 10 pints of water, boiling down to 6 pints and then filtering. If the skin is sore, warm baths containing 3 to 6 ounces of the solution are to be employed.

The causes are of course to receive appropriate treatment; these are: parasites, other skin diseases, or general affections, such as diabetes, uræmia, cholæmia, etc.

Another method is to paint the entire body every day with a mixture of 1 part of chloroform and 4 parts of birch-tar oil, followed by a tub-bath of several hours' duration; sulphur; soaps containing tar, creasote, or carbolic acid.

A more rapid method is said to be rubbing the body several times a day with cod-liver oil, combined with the persistent use of bromide of potassium internally.

℞ Hydrarg. ammoniati, ʒ ss.
 Camphoræ, ʒ i.
 Adipis, ʒ i.
 M. et ft. unguentum. S. To be applied once a day.

In conjunction with this, warm baths are to be used, a strict diet ordered, and frequent purging with calomel gr. v., and jalap gr. viij.

The baths of Aachen, Kreuznach, etc., may be tried.

PRURITUS.

Carbolic acid may be given internally in doses up to gr. vij. a day, and lotions of the same externally in the strength of 1.5 even up to 10%.

℞ Acidi carbolici, gr. lxxv.
 Pulv. glycyrrh.,
 Ext. glycyrrh., āā gr. xlv.

M. et ft. pil. No. 100. S. Two or three pills three times a day.

Bromide of sodium, Fowler's solution, atropine, quinine, or pilocarpine may also be tried. Palliative measures are: Cool baths, douches with or without the addition of alum, soda, corrosive sublimate, Vlemingx's solution, etc.; rubbing with sliced lemon, alcohol, Haller's acid elixir, Cologne water, two to four per cent chloral solution.

Pruritus vulvæ, vaginae, or ani: Local baths, lotions of weak alcoholic or aqueous solutions of carbolic or salicylic acid; painting with cocaine solution; injections, tampons, or suppositories containing tannin, alum, or zinc in one-per-cent strength; inunctions with boric-acid ointments containing cocaine (3 to 5 parts in 200), with five to ten per cent chloral, or five-per-cent ichthyol ointment. When the itching is excessive, narcotics must be used.

Pruritus senilis: Sponging the body with water at 120° F., containing aromatic sulphuric acid, followed by powdering with salicylate of bismuth 1 part, and starch 4 parts.

BURNS.

First degree (redness): Application of cold, fomentations with alcohol; petroleum. Second degree (vesication) and third degree (scab formation): Opening of the blisters; application of equal parts of lime water and linseed oil; dusting with finely powdered bicarbonate of sodium covered with a damp cloth, or with gum Arabic, or the application of flexible

collodion in order to form a soft and permanent protection to the parts. Lister's dressing, spray, boric ointment on linen, carbolized gauze or salicylated cotton, covered with a mackintosh protective. Nitrate of silver applied once a day; iodoform; sulpho-ichthyolate of zinc.

Irrigation and the continuous bath; oil baths; wrapping with cotton, which is to be renewed only when it is moistened with the discharges and is easily removable.

FROST-BITES.

First degree: Cold compresses at first; rubbing with snow; lead lotions. Second and third degrees: Simple treatment of the ulcers by nitrate of silver ointment (gr. i.: ʒi.); removal of the eschars; possibly amputation of the limb.

In chronic cases (pernio), characterized by blood-stasis, serous and plastic exudation: Pressure by strips of adhesive plaster, rubbing with ointments; frequent applications of nitric-acid solution (ʒ xv.: ʒ i. cinnamon water); nitrate of silver, tincture of iodine, flexible collodion, camphor; zinc ointment, balsam of Peru, oil of turpentine; powdered tannin on the moist skin, chloride of calcium, ichthyol.

Subcutaneous injections of ergotin (in frost-bite of the nose, the injection may be made in the upper third, where a fold of the skin may be raised). Painting with glue; superfatted soap; sulpho-ichthyolate of zinc.

ALOPECIA.

Etiology.—Heredity, constitutional diseases, long-continued irritation or disease of the scalp or of the nerves of the scalp.

Prophylaxis.—When necessary, suitable tonic treatment and care of the hair, with sufficient greasing.

Treatment.—For simple alopecia, painting the scalp with alcoholic solutions, such as the following:

℞ Tinct. benzoin.,	3 ss.
Ac. salicylici,	gr. xv.
Sp. vini gallici,	ʒ vi.
M. S. Hair tonic.	

℞ Tr. aconiti,	℥ xv.
Bals. peruv.,	℥ xliv.
Sp. vini gall.,	ʒ vi.

M. S. For external use.

At the same time one of the following pomades may be used:

℞ Quin. tannatis,	gr. xv.
Ung. aq. rosæ,	ʒ xij.

M. et ft. pomatum.

℞ Tr. cantharidis,	ʒ ss.
Ol. rosmarin.,	gtt. x.
Ext. cinchonæ,	ʒ i.
Medull. bovis,	ʒ i.

M. et ft. pomatum.

In pityriasis capitis (dandruff), the scalp should be plentifully greased in order to soften the scales, then scrubbed with a brush and green soap, washed off with first tepid, then cold water, dried, and again oiled, the oil being allowed to remain for twenty-four hours. The following method is strongly recommended: For a week the head is washed daily with green soap, rinsed with cold water, dried, anointed with a 1:10 pyrogallic-acid ointment, and covered with a flannel cap; twice during the following week the head is washed in the evening with green soap and oiled thoroughly the following morning; and after this for several months the following hair wash is used:

℞ Acidi salicyl.,	ʒ i.
Glycerini,	ʒ iv.
Sp. vini gall.,	ʒ xx.

M. S. For external use.

PIGMENT SPOTS AND FRECKLES (PITYRIASIS VERSICOLOR).

A compress met with a sublimate solution (1:1,000 or at the most 1:200) is applied for two hours a day, followed by cold compresses to reduce the swelling of the face caused thereby. Sulpho-carbolate of zinc. Thorough application of Vlemingkx's solution (*conf.* Prurigo). Painting three or four times a day with tincture of iodine. Applications of precipitated sulphur made into a paste with acetic acid. Sublimate collodion; resorcin; carbolic acid.

New Growths.

LUPUS.

The tubercles are to be thoroughly destroyed with caustic potassa in stick; or scraped out with the sharp spoon and then energetically cauterized. The indurated parts are punctured and this is followed by applications of equal parts of chloride of zinc and alcohol, and cold compresses; when the scab falls off in eight or ten days, the procedure is to be repeated—from five to eight times in all. Or an application may be made of equal parts of iodine, iodide of potassium, and glycerin. Later, emplastrum hydrargyri should be applied for a long period. Ice-bags may be applied continuously in the endeavor to destroy the bacilli. Subcutaneous injections of tuberculin (?): Assistance may be derived from the use of cod-liver oil, arsenic, and saline baths.

LUPUS ERYTHEMATODES.

Mercurial plaster. Rubbing with tincture of green soap. Then white precipitate ointment (equal parts of white precipitate and subnitrate of bismuth in 10 parts of ointment), and cauterization every third day with equal parts of caustic potassa and water, fuming nitric acid, carbolic acid, or caustic glycerin-iodine. Repeated punctures followed by dusting with iodoform. Lately it has been recommended to apply pyrogallie acid (1:10 vaselin) spread on linen, and allowed to act for three or four days until a scab is formed, then to powder with iodoform and cover with iodoform gauze.

Internally, cod-liver oil, arsenic, and iron may be given.

Infectious Skin Diseases.

SCABIES.

Balsam of Peru; storax, copaiba; petroleum; benzin; carbolic acid; Vlemingx's solution (*conf.* Prurigo). The last-named four preparations may excite a mild eczema, and carbolic acid may cause dangerous symptoms. Other remedies are green soap and creasote.

FAVUS.

When the disease affects the hairy parts, the crusts are to be softened and removed by means of oil; epilation must be practised, then the parts are washed with tincture of green soap and afterward painted with a 1:1,000 sublimate solution, or anointed with a five-per-cent pyrogallic-acid ointment or with five to ten per cent carbolized oil. When on the non-hairy parts, the crusts should be removed by mechanical means and the parts rubbed with green soap. Favus of the nails is to be treated by sublimate solution after removal of the diseased nails by scraping and cutting.

HERPES TONSURANS.

Epilation and application of parasiticides as in favus. The following method has been strongly recommended: The hair on the diseased patches or on the entire head should be closely clipped, and then, the forehead and neck being protected by a cloth wrapped around them, oil of turpentine is poured on the head and carefully rubbed in with the fingers; as soon as the pain has subsided (in about three minutes), the head is shampooed with carbolic soap and washed off with an abundance of warm water; after this the parts are painted every day with one or two coats of tincture of iodine or a two-per-cent solution of iodine in oil of turpentine. A cure is usually obtained within a week.

ECZEMA MARGINATUM.

This is caused by the same parasite as the preceding, and occurs on the contiguous surfaces of the scrotum and thigh, between the nates, on the genitals, and in general wherever two moist surfaces of integument come against each other.

The treatment consists in washing with one-per-cent boric-acid solution; rubbing with green soap, followed by oleum rusci; compresses of green soap; applications twice daily of Wilkinson's ointment (*conf.* Prurigo); alcoholic solution of carbolic acid; tar; oil of turpentine. In eczema marginatum of the thigh and scrotum, the latter should be supported in a suspensory bandage.

SYCOSIS PARASITICA.

See Mentagra.

X. POISONING.

Acute Poisoning.

The acute action of a poison is either purely local, consisting in the chemical or irritant effect of the substance upon the parts with which it is in contact; or systemic, due to the specific effect, upon the nervous centres chiefly, of the substance after its absorption; or finally a combination of the two.

The aim of treatment is to weaken the caustic action of the substance by dilution and neutralization, and then to effect its removal as quickly as possible from the gastro-intestinal tract by means of the stomach-pump, emetics, and cathartics; or else to introduce substances which will form insoluble or non-toxic chemical combinations with the poison. In either case, however, the removal of the toxic agent must be accomplished.

If the poison has been taken into the circulation, the attempt to neutralize it would appear to be seldom of any use (see, however, Gaseous Poisons, Sulphuretted Hydrogen); still, transfusion after a copious venesection may be of service, especially in poisoning by gaseous substances.

The action of many poisons upon certain definite portions of the nervous system may be overcome by the administration of substances having the opposite effect (antidotes); this is especially the case with alkaloidal poisons, yet the antidotal alkaloid must never be given in doses which are of themselves lethal. In other cases the treatment must be symptomatic: Stimulants in case of collapse; venesection in marked cerebral congestion; artificial respiration, and sometimes the use of oxygen, in poisoning by hydrocyanic acid, strychnine, and gases.

The *sequelæ* of poisoning by irritant and caustic substances are acute inflammation, especially of the primæ viæ, the formation of eschars, sometimes perforation, and hemorrhage.

Conf. Toxic Gastritis.

A. Solid and Liquid Poisons.

I. INORGANIC POISONS.

1. POISONING WITH ESCHAROTIC MINERAL ACIDS.

Symptoms.—Cauterization of the mucous membrane of the mouth and throat, distressing cough, vomiting of membranous (and bloody) masses, severe colic, tenesmus, bloody stools, or sometimes obstinate constipation, collapse.

Treatment.—Dilution of the acid and protection of the walls of the stomach by copious draughts of water and mucilaginous drinks (barley water, flaxseed tea) milk, oil; neutralization by means of chalk, lime water, carbonate of magnesium or calcined magnesia, the latter being stirred up in about 20 parts of water of which two tablespoonfuls may be taken every fifteen minutes at first, and afterward less frequently; if necessary, any other alkalies may be taken, such as ashes, soap-suds, etc. Vomiting usually occurs without the need of an emetic, and indeed may be so persistent as to require the use of ice, carbonic-acid water, or opium to control it.

2. POISONING WITH METALS, METALLOIDS, AND THEIR COMBINATIONS.

ALKALIES AND EARTHS.

Symptoms.—Burning in the mouth and throat, and cauterization of the mucous membrane; vomiting and discharge from the bowels of blood; severe headache, syncope, and collapse.

Treatment.—Poisoning with non-caustic potassium salts calls for stimulants; with the nitrate, after the production of vomiting, protective remedies such as albumen and opium.

Concentrated caustic alkalies call for dilution, neutralization, and saponification by means of large quantities of vinegar, lemon juice, fats, and oils.

Chromate of potassium (caustic): carbonate of magnesium bicarbonate of sodium, or a thin gruel of iron powder and syrup.

Caustic earths, quicklime: Carbonic-acid water, cold sugar-water (used especially by masons for washing the eyes when any lime has splashed into them); vinegar, the alkaline carbonates, fixed oils, eggs, vegetable acids.

Baryta and its salts (causing inflammation of the stomach,

vomiting, pain in the epigastrium, headache, dimness of vision, syncope, convulsions): Albumen, sulphate of sodium, potassium, or magnesium (to form an insoluble sulphate of barium); lime water to drink: and the production of vomiting.

ANTIMONIALS.

Symptoms.—Choleraic discharges from the stomach and bowels, gastro-enteritis.

Treatment.—Diluents and emollients, tannin, tincture of cinchona, and decoctions of drugs containing tannin in order to form an insoluble combination.

For the hyperemesis, effervescent mixtures with opium; tannin, cracked ice; ether, tincture of castor.

NITRATE OF SILVER.

Symptoms.—Cauterization of the mucous membranes, coma, and convulsions.

Treatment.—Milk and albumen; common salt with a large quantity of water. See also under Chronic Poisoning, below.

ARSENIC.

Arsenic acid (rat poison), arsenious acid and its combinations, orpiment, realgar, Paris green, and various arsenical pigments.

Symptoms.—An astringent sensation in the mouth, pain in the epigastrium, vomiting and diarrhoea, sometimes bloody; great thirst, coldness of the skin with a subjective sensation of heat, great anxiety, dyspnoea, syncope, symptoms resembling the asphyctic stage of cholera, delirium, convulsions. Death results from paralysis of the cardiac motor nerves and of the posterior gray matter of the spinal cord.

Treatment.—Freshly prepared hydrated oxide of iron or calcined magnesia. When necessary, emetics and cathartics (Glauber's salt). Further treatment is symptomatic. See also under Chronic Poisoning, below.

LEAD.

Sugar of lead, white lead, litharge, red lead, etc. Acute poisoning may occur from the use of new, poorly glazed pots in which acids or grease may have been kept.

Symptoms.—A sensation of constriction in the throat, burning pains in the abdomen, vomiting, diarrhœa, collapse; sometimes instead of diarrhœa there is obstinate constipation with retraction of the abdominal wall, and colic.

Treatment.—White of egg, milk, an emetic of sulphate of zinc, laxatives (castor-oil emulsion). Antidotes: sulphur, sulphate of sodium, potassium, or magnesium (forming a sulphate of lead, which is also poisonous and must be removed as speedily as possible). In case of necessity, alum, phosphates, or dilute sulphuric acid. Opiates are to be given only after thorough emptying of the stomach and intestines. See also under Chronic Poisoning, below.

IODINE.

Acute iodism, occurring sometimes after the injection of large quantities of tincture of iodine into ovarian and other cysts.

Symptoms.—Vomiting, pallor and cyanosis of the skin, collapse; a small and very rapid pulse; sometimes dyspnoea, suppression of urine, and hæmoglobinuria; albuminuria, redness of the skin; sore throat, coryza, conjunctivitis, frontal headache, skin eruptions.

Treatment.—Discontinuance of the iodine; albumen, stimulants; symptomatic treatment. See also under Chronic Poisoning, below.

IODIFORM.

Symptoms.—Headache, vertigo, sleeplessness; pruritus, icterus; singultus, clonic spasms; peculiar psychic manifestations (maniacal attacks, refusal of food, mania of persecution); constipation followed by incontinence of fæces. In severe cases, convulsions, profound coma, very small frequent pulse. Iodine may be detected in the urine.

Treatment is symptomatic: Stimulants, baths, alkalies; atropine, morphine hypodermically; forcible feeding if necessary, and measures to induce a copious secretion of urine.

BROMIDE OF POTASSIUM AND OF SODIUM.

Symptoms, due to a cumulative action: Anæsthesia of the skin and mucous membranes, even of the cornea; sore throat, headache, loss of memory, sopor, dulness of the senses, an

acneiform eruption, pallor of the entire surface, great general weakness, incontinence of urine and of fæces.

Treatment.—Discontinuance of the remedy, baths, vapor baths, purgatives, diuretics and diaphoretics, a nutritious liquid diet, enemas of water, caffeine.

COPPER SALTS.

Symptoms.—Gastro-enteritis with vomiting of greenish masses having an odor of copper, colic and tenesmus, delirium and convulsions.

Treatment.—Diluents (avoid the use of oils and vinegar), large quantities of white of egg, milk, calcined magnesia, grape sugar, honey, iron filings, ferrocyanide of potassium in 15-grain doses, and a thin mixture of iron filings and sulphur in syrup.

PHOSPHORUS.

Symptoms.—Marked gastro-enteritis, though not invariably; great thirst, collapse, jaundice; the vomited matters and stools smell of garlic and are luminous in the dark.

Treatment.—Stomach-pump, emetics, especially sulphate of copper; the latter is given first as an emetic and later in smaller doses; or carbonate of copper in doses of gr. iv.—viiij. in water every half-hour, followed by two teaspoonfuls of vinegar in water. In the intervals cold drinks or water ices, and after a few hours another emetic dose of sulphate of copper. No oily laxatives or enemata should be given. Albumen, mucilaginous mixtures, calcined magnesia, chloride of lime, and especially oil of turpentine. See also Chronic Poisoning, below.

Fats, milk, and alcoholics should not be given.

When, in cases of burns, phosphorus is left behind in the skin, it should be removed by means of ether, or the burn is to be washed first with pure water and then with a five-per-cent solution of soda or ammonia.

MERCURY.

A. ESCHAROTIC MERCURIAL PREPARATIONS, ESPECIALLY CORROSIVE SUBLIMATE.

Symptoms.—A burning and contraction in the throat, severe pain in the abdomen, choking, profuse vomiting sometimes bloody, diarrhœa, tenesmus, collapse, and convulsions.

Treatment.—First an emetic; then magnesia, white of egg, flour and water, milk, sugar water, the fresh precipitate obtained by adding alkaline sulphates to a solution of ferrous sulphate.

B. ACUTE MERCURIALISM.

Symptoms.—A catarrhal or ulcerated condition of the buccal mucous membrane, sore throat, ptyalism, loosening of the teeth, fetor of the breath, nausea, fever.

Treatment.—If blue ointment has been used, every trace of it must be carefully removed from the skin by means of soap and water; and then resolvents are to be given, especially warm baths, sarsaparilla, iodide of potassium; the stomatitis and salivation must also be treated. (See Mercurialism, under Chronic Poisoning, below.)

SULPHURATED POTASSA.

Acts as a poison by setting free sulphuretted hydrogen (see Gaseous Poisons).

Symptoms.—Gastritis, vomiting, vertigo, collapse, paralysis of the heart and of respiration.

Treatment.—Mucilaginous remedies, milk, chlorine, chloride of lime, charcoal to absorb the sulphuretted hydrogen; artificial respiration.

ZINC AND TIN SALTS.

Symptoms.—Nausea, vomiting, diarrhœa, great thirst, trembling of the limbs, gastro-enteritis, abdominal pain, collapse.

Treatment.—White of egg, milk, tannin, bicarbonate of sodium. See also under Chronic Poisoning.

II. ORGANIC POISONS.

1. ANIMAL POISONS.

CANTHARIDES.

Symptoms.—Severe, often bloody vomiting, excessive pain in the abdomen, spasm of the throat, salivation, strangury, bloody urine, sexual excitement, numbness of the sensorium.

Treatment.—Emetics and laxatives, then mucilaginous (but not oily) substances; small doses of camphor with opium; poultices and leeches over the neighborhood of the kidneys.

CHEESE, SAUSAGE, FLESH, AND FISH POISONS.

Symptoms.—Choleraic vomiting and diarrhœa, colic (sometimes, however, constipation), difficulty in swallowing, hoarseness, ptosis with disturbances of vision, a tendency to fall, precordial anxiety, delirium, convulsions, petechiæ, death, or a very tedious convalescence.

Treatment.—The poison must first of all be removed from the system by emetics and purgatives, and then the treatment must be stimulant and symptomatic; solution of anisated ammonia, camphor, oil of turpentine, strong black coffee, remedies to quiet the vomiting, mustard plasters to the stomach (strychnine or vegetable acids?).

SNAKE BITE.

Symptoms.—Vertigo, chill, physical depression, coldness of the extremities, dilatation of the pupils, paralysis, dyspnœa, dysphagia, vomiting, icterus, tendency to extravasations of blood, marked local swelling, formation of abscess, or even gangrene.

Treatment.—Ligature around the wounded limb, suction on the wound, incision followed by cupping, the actual cautery, caustic potassa, solution of caustic ammonia locally applied, a few drops in water internally, and 30 drops diluted with from 1 to 4 parts of water injected into a vein; permanganate of potassium subcutaneously; strychnine, hot alcoholic liquors, strong alcohol in large amounts.

INSECT STINGS.

Bites from bees, spiders, scorpions, centipedes, etc.

Treatment.—Expression and suction of the wound; neutralization of the acid poison by means of water of ammonia internally and locally, lime water, carbolized oil. For the stings of bees and mosquitoes especially, painting the parts with silicate of potassium or oil of sassafras; cold compresses.

2. POISONOUS ORGANIC ACIDS AND THEIR COMBINATIONS.

OXALIC ACID.

Symptoms.—It acts locally as a caustic when concentrated, causing constriction in the throat, vomiting, sometimes bloody, and colic; and narcotic on the brain and spinal cord, producing stupor, trembling of the extremities, tetanic convulsions, dyspnoea, and paralysis of the heart.

Treatment.—Lime and lime salts, chalk, egg shells, and magnesia are antidotes; but sodium, potassium, and ammonium form poisonous salts with oxalic acid. Emetics should be given when vomiting does not occur spontaneously. Stimulants.

CARBOLIC ACID.

Substances that act similarly are: tar, creasote, anilin, nitrobenzol, picric acid, and artificial oil of bitter almonds.

Symptoms.—Relatively small amounts (gr. xij. at a dose or ʒ ss. a day) cause depression, headache, vertigo, cold sweats, eructations, vomiting, strangury, and even nephritis. In children, restlessness, elevation of temperature, clonic spasms, tetanoid attacks, and glottic spasm, and a peculiar condition of collapse.

Large caustic doses cause vomiting, syncope, anæsthesia, disorders of consciousness resembling drunkenness, vertigo, delirium, pulselessness, rapidly occurring collapse, a tarry odor of the breath, olive-green coloration of the urine, local caustic action in the mouth and throat.

Treatment.—The milder symptoms disappear spontaneously upon the discontinuance of the remedy.

Large amounts taken into the stomach demand the employment of the stomach pump, followed by emollients, albuminous substances, milk, and especially olive or almond oil with a little castor oil. Sulphate of sodium is the approved antidote in doses of 75 grains a day for adults and 30 to 45 grains for children, or else saccharated lime. In protracted cases, sulphuric acid mixture may be given in doses of a tablespoonful every hour. Stimulants by the rectum. Cutaneous irritants.

HYDROCYANIC ACID AND NITROBENZIN.

See Asphyxiating Poisons, below.

3. VEGETABLE AND ORGANO-CHEMICAL POISONS.

A. ACRID POISONS.

1. With especially irritating action: Squill, savine, meze-reum, euphorbium, chelidonium, various of the ranunculaceæ, anemone, strong peppers and mustard.

2. With irritating and strongly purgative action: croton oil, scammony, elaterium, gamboge, colocynth, bryonia.

3. With irritating, but especially narcotic, action (see Nerve Poisons): colchicum, lobelia, privet, veratrum, hellebore, savadilla, staphisagria, pulsatilla, rhus toxicodendron, delphinium, oleander, the bark and flowers of laburnum.

Symptoms.—A raw, burning sensation in the mouth and throat, gastro-enteritis, swelling of the mucous membranes with which the substance was in contact; vomiting, diarrhœa, tenesmus.

Treatment.—Emetics, laxatives, emollients; ice, local abstraction of blood; opium, tannin. (*Conf.* Toxic Gastritis.)

B. MUSCLE AND NERVE POISONS (NARCOTICS).

1. CEREBRAL POISONS.

OPIUM, MORPHINE.

Symptoms.—Headache, nausea, vomiting, a sensation of extraordinary fatigue, anxiety, wandering talk, maniacal attacks; sopor, delirium, subsultus tendinum, occasionally convulsions; the pupils are strongly contracted, pulse and breathing slow and irregular, skin covered with sweat.

Treatment.—Powerful emetics or the stomach pump, even after several hours have elapsed. Antidotes are: Tannin in repeated small doses, atropine subcutaneously, caffeine (black coffee); counter-irritants, artificial respiration. Symptomatic treatment, the patient should be kept continuously walking, cold douches, stimulants, especially coffee, and camphor subcutaneously. The administration of vegetable acids (not,

however, until the stomach has been emptied of the opium) lessens the severity of the symptoms. See also under Chronic Poisoning, below.

HASHISH.

Symptoms.—In severe cases, convulsions with difficulty in respiration, dilated pupils.

Treatment.—The same as opium poisoning, *q.v.*

ERGOT.

Symptoms.—Nausea, vomiting, colic, diarrhœa; vertigo, headache, muscular weakness, a slow pulse; in severe cases, sopor, respiratory disturbances.

Treatment.—Emetics, cathartics, tannin, stimulants (ether, camphor, black coffee). See also under Chronic Poisoning, below.

POISONOUS MUSHROOMS AND TOADSTOOLS.

Symptoms.—Poisonous mushrooms cause nausea, vomiting, diarrhœa, headache, coma, but especially hæmoglobinuria and hæmatogenous jaundice. Spoiled edible mushrooms produce choleraic symptoms. Toadstools cause gastric symptoms, diarrhœa, psychic disturbances, delirium, epileptiform and tetanic convulsions, a slow pulse, dilated pupils, disturbances of vision, salivation, sopor.

Treatment.—Active emetics, castor oil, croton oil, tannin, stimulants. Atropine in small doses, best given subcutaneously, is an antidote especially in toadstool poisoning.

ALCOHOL.

Symptoms.—Loss of consciousness, anæsthesia, dilated or contracted pupils usually not responsive to light, small slow pulse, cool clammy skin, vomiting, stertorous respiration; instead of coma, there are sometimes clonic convulsions and delirium.

Treatment.—Baths with douching, counter-irritation, and according to the indications local bleeding or even venesection, cold compresses and douches, derivatives. (*Conf.* Cerebral Hyperæmia, above.)

Strong black coffee with lemon juice; water of ammonia by inhalation and from 2 to .10 drops in water internally, or aromatic spirit of ammonia or solution of anisated ammonia; carbonic-acid water.

For the headache and depression following a debauch: Carbonic-acid water, strong black coffee, sardellen, Russian salad, one glass of good beer, water of ammonia. See Delirium Tremens and Alcoholic Dyscrasia, below.

2. CEREBRO-SPINAL POISONS.

CHLORAL.

Symptoms.—Collapse, cold sweat, slow and stertorous breathing, injection of the conjunctivæ, contraction of the pupils, pallor of the lips, dropping of the chin, at first strong and slow, later rapid and very small pulse.

Treatment.—Stomach pump, artificial respiration, rubbing and the application of great heat to the skin; douching with cold water. For the cardiac paralysis, strong coffee, subcutaneous injection of strychnine in an initial dose of gr. $\frac{1}{20}$, and repeated in smaller doses; inhalation of nitrite of amy. Caffeine, musk, camphor, ether; faradization of the phrenic nerve; transfusion. See also under Chronic Poisoning, below.

BELLADONNA (ATROPINE) AND STRAMONIUM, HYOSCYAMUS.

Symptoms.—Dilatation of the pupils, disturbance of vision (blindness), increased rapidity of the pulse and respiration, great dryness of the throat and skin, a condition resembling drunkenness with delirium, jactitation, and finally sopor. Sometimes vomiting, colic, diarrhœa (from the ingestion of the fruit). Hyoscyamus is said to cause greater stupor, sopor with delirium, and hoarseness.

Treatment.—Emptying of the stomach, tannin, animal charcoal, iodine, morphine subcutaneously or physostigmine. There appears to be a decided antagonism between opium and the solanaceæ, belladonna, stramonium, and hyoscyamus, they being mutually antidotal. Jaborandi (pilocarpine) may also be given as an antidote; large quantities of alcohol; inhalation of chloroform; symptomatic treatment.

SOLANIN.

A glucoside found in *Solanum nigrum* (garden nightshade) and *Dulcamara* (bittersweet), and also in unripe and diseased potatoes and in the potato plant.

Symptoms.—Stupor, dilated pupils, very rapid pulse (pulselessness), dyspnoea, convulsions, great nausea, vomiting, dry and itching skin.

Treatment.—Tannin, emetics and cathartics, stimulants; the further treatment is symptomatic; sometimes opium is indicated.

NICOTINE.

The poisonous ingredients of tobacco smoke are: salts of nicotine, sulphuretted hydrogen, and hydrocyanic acid.

Symptoms.—Vertigo, headache, sleepiness and mental dullness, a feeling of great fatigue and of misery, nausea, vomiting; contracted pupils, cold sweat, collapse, clonic convulsions, marked diuresis.

Treatment.—Tannin is to be given as an antidote; the stomach pump may be needed; symptomatic treatment; artificial respiration. See under Chronic Poisoning, below.

3. SPINAL POISONS.

CONIUM.

Found in numerous varieties of hemlock, in *Cicuta maculata*, also in many varieties of *Ceanothe*, and in wild rosemary (*Ledum palustre*) used sometimes by beer brewers.

Symptoms.—Paresis of the voluntary and respiratory muscles, preceded sometimes by convulsions.

Treatment.—Removal of the poison; tannin, strychnine; artificial respiration; stimulants.

In this class belong also lobelia, *Taxus baccata*, and many poisonous fungi.

STRYCHNOS NUX VOMICA.

The alkaloids strychnine and brucine are found also in *Strychnos Ignatii*, in false *Angostura* bark, snakewood (*Strychnos colubrina*), and Java arrow poison.

Symptoms.—Rigidity, tension, and spasms of the muscles, tetanus and consequent dyspnoea, anxiety and restlessness,

cyanosis, dilated pupils; consciousness is preserved until near the end. The slightest external irritation suffices to excite an attack.

Treatment.—Removal of the poison by emetics, castor and croton oil; tannin, tincture of iodine (10 to 20 drops in water, often repeated), injections of morphine, chloral (*conf.* Nux Vomica, in Part II.), monobromide of camphor (3 i.-iss. in divided doses); also extract of physostigma, inhalations of nitrite of amyl, ether, chloroform; the constant galvanic current to the medulla, artificial respiration.

COCCULUS INDICUS (PICROTOXIN).

Symptoms are similar to those of strychnine poisoning, but more choreic in character; also vomiting, gastro-enteritis; coma.

Treatment is the same as that of strychnine poisoning.

CURARE.

Woorara, Urali, Ticunas, Indian arrow poison.

It causes paralysis. The antidote is strychnine, and in addition stimulants are called for, and artificial respiration. In the case of a poisoned wound, a ligature should be drawn tightly around the limb.

PHYSOSTIGMA AND PHYSOSTIGMINE.

Symptoms.—Vomiting, excessive fatigue amounting even to paralysis, passage of urine and fæces (strong peristalsis), profuse secretion of saliva and of sweat, contraction of the pupils, dyspnoea, gradual slowing of the pulse and fall of temperature.

Treatment.—Emetics; strychnine or atropine as an antidote; artificial respiration, strong stimulation, warmth; the further treatment is symptomatic.

4. HEART POISONS.

ACONITE.

Symptoms.—Burning pain in the throat, formication in the tongue, pain in the stomach, marked oppression and difficult respiration, muscular weakness amounting even to paralysis; dilated pupils, coldness and diminished sensibility of the skin; slowing and final arrest of the heart's action.

Treatment.—Emetics and cathartics. Tannin and iodine. Heart stimulants.

DIGITALIS.

Symptoms.—Gastric disturbances, dryness in the throat, loss of appetite, nausea, vomiting, borborygmi and colic, sometimes diarrhœa; lowering of the intra-vascular pressure, irregular action of the heart, threatening paralysis of the heart; collapse.

Treatment.—Emetics in certain cases; tannin; powerful stimulation by means of camphor, ether, wine, coffee; counter-irritation of the skin; ammonia (intra-venous injections?); treatment of the collapse.

VERATRUM.

Including white, black, and green hellebore, savadilla, and stavesacre.

Symptoms.—Severe vomiting, sometimes bloody, hiccough, diarrhœa, burning pain in the stomach; sinking of the pulse and temperature, slow respiration; twitchings, clonic spasms; loss of consciousness, collapse.

Treatment.—Tannin, stimulants, solution of anisated ammonia, emollients, opium; symptomatic treatment.

COLCHICUM.

Symptoms.—Nausea and persistent vomiting, colic, diarrhœa with tenesmus, reduced frequency of the pulse, great muscular weakness, disturbance of vision, collapse, vertigo; but no loss of consciousness, seldom convulsions and coma.

Treatment.—Emptying the stomach, if the drug itself has not already brought about vomiting and diarrhœa. Tannin is the antidote, and after its administration an evacuating, stimulating, and symptomatic treatment is called for. Ice, opium.

5. ASPHYXIATING POISONS.

HYDROCYANIC ACID.

Including cyanate of potassium and other cyanates. Prussic acid is contained in bitter almonds, cherry-laurel leaves, and the kernels of cherries, peaches, apricots, and plums.

Symptoms.—Great dyspnœa and muscular weakness, cool extremities, unconsciousness, dilated pupils, convulsions, cyanosis; trismus; odor of bitter almonds in the breath. The poison acts by inducing changes in the blood, and also as an asphyxiating agent by paralyzing the respiratory centre.

Treatment.—Emptying the stomach (stomach pump); atropine subcutaneously, ammonia inhaled, taken by the mouth in water, and injected into the veins; cold douching while the patient is in a warm bath; injections of camphor or ether; artificial respiration is necessary.

NITROBENZIN (ANILIN AND ANILIN DYES).

Symptoms.—A strong odor of bitter almonds; dizziness at first; the skin soon becomes blue increasing to a deep cyanosis; dyspnœa; disturbances of consciousness passing into sopor.

Treatment.—Stomach pump; artificial respiration; stimulants; transfusion. To this group of asphyxiating substances belong also the following gaseous poisons.

B. Gaseous Poisons.

HYDROGEN SULPHIDE, SULPHURETTED HYDROGEN.

Symptoms.—Nausea, general weakness, anxiety; slowness and intermission of the pulse; rapidity followed by cessation of respiration; dilated pupils; convulsions. The poison acts by withdrawing oxygen from the blood, which becomes of a dirty green color. Small doses stimulate the regulator nerves of the heart, larger doses (directly or through withdrawal of oxygen?) paralyze the musculo-motor apparatus.

Treatment.—Cold douching to stimulate respiration, artificial respiration; inhalation of weak chlorine gas which breaks up the hydrogen sulphide; chloral for the convulsions; intravenous injection of ammonia; if necessary an emetic, of which the best is apomorphine subcutaneously; internally large doses of a weak solution of iodine; symptomatic treatment.

SEWER-GAS, MEPHITIS.

This is either simply hydrogen sulphide or a mixture of this with sulphide of ammonium, ammonia, and carbonic acid. The symptoms and treatment are the same as those of hydrogen sulphide.

CARBONIC OXIDE, CHOKE-DAMP, AND ILLUMINATING GAS.

The latter is a mixture of carbonic oxide, choke-damp, hydrogen, carbonic acid, and other gases.

Symptoms.—Headache, depression, involuntary discharges, vertigo, dulness, delirium, anæsthesia, convulsions, intermittent gasping respiration, weak heart action, cyanosis, and suspended respiration.

These gases act by deoxidizing the blood-corpuscles (the blood is a bright cherry red), narcotizing the cerebrum, and paralyzing the vaso-motor nerves.

Treatment.—Fresh air, artificial respiration, cold douching, cutaneous irritation, transfusion; subcutaneous injections of ergot; stimulants, especially subcutaneous injections of camphorated oil in doses of 5 or 6 syringefuls (15 minims each) a day.

CHLORINE.

Symptoms.—Great irritation causing sneezing and coughing, attacks of asphyxia, sore throat, coryza, bronchitis.

Prophylaxis.—Holding a sponge wet with alcohol before the mouth.

Treatment.—Breathing warm aqueous vapor; inhalations, practised with care, of ammonia or hydrogen sulphide; white of egg taken in water or milk.

CARBONIC ACID.

Symptoms.—Rapid respiration passing its extreme dyspnoea, headache, vertigo, benumbing of the senses; loss of sight and hearing; dilatation of the pupils; general convulsions (irritation of the convulsive centre in the pons); finally general asphyxia. The pulse, which is unchanged or slightly quickened when small quantities are inhaled, is slowed in consequence of the extreme irritation of the vagus centre, with increased intension.

Treatment.—Fresh air (oxygen), stimulants; symptomatic treatment.

AMMONIA.

This gas is not directly poisonous, but is irrespirable, causes reflex spasm of the glottis, and may lead to death, even

after several days, in consequence of extensive inflammation of the mucous membrane of the respiratory tract.

ETHER AND CHLOROFORM.

Symptoms.—Death comes either through the heart, from sudden stoppage in consequence of paralysis of the motor apparatus, or as a result of paralysis of the respiratory centre in the medulla oblongata; it may occur suddenly or gradually, the breathing becoming more and more difficult and superficial, with symptoms of carbonic-acid poisoning. Most frequently respiration is mechanically interfered with in consequence of dropping back of the tongue and epiglottis.

Treatment.—Drawing out the tongue, or (which is to the same effect) pushing forward the lower jaw; the mouth may be pried and held open with a gag, and then the finger is introduced and hooked around the epiglottis, drawing it forward. Dashing cold water on the chest and face, tickling the nose or the mucous membrane of the larynx; artificial respiration, the arms being first drawn strongly upward and then brought down and pressed forcibly on the chest, the head meanwhile being the lowest point of the body; the chest may be alternately strongly compressed and then suddenly relaxed; or electricity may be applied to the phrenic nerves by means of broad flat electrodes pressed against the neck on each side of the larynx. Injections of strychnine, inhalation of nitrite of amyl, stimulants, cutaneous irritation. Prompt tracheotomy. In case of stoppage of the heart, the chest should be struck over the cardiac region; or possibly electro-puncture of the heart wall (?).

FUMES OF HYDROCYANIC ACID.

See Hydrocyanic Acid, above.

Chronic Poisoning.

NITRATE OF SILVER (ARGYRIA).

Symptoms.—A grayish discoloration of the skin, general depression, dizziness with weakness of memory, contracture of the muscles of the neck; pharyngeal and bronchial catarrh, weakness of vision, chronic gastro-intestinal catarrh, albuminuria (nephritis).

Treatment.—Discontinuance of the remedy; nourishing food. See under Acute Poisoning, above.

ARSENIC.

Symptoms.—Gradual emaciation with gastric disturbances, colicky pains, great thirst, vomiting or diarrhœa; conjunctivitis (after long use of Fowler's solution); mental dullness, melancholia; a dry pallid skin, cutaneous eruption; fever; depression of spirits; trembling of the limbs, paretic weakness, arthralgia, convulsions.

Treatment.—Sulphur waters, iodide of potassium, cautiously administered; chloride of ammonium as a specific; vapor baths; tonics, especially iron and quinine; symptomatic treatment. See also under Acute Poisoning.

LEAD.

a. Lead Colic.—See under Colic, and also Acute Poisoning by Lead.

b. Lead Arthralgia, etc.—Symptoms: Steady or remittent pains, especially of the flexors of the knee, accompanied, when long continued, by atrophy of the affected parts; saturnine tremor, contractures, anæsthesia, eclampsia, and paralysis of the extensor muscles, especially of the hand (wrist-drop).

Treatment: Cathartics, warm baths with sulphide of potassium; iodide and bromide of potassium; narcotics, strychnine; galvanization, local and of the sympathetic; cold douches, tonics.

c. Saturnine Encephalopathia with Amaurosis (and Eclampsia). Symptoms: Sudden attack of severe headache, great mental restlessness, convulsions, delirium, coma.

Treatment: Expectant and symptomatic; tepid baths with douching; narcotics, stimulants, iodide of potassium.

d. Saturnine Tabes.—Treatment: Iron, sulphur baths; strychnine, electricity long continued; cathartics, good food, and pure fresh air.

MERCURY (MERCURIAL TREMOR AND CACHEXIA).

Treatment.—Diuretics and diaphoretics, small doses of iodide of potassium, vapor baths, sulphur baths (Aachen,

Baden bei Wien, Nenndorf); pure fresh air, easily digestible nourishing food. See under Acute Poisoning, above.

ZINC.

Symptoms.—Digestive disturbances, marasmus, œdema resulting from hydræmia.

Treatment.—The only treatment consists in the withdrawal of the source of the poisoning, when, under a suitable tonic regimen, a cure usually occurs very speedily. See also Acute Poisoning, above.

PHOSPHORUS.

Symptoms.—Gastric disturbances, eructations of gas with an odor of phosphorus, vertigo, physical depression, an unhealthy appearance; bronchitis, tuberculosis; severe tearing pains; osteo-periosteitis with necrosis of the lower jaw.

Treatment.—Stimulants (camphor, musk), nourishing food, tonics. See also Phosphorus, under Acute Poisoning, above.

IODINE (CHRONIC IODISM).

Symptoms.—Complete anorexia and digestive disturbances; coryza and the other symptoms of acute iodism (see above); colic with diarrhœa; hoarseness, bronchitis, hæmoptysis. Nervous symptoms, such as restlessness, excitability, headache, insomnia, trembling of the limbs, palpitation, general debility. Cutaneous eruption (acne, erythema, especially erythema nodosum). Great emaciation, atrophy of the glandular organs.

Treatment.—Discontinuance of the drug; cautious tonic treatment. Sulphanilic acid (3 iss.) is said to overcome speedily the symptoms of chronic iodine poisoning.

ALCOHOL (DELIRIUM TREMENS).

Treatment.—Opium in large doses, chloroform; chloral, in doses of 38 to 45 grains in wine, every half-hour until the excitement is overcome, more active if combined with morphine; bromide of potassium (30 grains) with tincture of digitalis (30 minims) every two hours; cold douching. The strait-jacket should not be used. Alcohol cannot, even in fever, be

entirely dispensed with. See also under Acute Poisoning, above.

ALCOHOL (ALCOHOLISM).

Treatment.—Gradual withdrawal of the alcohol and treatment of the principal symptoms and organic affections. For the gastric catarrh: Bitters (blessed thistle, cinchona, nuxvomica), alkaline carbonates, subnitrate of bismuth, acetate of zinc, digitalis, tartar emetic, nitrate of silver, opium. For the tremor: Fowler's solution (subcutaneously), fusel oil, six drops in sugar three times a day. For the most urgent nervous symptoms (convulsions, hyperæsthesia, delirium, hallucinations): chloral, morphine, cold douching. For the attacks of syncope, etc.: camphor; blood-letting is to be avoided.

OPIUM AND HASHISH.

Symptoms.—Moderate use produces no lasting consequences, but the abuse of these drugs may lead to gastric catarrh, scorbutic stomatitis, extreme emaciation, trembling of the extremities, mental hebetude and hallucinations. Hashish causes physical weakness and incapacity for mental labor.

Treatment.—Possibly stimulant and symptomatic. See Acute Poisoning, above.

MORPHINE.

Symptoms.—Pallor, hyperidrosis, cutaneous efflorescence, diplopia, contraction or inequality of the pupils, insomnia, neuralgias and numerous other nervous disturbances, albuminuria, intermittent fever, and a form of chronic delirium tremens without excitement.

Treatment.—Sudden withdrawal (in asylum practice), but with great caution, as symptoms of collapse may be thus induced; when the symptoms resulting from abstinence are excessive, an occasional injection of morphine may have to be given. In the first days of treatment, strong wine is of service. The use of cocaine in the treatment of the morphine habit has been rightly abandoned because of the danger of substituting cocainism for the original trouble. See Opium, under Acute Poisoning, above.

COCAINE.

For the symptoms and treatment of cocainism see under Cocaine, in Part II.

CHLORAL.

Symptoms.—Conjunctivitis, contraction of the pupils, skin eruptions, especially erythema and a sensation of heat called forth by the ingestion of alcohol or even of warm food, dyspnoic attacks.

Treatment.—Discontinuance of the drug; tonics. See Acute Poisoning, above.

TOBACCO.

Symptoms.—Dyspepsia, pharyngeal and laryngeal catarrh, (conjunctivitis); palpitation of the heart, trembling of the limbs; a hypochondriacal disposition, psychical changes (?), sometimes dimness of vision or amaurosis.

Treatment.—Abstinence from tobacco, treatment of the special symptoms. See under Acute Poisoning, above.

ERGOT.

Symptoms.—Nausea, eructations, vomiting, diarrhœa; gastro-enteritis (hemorrhagic); vertigo, extreme debility; formication, numbness of the hands and feet; wandering pains; slight muscular twitchings even up to epileptiform attacks, tonic contractures; anæsthesia of the skin, or an erysipelatous swelling with severe pains of one or more of the extremities with subsequent gangrene (gangrenous ergotism).

Treatment.—Symptomatic; emetics and cathartics; tannin; stimulants and tonics. For the spasmodic and convulsive symptoms: Narcotics and anæsthetics during the attacks; cathartics (anthelmintics), tonics, and nourishing diet without rye or corn meal. See also under Acute Poisoning, above.

BISULPHIDE OF CARBON.

Poisoning occurs through inhalation of the vapors, especially in the manufacture of caoutchouc.

Symptoms.—Compressive headache, mental dulness, some-

times preceded by transitory excitement, loss of muscular power, of memory, and of vision, tinnitus aurium, muscular twitchings and spasms, disturbances of digestion, a melancholic disposition.

Treatment.—Permanent withdrawal from the injurious influences. Phosphorus in doses of gr. $\frac{1}{60}$ to $\frac{1}{12}$ a day. For paresis, the constant current.

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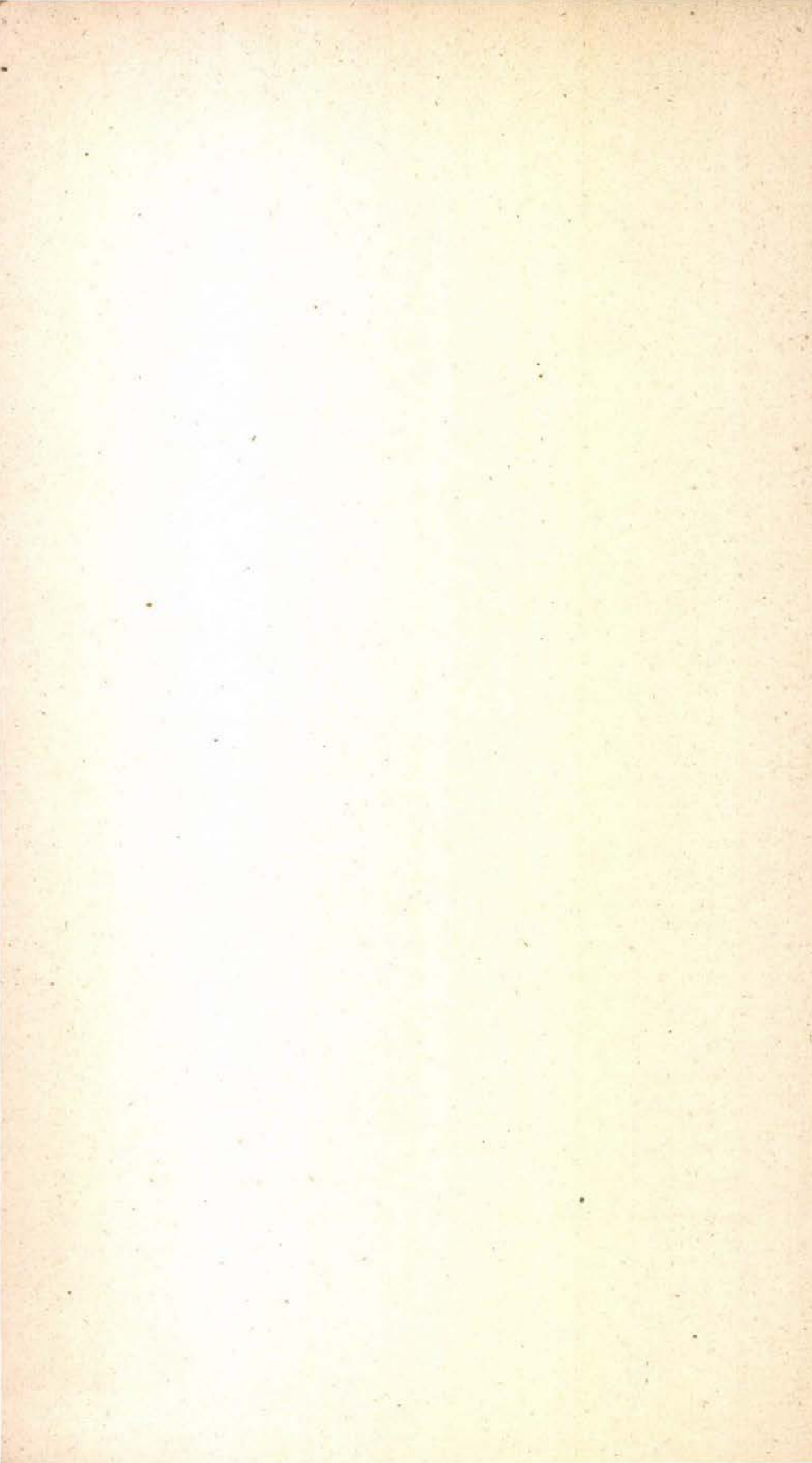
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BY OTTO ROTH. Revised by Dr. GREGOR SCHMITT.

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