

The Capsicum plaster is a mild counter-irritant, of great value in lumbago and other muscular rheumatism as a palliative application.

CARBONEUM, Carbon, C.—This element is widely distributed throughout all the kingdoms of nature. United with oxygen in the form of *Carbon Dioxide*, CO_2 , it occurs in the air and in many mineral waters, while as carbonates, such as limestone, it constitutes a large portion of the surface of the earth. Another compound with oxygen, *Carbon Monoxide*, CO , a highly poisonous gas, is formed during the combustion of charcoal, but does not form salts. Two forms of Carbon are official, viz.:—

Carbo Animalis, Animal Charcoal,—prepared from bone, occurring in dull black fragments or powder, odorless and nearly tasteless, insoluble in water or alcohol.

Carbo Ligni, Charcoal,—prepared from soft wood, and very finely powdered; is black, shining, brittle, inodorous, tasteless and insoluble. Dose gr. x-xx [av. gr. xv.]

Acidum Carbonicum, Carbonic Acid, Carbon Dioxide, CO_2 (Unofficial). The body which is commonly called Carbonic Acid, but should be called *Carbon Dioxide*, is a colorless and odorless gas, of slightly sharp taste, soluble in its own volume of pure water at the ordinary temperature and pressure, much more soluble under increased pressure and lowered temperature of the water, also more soluble in water containing phosphates. In water it promotes the solution of phosphates and carbonates. Its aqueous solution gives an acid reaction, and is "sparkling" from rapid escape of the gas, especially when agitated. It is prepared by treating any carbonate (usually calcium carbonate in the form of marble-dust) with dilute hydrochloric acid; the resulting gas is passed into water under pressure, and the solution is thus obtained.

Carbon Dioxide occurs in the atmosphere in the proportion of 0.4 volume in 1,000, also in all water in varying quantity. Certain sparkling waters contain it in the proportion of more than one-half their volume, Johannis having more than 90 per cent. It occurs also in all the liquids of the body, especially in the blood, originating in the oxidation processes which are constantly taking place in the tissues, and readily passing by osmosis through animal membranes. It is continuously produced by the action of the yeast-plant, and by all other fermentation processes, and accumulates in brewers' vats, old wells, some caves, grottoes and deep valleys, also in mines, forming the well-known "choke-damp" of miners. It is constantly evolved during respiration and in the burning of fuel. When the air of a room contains 0.6 volume of this gas per 1,000 it is considered vitiated.

True Carbonic Acid, CO_2H_2 , or Hydrogen Carbonate, is an organic acid which is not known in the separate state, but only in combination. It is supposed to exist in a solution of carbon dioxide in water.

Carbon Monoxide, CO ,—is the chief poisonous constituent of the vapors arising from burning coal or charcoal, and is contained in ordinary illuminating gas in the proportion of 6 to 10 per cent., but higher in the "water-gas" now often mixed with the former and used for illuminating and heating purposes. Its limit of safety in the air is 0.5 volume in 1,000; when it reaches 5 to 10 volumes in 1,000 ($\frac{1}{2}$ to 1 per cent.) it is fatal.

Preparations.

Carbo Animalis Purificatus, Purified Animal Charcoal,—the bone-phosphate and calcium carbonate being removed by digesting with hydrochloric acid and washing.

Carbonei Disulphidum, Carbon Disulphide, CS_2 ,—is a clear, colorless, diffusive liquid,

of strong, offensive odor, aromatic taste and neutral reaction; soluble in alcohol, ether, chloroform and oils, and in 535 of water; vaporizes at ordinary temperatures, and is highly inflammable. Dose, mss-j .

Aqua Carbonata, Carbonated Water, Soda-water (Unofficial),—is water highly charged with carbonic acid gas, the excess of gas being dissolved in the water by pressure, and escaping in bubbles when the pressure is taken off. It was official in the U. S. P., 1870, under the title *Aqua Acidi Carbonici*, the formula requiring that the water be charged with five times its volume of gas, for which a pressure of five atmospheres is required. Among the carbonated mineral waters are—

Selters, Nassau, Germany,.....	30 cubic inches	} of CO_2 to the pint.
Apollinaris, Neuenahr, Prussia,.....	47 "	
Old Sweet Spring, West Virginia,.....	11 "	
Sweet Chalybeate Spring, Virginia,.....	13 "	

There are 10 official Carbonates and 2 official Bicarbonates, which are severally described under their basic titles.

Incompatibles.

Incompatible with the *Carbonates* are: Acids, Acid salts, Alkaloidal salts, Bismuth Subnitrate; Salts of Aluminum, Antimony, Barium, Bismuth, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Nickel, Silver, Strontium, Zinc; Urethane. Incompatible with *Charcoal* are all Oxidizers, as Potassium Chlorate, Potassium Permanganate, Chlorine, Hydrochloric Acid, etc.

PHYSIOLOGICAL ACTION AND THERAPEUTICS.

Charcoal is an efficient deodorant and disinfectant, as it absorbs and condenses many gaseous bodies and vapors. It is evacuated unchanged by the bowel and exerts no specific action on the body.

Charcoal is used in pharmacy for decolorizing vegetable principles, removing alkaloids from infusions of plants, and making several preparations, as *acidum sulphurosum*, *potassii iodidum*, etc. Externally it is an efficient disinfectant, absorbent and deodorant application to cancerous discharges, foul ulcers and gangrenous wounds. Having no odor it is not open to the charge of substitution of one smell for another. A small quantity added to water will keep it sweet for a long time. It is an excellent dentifrice if finely powdered. Internally, it is used for the same purpose, namely to absorb gases and offending products of indigestion. In flatulent dyspepsia, gastralgia, pyrosis, diarrhea, nausea of pregnancy, epidemic cholera, and constipation, it has warm advocates. When used internally for any time, an occasional purgative should be given to prevent its accumulation in the intestines. It has been proposed as an antidote for several alkaloidal poisons on theoretical grounds, but its efficacy in this respect is doubtful.

Carbon Dioxide is highly antiseptic and preservative. D'Arsonval employs it, under 30 atmospheres pressure, for the sterilizing of orchitic extract. Beef will remain perfectly fresh and its taste unchanged for eight days if hung in a chamber filled with the gas. Externally, applied to the skin, mucous membranes or wounded tissues, the undiluted gas produces slight hyperemia, with pricking and a sense of heat, followed by a certain degree of local anesthesia. Internally, given by the stomach in aqueous solution, it is refreshing and quenches thirst, slightly stimulates the heart's action, quickens respiration and causes a brief sense of exhilaration. It increases somewhat the gastro-intestinal secretions and excites peristalsis, but diminishes the sensibility of the mucous lin-

ing of the alimentary canal. Inspired, the gas is highly toxic, a proportion of 5 per cent. in the air being irrespirable and fatal. Even a tenth of 1 per cent. produces headache, sleeplessness and depression; 2 per cent. causes throbbing headache, fulness and tightness across the temples and giddiness; and a larger quantity profoundly affects the nervous system, inducing fainting, muscular weakness, somnolence or insensibility, and coma or convulsions. The inhalation of the undiluted gas at first excites irritation and sometimes spasmodic closure of the glottis with consequent asphyxia, but in any case it soon arrests the respiration. It hinders the exhalation of the carbon dioxide normally existing in the blood, and is itself absorbed in small quantity, inducing dyspnea, cyanosis, slow and labored pulse, and ultimately arrest of the heart's action. In toxic quantity it abolishes the functions of nerve and muscle by combining with the hemoglobin of the blood, rendering it incapable of carrying oxygen, and thereby stopping the process of oxidation in the tissues. The carbonic oxide hemoglobin so formed is not a very stable substance, and persons deeply poisoned may be resuscitated by artificial respiration.

The symptoms of Carbon Dioxide poisoning may be divided into three stages, which are the stages of *Asphyxia*. They are: (1) that of *excitement*, in which the blood pressure rises from excitation of the centres in the medulla by the venous blood; the vessels of the surface become dilated, the skin takes on the cherry-red color of carbonic oxide hemoglobin, and insensibility begins; (2) the *convulsive* stage, in which the respiratory movements become more violent and spread to all the muscles of the body; (3) that of *paralysis*, in which the convulsions cease, the blood pressure falls, the respiration gradually fails, and finally the heart stops. The autopsy shows great venous congestion everywhere, the right side of the heart distended with blood, the brain much congested, with exudation, and even extravasation of blood, into its substance.

Carbon Monoxide causes the same symptoms as those above detailed for CO₂, but being a more powerful poison its effects are produced with great intensity and are fatal in a short time. After death the muscles are rigid, and the skin shows the characteristic cherry-red color all over the body. Carbon monoxide gradually disappears from the blood when the body is exposed to the air, probably within eight days.

Carbon Dioxide has been locally employed as a stimulant in ulcers and as an anesthetic in cancers, either by directing a stream of the gas upon the part or by the application of a yeast poultice. It has been applied to the eyes, ears, nose, vagina and rectum, in catarrhal inflammations of these parts, also to the bladder, for irritability of that viscus, and its application is beneficial when there is no acute inflammation present. It is injected into the vagina with good results in dysmenorrhea and in many other painful affections of the pelvic viscera, whether neuralgic in character or arising from organic disease. Diluted with 90 to 95 per cent. of air, its inhalation is serviceable in chronic laryngitis and pharyngitis, also in asthma, chronic bronchitis and chronic cough.

Carbonated water, or *Soda-water* as it is popularly named, is a grateful beverage in warm weather, especially when flavored with syrups and fruit-juices. It is a useful drink in febrile affections, as it relieves thirst, allays nausea and gastric irritability, and is both diaphoretic and diuretic in slight degree. It is an efficient remedy for vomiting and in the form of iced champagne is one of the numerous agents which have proven efficacious in the vomiting of pregnancy. It forms an excellent vehicle for the administration of saline cathartics, the various carbonates and piperazin. The free use of carbonated mineral waters is of service in gout, especially when they contain the salts of lithium in solution. At many European spas the course of treatment is largely based on the use of carbon dioxide, administered in the forms of baths and inhalations as well as by the ingestion of the waters containing it. Bathing in the natural carbonated waters is sometimes beneficial in catarrh, gout, rheumatism, anemic amenorrhœa and leucorrhœa, the gas acting as a gentle stimulant of the cutaneous circulation and promoting slight diaphoresis.

Carbon Disulphide is largely used in the arts, hence its effects are frequently observed. Persons exposed to its fumes are affected by headache, vertigo, over-excitement of the nervous system, emaciation, incoördination of movement, depression of all the special senses with impairment of sensation and motility and perhaps insanity. Inhaled directly, it excites violent coughing, and produces anesthesia characterized by great muscular rigidity. Being a powerful cardiac paralyzant, it is a dangerous anesthetic. In 3-drop doses it produces nausea and vomiting, with a sense of heat in the stomach and a weak and rapid action of the heart. It is a solvent for caoutchouc and many other substances.

Carbon Disulphide has such a horribly offensive odor that it will never be used for any purpose for which another agent can be found. It relieves the pain of gastric cancer, and in ½-drop doses will alleviate nausea and vomiting, also gastralgia. Locally it has been used as a counter-irritant and a local anesthetic, for deafness due to want of nervous energy, in facial neuralgia and various local pains.

CARDAMOMUM, Cardamom,—is the dried fruit of *Elettaria repens*, a plant of the nat. ord. Zingiberaceæ, cultivated in Malabar. It contains about 4½ per cent. of a *Volatile Oil*, C₁₀H₁₆, isomeric with Oil of Turpentine, the oil being the active principle; also a fixed oil, coloring matter, etc. It is an ingredient of Pulvis Aromaticus and of Fluidextractum Aromaticum (See under CINNAMOMUM), as well as of several compound preparations. Dose, gr. x-xx [av. gr. xv.]

Tinctura Cardamomi, Tincture of Cardamom,—20 per cent. Dose, ʒss-ʒss [av. ʒj.]

Tinctura Cardamomi Composita, Compound Tincture of Cardamom,—has of Cardamom 25, Cinnamon 25, Caraway 12, Cochineal 5, Glycerin 50, Diluted Alcohol to 1000 parts. Dose, ʒss-ʒss [av. ʒj.]

Infusum Cardamomi, Infusion of Cardamom (Unofficial),—may be made in the strength of ʒij to the pint, and used in wineglassful doses.

Cardamom is aromatic, carminative and stomachic, and is used as an agreeable flavoring for bitter mixtures in dyspepsia and other gastric affections. It makes the best flavoring addition to saline solutions or mineral waters, and is particularly efficient to correct flatulence and griping when combined with purgatives. Acids, Ferrous Sulphates, and Mercuric Chloride are incompatible with the preparations of cardamom.

CARDUUS (Unofficial),—the seeds of *Carduus marianus*, or St. Mary's thistle, an annual European plant of the nat. ord. Compositæ. A decoction (℥ij ad Oj) is the preparation usually employed. It is an old remedy revived as a hemostatic, and reported as being very efficient in hemoptysis, uterine hemorrhage, melena and amenorrhea connected with derangement of the portal circulation. It has proved curative in congestion of the liver and simple jaundice, and in Germany it has long been popularly deemed efficacious in gall stones and liver affections generally. Dose of the decoction, ℥j-℥ss, of a tincture, ℞x-xx.

Carduus Benedictus, the "blessed thistle," also called *Cnicus benedictus* and *Centaurea benedicta*, is another plant of the same order, formerly held in high esteem as a popular "cure-all." It contains *Cnicin*, an amorphous bitter principle, which has been used as an anti-periodic in doses of gr. v-x, but generally produces burning sensations and pharyngeal constriction, with nausea, vomiting, colic, and diarrhea. It acts chiefly as a bitter tonic, resembling *Calumba* and *Taraxacum* most closely.

CARUM, *Caraway*,—is the dried fruit of *Carum Carvi*, a European plant of the nat. ord. Umbelliferae. Its odor and taste are aromatic and agreeable. The active principle is the *Volatile Oil*, which is also official. Caraway is an ingredient of *Tinctura Cardamomi Composita*. Dose gr. x-xx [av. gr. xv.]

Oleum Cari, *Oil of Caraway*,—is the volatile oil distilled from Caraway, and is resolvable into *Carvene*, $C_{10}H_{16}$, isomeric with Turpentine, and *Carvol*, $C_{10}H_{11}O$, isomeric with Thymol. It is an ingredient of *Spiritus Juniperi Compositus*. Dose, ℞j-v [av. ℞ij.]

Infusum Cari, *Infusion of Caraway* (Unofficial),—℥j-ij ad Oss. Dose, ℥ss-ij.

The Oil of Caraway is fatal to small animals, and in one case ℥j produced cerebral congestion, delirium and rigors in man. The chief use of Caraway is as a flavoring agent, but it is efficient in the flatulent colic of children, and to prevent griping from the use of purgatives.

CARYOPHYLLUS, *Cloves*,—are the dried flower buds of *Eugenia aromatica*, a handsome evergreen tree of the nat. ord. Myrtaceæ, cultivated in the East and West Indian Islands. They exude oil when scratched, have an aromatic odor and a pungent, spicy taste, and are contained in *Tinctura Lavandulæ Composita*, *Tinctura Rhei Aromatica* and *Vinum Opii*. They contain a heavy *Volatile Oil*, which is official; also *Eugenin*, $C_{10}H_{12}O_2$, a crystalline body; *Caryophyllin*, $C_{10}H_{16}O$, a camphor; *Caryophyllic Acid*, and tannin, gum, etc. Dose, gr. j-vj [av. gr. iv.]

Preparations.

Oleum Caryophylli, *Oil of Cloves*,—a volatile oil distilled from cloves, soluble in alcohol, and of sp. gr. 1.060. It consists of a light and a heavy oil, the latter containing *Eugenol*, $C_{10}H_{12}O_2$, a phenol, and *Caryophyllin*, $C_{10}H_{16}O$, which yields as a product of its oxidation, *Caryophyllinic Acid*, $C_{20}H_{32}O_6$. Dose of the oil, ℞j-iv [av. ℞ij.]

Infusum Caryophylli, *Infusion of Cloves* (Unofficial), may be made of strength 1 to 40, and used in doses of one to two fluid ounces.

Eugenol, *Eugenol*, $C_{10}H_{12}O_2$,—an unsaturated, aromatic phenol, miscible with alcohol in all proportions. Dose, ℞j-v [av. ℞ij.]

PHYSIOLOGICAL ACTION AND THERAPEUTICS.

Cloves may be considered as a type of several agents yielding aromatic oils, which as a rule consist of terpenes with camphors, resins, fatty and other acids, and are closely allied to phenol and benzoic acid, the balsams and gum-resins. Such are Orange, Lemon, Allspice, Cajuput, Caraway, and Peppermint. Their oils are antiseptic, locally anesthetic, stimulant and irritant, antispasmodic, stomachic and carminative. Internally they increase the circulation and temperature, promote digestion and nutrition (though in quantity they may cause

inflammation), relieve pain and spasm, and are excreted by the kidneys, skin, liver and the bronchial mucous membrane, stimulating and disinfecting their routes throughout the organism.

These agents are used to flavor pharmaceutical preparations, to correct the griping tendency of many purgatives, to correct flatulence, to relieve pain in the stomach and bowels, and to promote the flow of saliva and gastric juice. As external applications they are efficiently employed for anesthetic and counter-irritant purposes, to relieve pain in chronic rheumatism, myalgia, lumbago, superficial neuralgia, and toothache. The Oil of Cloves is an effective deodorizer for sponge-tents, a good application to a painful tooth, and is occasionally applied over the course of an aching nerve with relief to the pain.

CASCA BARK, *Sassy Bark*, *Ordeal Bark* (Unofficial),—is the bark of *Erythrophloeum Guinense*, an African tree, used by the negroes as an ordeal in trials for witchcraft. It contains a poisonous glucoside, *Erythrophlein*, and when used in quantity produces nausea and vomiting, stricture across the brow, severe cephalalgia, narcosis and death. It is used as a remedy for intermittent fever, dysentery, diarrhea and colic, and is considered to resemble *Digitalis* in action and uses. A tincture is made (℥ij ad Oj) of which the dose is ℞x; or a watery extract may be used in doses of gr. j.

Erythrophlein, the active principle, is a glucoside, and is said to be a local anesthetic of extraordinary power, even surpassing Cocaine. It is found in Africa in a red mass, called "Hayah," which is proven to be identical with an extract of the original plant described by Oertel early in the last century, and deposited by him in the Berlin Museum. It closely resembles *Digitalis* in action, being a cardiac tonic and a hydragogue diuretic.

CASCARA AMARGA, *Honduras Bark* (Unofficial),—is the bark of a Mexican tree of the nat. ord. Simarubaceæ, which has been used with apparent success as an alterative tonic and diuretic in syphilis and various chronic skin affections. The use of tobacco and alcohol seems to counteract its usefulness. It is certainly a very powerful tonic and has been employed by competent observers with uniformly good results in syphilis and syphilodermata, chronic liver complaints, chronic eczema, chronic nasal catarrh and psoriasis. A Fluidextract is on the market, of which the dose is ℥ss-j thrice daily.

CASCARILLA, (Unofficial),—is the bark of *Croton Eluteria*, a shrub or small tree of the nat. ord. Euphorbiaceæ, growing in the Bahamas. It contains *Cascarillin*, a crystalline principle, two resinoid extracts, aromatic volatile oils, with tannic acid, etc. An Infusion (1 to 10) or a Tincture (1 to 10) may be prepared and given in doses of ℥j-℥j.

Cascarilla is an aromatic bitter. It increases appetite and digestion, the mucous secretion, the flow of saliva and gastric juice, stimulates the intestinal secretions, and acts as a mild astringent by the influence of its tannin. Large doses produce nausea, vomiting and diarrhea, and in medicinal doses continued it will set up gastric catarrh and consequently indigestion. It has slight antiperiodic power.

It has been used with success in epidemic dysentery, flatulent dyspepsia, debility, chronic bronchitis, intermittents, and low nervous fevers. It is difficult to dispense, as the infusion decomposes quickly, and acids precipitate the resin from the tincture.

CASSIA FISTULA, *Purging Cassia*,—is the dried fruit of *Cassia Fistula*, a tree of the nat. ord. Leguminosæ, growing in tropical regions of Asia, Africa and America. No active principle has been isolated as yet. The pulp is the only valuable part of the drug. There are no official preparations, but it is one of the ingredients of *Confectio Sennæ*.

Cassia-pulp is laxative in doses of ℥j-ij, and purgative in larger quantities, producing nausea, flatulence and griping. It is rarely prescribed alone, owing to its tendency to cause colic and flatulence. Dose, ℥ss-ij [av. ℥j.]

CATECHU (Unofficial),—is an extract prepared from the wood of *Acacia Catechu*, a tree of the nat. ord. Leguminosæ, native of the East Indies. It

occurs in irregular masses, bark brown and brittle, nearly inodorous, but of astringent and sweetish taste, soluble in alcohol, and partly so in water. It contains *Catechutannic Acid* 50 per cent.; also *Catechuic Acid*, which is converted into the former by heat. Dose, gr. j–3ss. Formerly official, it is now replaced in the U. S. Pharmacopœia by—

Gambir, Gambir (*Pale Catechu*),—an extract prepared from the leaves and twigs of *Ourouparia Gambir*, nat. ord. Rubiaceæ. It occurs in irregular, reddish-brown masses, of which not less than 70 per cent. should be soluble in alcohol. Dose, gr. x–xx [av. gr. xv.]

Preparations.

Tinctura Gambir Composita, Compound Tincture of Gambir,—has of Gambir 5, Cinnamon 2½, in Diluted Alcohol to 100. Dose, ʒss–jss [av. ʒj.]

Trochisci Gambir, Troches of Gambir,—each troche contains nearly gr. j of Gambir.

Incompatibles

Incompatible with *Catechu* and *Gambir* are: Acids (mineral), Albumin, Alkalies, Calcium salts, Cinchona infusion, Ferric and Ferrous salts, Gelatin, Lime-water, Mercuric Chloride, Zinc Sulphate.

By virtue of their tannic acid *Catechu* and *Gambir* are powerfully astringent, and their therapeutic employment depends entirely on this quality. In the diarrhea of children the tincture with chalk-mixture is very serviceable, and with opium it is efficient in dysentery. It is used as a gargle and mouth-wash in relaxed conditions of the pharyngeal mucous membrane, as an injection in leucorrhœa, and to control passive hemorrhages, and to harden spongy gums.

CAULOPHYLLUM, Blue Cohosh (Unofficial),—is the rhizome and rootlets of *Caulophyllum thalictroides*, a plant of the nat. ord. Berberidaceæ growing in Canada and the northern United States, and contains *Saponin*, a glucoside, and two resins. Dose, gr. v–xx. There are no official preparations. The eclectic preparation *Caulophyllin* is a resinous precipitate obtained by pouring an alcoholic extract into water.

Caulophyllum has not yet been made the subject of experimental work by reliable observers. It was much used by the aborigines of this country in all affections to which their women were peculiarly subject, and was known among them by the name "squaw-root." It is said to produce intermittent contractions of the gravid uterus, to have diuretic, emmenagogue, and antispasmodic powers; and is used as a remedy for deficient labor-pains, spasmodic after-pains, spasmodic pains in the uterus at any time, spasmodic dysmenorrhœa, and pains in other organs seemingly in sympathy with uterine affections. It has somewhat of a reputation in acute rheumatism of the hands and fingers, and as a preparative medicine for labor.

CERA, Wax,—a mixture of *Myricin*, *Cerotic Acid* and *Cerolein*, is formed by the honey-bee, and exists in the pollen and leaves of many plants, particularly in *Myrica cerifera*, the wax myrtle. That produced by the bee is alone official, in two forms, viz.—

Cera Alba, White Wax,—is yellow wax bleached.

Cera Flava, Yellow Wax,—is a solid substance prepared from the honey-comb of the bee, *Apis mellifera*. It is a yellowish solid, of agreeable odor and faint balsamic taste, insoluble in water or cold alcohol, but soluble in ether, chloroform, fixed and volatile oils.

Ceratum, Cerate,—consists of White Wax 30, White Petrolatum 20, Benzoinated Lard 50.

Unguentum, Ointment,—consists of Yellow Wax 20, Benzoinated Lard 80.

Wax is also a constituent of 4 of the 5 compound Cerates and 4 of the 23 compound Ointments.

Wax owes its value to its power of resisting decomposition and many chemical agents. Its fusibility at a moderate degree of heat and its solidity at the temperature of the body, together with its unirritating quality, make it a valuable ingredient of the cerates and ointments to give them consistence. Ceratum and Unguentum may be used as simple protective applications.

CERII OXALAS, Cerium Oxalate,—consists chiefly of a mixture of the oxalates of cerium, didymium and lanthanum, and other rare earths of this group. It occurs as a fine, white powder, odorless and tasteless, permanent in the air, insoluble in water, alcohol or ether. Dose, gr. ss–v, [av. gr. j], in pill or powder.

Cerium Oxalate is a gastric sedative, and is thought to possess selective action as such on the motor distribution of the pneumogastric nerve. It is considered to be particularly useful in vomiting of reflex origin, especially in the vomiting of pregnancy, but it often fails, probably because not given in sufficient doses. To be effective, at least 4 or 5 grains should be given 3 times a day to adults, and no results promised until after it has been used several days. It is also recommended in the vomiting of phthisis and bronchitis, cough with vomiting, chorea, and diarrhea.

CHAULMOOGRA OIL (Unofficial),—is a fixed oil expressed from the seeds of *Gynocardia odorata*, an East Indian tree of the nat. ord. Bixaceæ. It is nauseous and bulky, and soluble in alcohol, ether, chloroform, etc. Its active principle, *Gynocardic Acid*, is the best preparation for use, and may be given internally in doses of gr. ss–ij, or applied as an ointment, gr. xx ad ʒj of Petrolatum. Dose of the oil, gtt. v–x, in capsules.

Chaulmoogra Oil is credited with a few cures of leprosy, and several cases improved by its use both internally and externally. It is recommended as an external application in scaly eczema, psoriasis, syphilitic skin-diseases, chronic rheumatism, rheumatic arthritis and tabes mesenterica.

CHELIDONIUM, Celandine (Unofficial)—is the plant *Chelidonium majus*, nat. ord. Papaveraceæ, which grows in Europe and N. America, about rocky places. It contains the alkaloids *Chelidonine*, $C_{20}H_{19}NO_5$, *Sanguinarine* and *Chelerythrine*, which occur also in *Sanguinaria*, and *Protopine*, which is present also in *Sanguinaria* and in *Opium*; also *Chelidoxanthin*, a yellow, crystalline substance, and *Chelidonic Acid*, supposed to be identical with succinic acid. Dose of the plant, gr. v–xxx; of the fresh juice ʒv–xx.

Chelidonium used externally is irritant, internally it is a drastic purgative but an unreliable one. It is also perhaps diuretic, diaphoretic and expectorant. In overdoses it is considered poisonous. It is an old remedy for jaundice and liver affections, but has been obsolete for some time. The fresh juice is a popular application for warts and corns, and a tincture in whiskey is used in Indiana as a remedy for phthisis, the menstruum being probably the most useful agent. It seems to be of real service in simple jaundice, whooping-cough, right-sided pneumonia with hepatic involvement, and the catarrhal pneumonia of children.

The actions of the alkaloids are described under *Sanguinaria*.

CHENOPODIUM, American Wormseed, (Unofficial),—is the fruit of *Chenopodium ambrosioides*, var. *anthelminticum*, a plant of the nat. ord. Chenopodiaceæ, indigenous to the United States. Its active principle is a *Volatile Oil*.

Oleum Chenopodii, Oil of Chenopodium,—a thin, colorless or yellowish liquid, of aromatic odor and pungent, bitter taste. Dose, ʒv–x.

The Oil is the only preparation used and that rarely, its odor and taste being very disagreeable. It increases the cardiac rate, and promotes the secretions of the skin, bronchi and kidneys. It is an efficient anthelmintic against the round worm in doses of gtt. x three times a day for two days, followed by a cathartic. It seems to possess some tonic properties,

and certainly is a diffusible stimulant. As such it has been used with benefit in chorea, hysteria, flatulent dyspepsia, and chronic malaria.

CHIMAPHILA, Chimaphila, (Pipsissewa),—the leaves of *Chimaphila umbellata*, or Prince's Pine, an evergreen plant of the nat. ord. Ericaceæ, indigenous to all parts of the United States. It contains *Chimaphilin*, a yellowish crystalline principle, *Arbutin*, also crystalline but colorless, with tannic acid, etc.

Fluidextractum Chimaphilæ, Fluidextract of Chimaphila,—Dose, ℥x-℥j [av. ℥xxx.]

Chimaphila is a tonic, astringent diuretic, belonging to the same class as Buchu, Uva Ursi, Pareira and Scoparius. It is probably the most active diuretic in this group, stimulating all the excretory organs, especially the kidneys. It is an agreeable tonic, excites the appetite and promotes digestion. The fresh leaves, bruised and applied to the skin, are rubefacient and vesicant, showing the presence of some irritant principle. It is a good diuretic in dropsy, and is efficient in several forms of chronic kidney disease with albuminuria, and in chronic catarrhal affections of the urinary passages, as hematuria, ischuria, dysuria and gonorrhœa. It is believed to check the secretion of uric acid, and should prove useful in gout and rheumatism. Externally, it has been applied to ulcers and tumors with benefit.

CHINOLINUM, Chinolin, Leucolin, Quinolin, C₉H₇N (Unofficial),—is an organic principle and a constituent of coal-tar oil, but may be obtained from quinine or cinchonine by their destructive distillation with potassium hydrate, and is artificially prepared by heating anilin or nitro-benzol with glycerin in the presence of a dehydrating agent. Chemically, it is considered to be formed by a union of benzene and pyridine. (Compare the article CINCHONA.) It is a colorless, oily, strongly refractive liquid, soluble in alcohol, ether and carbon disulphide, sparingly soluble in water. It combines with acids to form crystalline salts; which, except the tartrate, are very deliquescent. The Cinchona alkaloids are derivatives of Chinolin.

Chinolini Tartras, Chinolin Tartrate (Unofficial),—a white crystalline powder, of pungent odor, sharp taste, stable in the air and soluble in water. Dose, gr. v-xx.

Derivatives.

Quinalgen (Unofficial),—is the trade name of a complex synthetic derivative of chinolin, and is a re-formed and renamed *Analgen* (see page 60), differing therefrom by having the benzoyl radicle instead of the acetyl one. Dose, gr. vij-xv, not to exceed gr. xlv daily. It acts similarly to Antipyrine, and is said to be devoid of unpleasant symptoms. It has been used with asserted benefit in gout, influenza, migraine, sciatica, neuralgia, hay fever and rheumatic pains.

Thallin, Tetra-hydro-parachinanisol,—is a synthetically prepared substance, having also another chemical name, *Tetra-hydro-paramethyl-oxy-chinolin*. It occurs as a colorless powder which is soluble in water, and enters into combination with acids, forming salts, of which the tartrate and sulphate are the most eligible, especially the latter. The dose of Thallin or its Sulphate ranges from gr. ij to gr. xv, a mean average dose being about 5 grains, given in the form of compressed tablets. Thallin is an antipyretic of very great power, doses of 5 to 12 grains lowering the temperature in typhoid fever 4° to 5° in 2 hours' time, the effect lasting nearly 3 hours. In tuberculosis similar results were obtained. Large doses, however, produce very profuse sweating and a dangerous degree of depression; so that this agent is not a favorite remedy for hyperpyrexia.

Kairinum, Kairin, Hydrochlorate of Oxy-ethyl-chinolin-hydrate, C₁₀H₁₃NO.HCl.H₂O,—is prepared from Chinolin, belongs to the phenol group of carbon compounds, and is a powerful antipyretic in 8-grain doses hourly. It stains the urine a deep green, and has not proven fatal though 220 doses have been administered in one case. In some cases of typhus it has caused cyanosis and collapse. It produces profuse sweating and vomiting, and the subsequent rise of temperature after its antipyretic influence has worn off is generally ushered in by a severe rigor. It occurs in white crystals, which are freely soluble in water, but is best given in wafer paper, or capsules. Dose, gr. iij-xx.

Chinosol, Quinosol (Unofficial),—is the oxy-chinolin sulphonate of potassium, and occurs as a yellow powder which is soluble in water, insoluble in alcohol and in ether. Solutions of 1 in 1000 are used as antiseptic applications in gynecological and obstetrical practice.

Orexin, Phenyl-dihydro-chinazolin (Unofficial),—is a complex chinolin derivative, and occurs as a yellowish powder, insoluble in water, but soluble in dilute hydrochloric acid and in the gastric juice. It is incompatible with preparations of Iron. The Hydrochloride and the Tannate are used, the latter being the favorite preparation. Dose, gr. ij-viii, twice daily, before meals, followed by a draught of warm water or beef-tea.

Chinolin is antiseptic and powerfully antipyretic, and closely resembles quinine in its chemical construction and its physiological action. It has been extensively used as an antipyretic in pneumonia and other febrile disorders, but proving dangerous from its liability to cause collapse, it and its derivatives (kairin, thallin, etc.) have been superseded by antipyrine, phenacetin and acetanilide. The Tartrate has been employed with benefit in neuralgia and whooping-cough, also as an antiperiodic in intermittents.

Chinosol is claimed to have antiseptic power nearly equal to that of mercuric chloride, a solution of 1 in 40,000 preventing bacterial development. It does not coagulate albumin and is said to be non-toxic. The powder is irritant to wounds when applied dry, but not when in solution. Some observers say that its germicidal power is feeble, and that it impairs the functional activity of the kidneys. It is somewhat astringent and styptic.

Orexin is a remarkable stomachic tonic, a true physiological appetizer, and a promoter of digestion. The Hydrochloride causes some gastric distress, but the Tannate and the base itself are free from this objection. The Tannate has been extensively used in the anorexia of many affections, and has proved remarkably efficient in increasing the appetite and promoting constructive metamorphosis in convalescence from acute disease and in wasting disorders when the requisite amount of aliment is taken with difficulty. It has proved beneficial in sea-sickness, in the nausea and vomiting of anesthesia, the vomiting of pregnancy, chronic gastric catarrh, nervous dyspepsia, neurasthenia, and other affections in which anorexia is a prominent symptom. It is reported to be contraindicated in acute inflammation and ulceration of the stomach, also in hyperacidity, and excessive gastric secretion.

CHIRATA, Chirata, (Chiretta),—is the Indian plant *Swertia Chirayita*, nat. order Gentianaceæ, occurring in bundles, composed of all but the coarser woody stems. It is inodorous, but intensely bitter, and contains two amorphous bitter principles, named *Chiratin* and *Ophelic Acid*, but no tannin. Dose of the powdered plant, gr. x-xx [av. gr. xv.]

Fluidextractum Chiratæ, Fluidextract of Chirata,—made with diluted alcohol. Dose, ℥x-xx [av. ℥xv.]

The action of this plant is that of a simple bitter, like its congener Gentian. It is an excellent tonic, in this respect rivalling Cinchona, and is used in India as a substitute for the latter. It is laxative and stomachic, diminishes flatulency and acidity, and is particularly serviceable in the dyspepsia of gouty subjects. As it contains no tannin, it may be administered with preparations of Iron.

CHLORALUM HYDRATUM, Hydrated Chloral, (Chloral Hydrate) C₂H₃Cl₃O + H₂O,—is a crystalline solid, composed of trichloraldehyde (chloral) with