

Phenol are very serviceable, and in the vomiting of pregnancy 1- to 5-drop doses of the tincture every hour are often efficient. The compound solution well diluted is given thrice daily in typhoid fever with good results in many cases, and in malarial fevers the same preparation combined with phenol has shown curative power. In strumous conditions Iodine internally is generally considered to be more efficient than any of the iodides.

THERAPEUTICS OF THE IODIDES.

Potassium Iodide is the most frequently used iodide, and is the form in which iodine is generally administered internally. It is best given in simple solution or in the compound infusion or syrup of Sarsaparilla. Though its mode of action has never been explained satisfactorily, it is known by clinical experience to counteract many pathological conditions, to promote the absorption of morbid products, and the elimination of several metallic poisons. It is almost of specific rank in tertiary syphilis and its results, as neuralgia, paralyzes from gummata, ulcerations, syphiloma of the internal viscera, lupus, chronic rheumatism and sciatica, in all of which when of syphilitic origin this iodide in large doses (50 to 150 grains daily) to saturation of the system will speedily cause improvement. So also in mercurial poisoning and other chronic metallic toxemia, the best treatment is by rapid saturation with Potassium Iodide. The products left behind by pneumonia, pleurisy and pericarditis often yield to moderate doses (5 grains), which if used for a prolonged period seem to retard the changes of chronic nephritis. It is the best remedy for the early stage of hepatic cirrhosis, and acts as a most efficient expectorant in chronic bronchitis. Aneurisms are often cured by large doses (20 to 30 grains), the sac becoming solid by fibrinous deposit. In acute catarrh and hay-fever, it is useful with Arsenic, the Iodized Phenol being at the same time used locally in weak solution. In tonsillitis and simple sore throat a weak solution (gr. ij-v to the ℥) is a good gargle, and in large doses it is often efficient in spasmodic asthma induced by bronchial catarrh. Sodium Iodide may be used instead of the potassium salt, in all affections in which the latter is indicated; but requires to be administered in somewhat larger doses, being less active and less toxic.

Ammonium Iodide in grain dose repeated frequently is an excellent remedy in acute catarrh, hay-fever, duodenal catarrh and its accompanying jaundice, in chronic and capillary bronchitis, and in catarrhal pneumonia to prevent caseation of the products. In the first stage of hepatic cirrhosis and in chronic malarial poisoning it is equally efficient administered in conjunction with arsenic. Being somewhat more irritating than the other iodides it is usually given in smaller quantity, but being less stable it is more energetic in action.

Rubidium Iodide has generally the same physiological and therapeutical action as Potassium Iodide, but has a far less toxic action upon the cardiac muscle. It is well borne by the stomach, does not disturb the appetite or give rise to digestive derangements, and does not affect the circulation. It rarely

produces iodism, and even when the iododerma and catarrh were present as the result of the administration of potassium iodide, the change to the rubidium salt has resulted in decrease of these symptoms. It has been employed in lieu of the potassium salt, with greater efficiency and less disturbance, in most of the affections for which the iodides are indicated. In eye affections requiring an absorptive treatment it is employed internally and externally as a 5 per cent. vaseline ointment or in the form of 5 per cent. drops (℥j in ℥ijss).

Strontium Iodide is analogous in action to potassium iodide, its intravenous injection producing at first a rapid elevation of arterial pressure with acceleration of the cardiac rate, followed by slowing of the heart, and later on by lowered blood-pressure with increased heart-rate. It has been used, with good results, in the treatment of scrofulous, rheumatoid and cardiac disorders, especially scrofuloderma, scrofulous otorrhea, and enlarged lymphatic glands; also in lupus vulgaris and ozena. It is said to be less liable than the other iodides to produce cutaneous eruptions, and to be free from causing intestinal irritation or depressed nutrition.

Hydriodic Acid is used as a substitute for iodine and the iodides. As an alterative it is believed by some to possess all the powers of Iodine while it is much less offensive to the taste and the stomach. It has been used with benefit in asthma and bronchitis.

Iodipin is carried to every tissue of the body, however administered, its iodine being converted into soluble iodides, and its fat being oxidized and acting as a nutrient (Winternitz). It may be given internally for a long time without disturbing the digestion or producing iodism. Administered by inunction it is rapidly absorbed, and injected hypodermically it is painless, and causes neither abscess nor iodism. It is used with satisfaction in all affections in which the alkaline iodides are indicated, and is said to be even more efficient than the latter, by reason of its slower rate of elimination. It has been used efficiently and with satisfaction in syphilis and pulmonary tuberculosis.

Iodoform is chiefly employed in local diseases as an antiseptic, anesthetic and alterative agent. It may be dusted in fine powder over a wound or sore, or used in ethereal solution to saturate gauze or absorbent cotton. It is a useful application to sloughing and phagedenic ulcers, gunshot wounds, chancroids, fistulae, sinuses and painful affections of the rectum or uterus. Internally it may be used as a general tonic and alterative in syphilis and other cachexiae, also for neuralgia, and is frequently prescribed with Iron. Triturated with tannin it forms a good application to the cervix uteri in erosions and ulcerations thereof, or an Iodo-tannin may be prepared by saturating the tincture of iodine with tannic acid, and applied on a cotton tent to the uterine mucous membrane in many chronic affections of that organ. Tuberculosis has been successfully treated by Iodoform, which is credited with some specific action in that disease, though it has proved almost inert against the bacillus. It has rendered good service in diabetes mellitus and in syphilis. Its disagreeable odor is a

serious bar to its general use, and many other iodine compounds have been introduced as substitutes for it.

Iodol is a close rival to Iodoform, and may be used whenever the latter is indicated, especially as a local application, on account of its freedom from unpleasant odor. Internally it is highly esteemed as a remedy in chronic gastric catarrh, intestinal catarrh, and in ulceration of the gastro-intestinal mucous membrane. It has been found useful in bronchitis, bronchial catarrh, and in various respiratory neuroses; and has seemed to render good service in the treatment of tuberculosis and syphilis. In eczema of the external ear Iodol has proved very efficient. Under its use the inflammation disappears generally within two weeks, but irrigation should be kept up for a short time afterwards, in order to complete the treatment. (Chatellier.)

Thymol Iodide (Aristol) is praised by those who have used it in the local treatment of ulcers, wounds, and other breaches of the tissues; in which it is considered nearly if not quite as efficient as Iodoform, with the great advantage of being odorless. Excellent results have been obtained with it in the treatment of indolent soft ulcers, lupus, psoriasis, syphilitic ulcerative processes, eczema, severe burns, affections of the ear, nose, and pharynx, as well as in the various cases in gynecological and dermatological practice in which Iodoform has hitherto stood supreme. Its prolonged use may give rise to chronic iodine poisoning. Aristol is best applied in powder or solutions in Oil or Ether (5 to 10 per cent.), or as ointments with a base of Lanolin or Vaseline (5 to 10 per cent.). A useful application is a liniment, prepared by dissolving 5 grains of Aristol in ℥ij of a mixture of equal parts of Ether and Alcohol, then incorporating ℥j of soft Soap.

Euophen is said to be fully equal to Iodoform as a local antiseptic application, readily liberating free, nascent iodine when in contact with aqueous fluids. It may be dusted on a wound or ulcer, or applied as an ointment of 10 per cent. strength with Lanolin as the base. A mixture of Euophen and Aristol, equal parts of each, is said to be remarkably adhesive, and is used with satisfaction as an antiseptic and healing application.

IPECACUANHA, Ipecac,—is the dried root of *Cephaelis Ipecacuanha* or *C. acuminata*, small plants of the nat. ord. Rubiaceæ, growing in Brazil and Columbia. It contains *Cephaeline*, $C_{14}H_{19}NO_2$, a crystalline alkaloid; *Emetine*, $C_{14}H_{18}(CH_3)NO_2$, an amorphous alkaloid and a methyl compound of cephaeline; also a third alkaloid in very small quantity, a glucoside named *Ipecacuanhic Acid*, starch, gum, and a trace of a volatile oil. Dose of the powdered root, as an expectorant gr. ss-ij [av. gr. j]; as an emetic gr. x-xx [av. gr. xv.]

Official Preparations.

Fluidextractum Ipecacuanhæ, Fluidextract of Ipecac,—Dose, as an expectorant ℥ss-ij [av. ℥j]; as an emetic ℥x-xx [av. ℥xv.]

Syrupus Ipecacuanhæ, Syrup of Ipecac,—strength 7 per cent. Dose, as an expectorant, ℥x-xx [av. ℥xv]; as an emetic ℥ij-vj [av. ℥iv.]

Vinum Ipecacuanhæ, Wine of Ipecac,—strength 10 per cent. Dose, ℥x-xx [av. ℥xv.]

Pulvis Ipecacuanhæ et Opii, Powder of Ipecac and Opium, (Dover's Powder),—has of Ipecac 10, Powdered Opium 10, Sugar of Milk 80, triturated together to a fine powder. Dose, gr. iij-xv [av. gr. vijss.]

Tinctura Ipecacuanhæ et Opii, Tincture of Ipecac and Opium,—has of Tincture of Deodorized Opium 100 evaporated to 80, Fluidextract of Ipecac 10, Diluted Alcohol to 100, and is a fluid representative of Dover's Powder. Dose, ℥iij-xv [av. ℥vijj.]

Pilulæ Laxativæ Compositæ, Compound Laxative Pills,—have in each pill gr. $\frac{1}{8}$ of Ipecac (see under *ALOES*). Dose, j-iv, [av. ij.]

Unofficial Preparations.

Ipecacuanha De-emetinisata, De-emetinized Ipecac,—is Ipecacuanha deprived of its alkaloids, for use in dysentery. Dose, gr. v-xx.

Emetina, Emetine,—colorless, amorphous, soluble in alcohol, ether, chloroform and benzin, very sparingly in water, insoluble in caustic alkalies. Dose, as an expectorant, gr. $\frac{1}{20}$ - $\frac{1}{10}$, as an emetic, gr. $\frac{1}{8}$ - $\frac{1}{4}$.

Emetinæ Hydrobromidum, Emetine Hydrobromide,—crystalline in silky tufts of needles, readily soluble in water, contains 68 per cent. of the alkaloid. Dose, gr. $\frac{1}{60}$ - $\frac{1}{20}$.

Cephaelinæ Hydrochloridum, Cephaeline Hydrochloride,—is readily soluble in water. Cephaeline is more powerfully emetic than Emetine, but does not produce depressing effects in doses of gr. $\frac{1}{12}$ - $\frac{1}{8}$, and is slow of action.

Incompatibles.

Incompatible with *Ipecacuanha* preparations are: Acids (vegetable), Salts of Lead and Mercury, Vegetable astringent infusions.

PHYSIOLOGICAL ACTION.

Ipecac is nauseant, emetic, expectorant, cholagogue, diaphoretic, hemostatic, sternutatory, and irritant. Applied to the skin it produces redness, itching and occasionally a pustular eruption; injected subcutaneously it causes pain and inflammation often terminating in abscess. Used as snuff it excites violent sneezing and profuse mucous secretion; in some persons the inhalation of the smallest quantity induces an asthmatic paroxysm, with swelling and injection of the conjunctival and nasal mucous membranes, salivation, tears, sneezing, coughing and bronchial catarrh. Its action on the gastro-intestinal mucous membrane is also decidedly irritant. Internally, small doses (gr. $\frac{1}{8}$ - $\frac{1}{4}$) act as a stomachic and hepatic tonic and increase the gastric secretions; larger doses (gr. v-xx) are nauseant and emetic in from 20 minutes to half an hour, but the emesis produced is not violent nor is it followed by much depression. If these doses are repeated a tolerance of the stomach to the drug becomes established and a cathartic action is produced, the stools having a bilious appearance. The circulation is only slightly affected by Ipecac, but it relaxes the skin and increases the broncho-pulmonary mucus. In large doses it is decidedly irritant to the intestinal canal, but here also it is capable of tolerance as in the stomach. In poisonous doses it has frequently produced hemoptysis and other hemorrhages. Rutherford found it to be a powerful hepatic stimulant. Woodhull believes that it is a direct nervous stimulant, acting chiefly, if not entirely, upon the sympathetic system.

Emetine possesses strong constringent action on the blood-vessels and is

powerfully emetic and expectorant. It causes death in animals by cardiac paralysis, and the autopsies show evidence of gastro-intestinal irritation and hyperemic lungs with patches of hepatization.

THERAPEUTICS.

Ipecac is much used as an emetic, being safe, efficient and non-depressant, though slow of action. It is the best agent of the kind to relieve the stomach in acute indigestion and bilious sick-headache, and an ipecac-vomit is considered by many good practitioners to be very serviceable at the commencement of eruptive, continued and periodical fevers. The syrup is a favorite domestic emetic to cut short an attack of spasmodic croup, and may be used beneficially in laryngismus stridulus and in capillary bronchitis. In small doses Ipecac is an excellent stimulant of the gastric and hepatic functions, and an expectorant of great value. In atonic dyspepsia, catarrhal jaundice, intestinal colic, bronchial asthma, hay fever, bronchial catarrh, acute laryngitis and pharyngitis, also in nervous and other coughs, it has rendered good service. In still smaller doses, $\mathfrak{m}\j$ of the wine frequently repeated, it is an efficient antiemetic in vomiting of nervous origin, and especially in the vomiting of pregnancy, also in that of gastric atony as seen in chronic alcoholism; its action in this affection being due perhaps to its possessing a sedative influence upon the pneumogastric in small doses. It is an excellent remedy in hemoptysis if given in small and frequently repeated doses until nausea occurs. As an antihemorrhagic it has been efficiently used in epistaxis, menorrhagia and post-partum hemorrhage, in the latter affection given with ergot. In doses of a grain several times a day it has given satisfaction in cases of idiopathic neuralgia, hyperidrosis, intermittent fever, erysipelas, acute and suppurative hepatitis and opium narcosis, also in many of the affections which frequently complicate the puerperal state.

In acute intestinal affections Ipecac has achieved its greatest reputation as a remedy, one of its oldest titles being *radix antidysenterica*. Its power over acute dysentery was known to Piso and Helvetius in the 17th century, and was mentioned by Balmain (1797), Playfair (1813), Twining (1831) and Delioux (1851). The reports thereon by Docker (1858) attracted general attention, and since the latter date it has been universally recognized as a specific remedy for acute tropical dysentery and that of malarious districts. Under large doses, 20 to 60 grains every four hours, the tormina and tenesmus disappear, the character of the stools improves and the constitutional symptoms are relieved. Such doses are not necessarily emetic in all persons, especially if administered in the powder, with a very small quantity of water, preceded by a full dose of opium or a hypodermic injection of morphine and followed by a mustard plaster applied to the epigastrium and perfect quiet in the recumbent posture. De-emetinized Ipecac is said to be as efficient as the unaltered drug in this disease, while nearly free from nauseant and emetic action. Chronic dysentery may be benefited by this treatment, though some physicians prefer to use smaller doses for

a prolonged time in this form of the affection. Diarrheas of simple but painful form, especially the summer diarrhea of young children and that of teething infants, are often greatly relieved by Ipecac in doses of 1 to 5 grains, the bilious character being restored to the discharges and a healthy stimulation of the alimentary mucosæ produced. Cholera morbus and cholera infantum have frequently been cured by this remedy, the action of which, in these affections and in dysentery, is most probably that of a sympathetic nerve stimulant, restoring the nervous tone of the intestinal mucous membrane (Woodhull). After 50 years' experience in the use of Ipecac, Dr. Higginbottam (1868) stated that "its main efficacy is in stimulating and restoring the normal action of the capillary system" The non-emetic use of this drug, so ably advocated by Woodhull, is not merely a method but a principle, and means the use of the remedy, regardless of dose, so as to develop its stimulant rather than its emetic power.

Ipecac is said to be destructive to the bacillus of anthrax though not to its spores. As the latter are not present in malignant pustule, this drug may prove efficient therein and success has followed its employment. It is used locally after excision of the pustule, also in moderate doses internally.

IRIS, Blue Flag (Unofficial),—is the rhizome and roots of *Iris versicolor*, an indigenous plant of the nat. ord. Irideæ, growing in moist meadows and on the borders of swamps, having large blue flowers. It contains tannin, sugar, starch, gum, an acrid resin, fixed oils, and traces of an alkaloid. Dose of the powdered root, gr. v-xx; of the extract, gr. j-v; of the fluidextract $\mathfrak{m}\j$ -xx.

Iridin or Irisin (Unofficial),—is a so-called resinoid found in the shops, of undetermined composition, but probably an oleoresin precipitated by water from an alcoholic preparation. Dose, gr. j-v.

Iris when fresh is actively purgative, emetic and diuretic, producing severe nausea and prostration. Iridin has been the subject of experimentation upon dogs, and is shown to be a powerful hepatic stimulant with considerable influence on the intestinal glands, being more purgative than euonymin and less irritant than podophyllin. In very small doses it causes obstinate constipation by producing rectal inactivity.

Iris is very serviceable in duodenal catarrh with obstruction of the bile-ducts and consequent jaundice, also in malarial poisoning, bilious remittents, and jaundice of malarial origin. It is used in many hepatic and intestinal disorders as a cholagogue and purgative of mild but efficient action, also as a diuretic in dropsies. In small doses ($\mathfrak{m}\j$ of a tincture) it is strongly recommended in a peculiar blinding headache in the right supraorbital region with nausea or vomiting, supposed to be of hepatic origin.

JALAPA, Jalap,—is the dried tuberous root of *Exogonium Purga*, a Mexican plant of the nat. ord. Convolvulaceæ. It should contain not less than 8 per cent. of total Resin, which is composed of two glucosides, *Jalapin*, soft, soluble in ether, and *Convolvulin*, which is hard, insoluble in ether, and the more active of the two. Dose, gr. v-xx [av. gr. xv.]

Preparations.

Resina Jalapæ, Resin of Jalap,—prepared from a tincture by precipitation by water. Is insoluble in water, soluble in alcohol. Dose, gr. j-v [av. gr. ij.] It is an ingredient of Pil. Catharticæ Comp. and Pil. Catharticæ Vegetabiles (see under COLOCYNTHIS).

Pulvis Jalapæ Compositus, Compound Powder of Jalap, Pulvis Purgans,—has of Jalap 35, Potassium Bitartrate 65, thoroughly mixed. Dose, gr. x-xlv [av. gr. xxx.]

PHYSIOLOGICAL ACTION AND THERAPEUTICS.

Jalap is an active cathartic, producing copious and watery stools, with considerable tormina and tenesmus, also sometimes nausea. It does not produce hemorrhoids, but does increase the secretions of the intestinal canal and the flow of bile. Its action is not due to any one of the contained principles, but all the active constituents are found in the resin. Compared with other agents of the same class its action most nearly resembles that of scammony. It is more drastic than senna and less irritant than gamboge, but in overdoses may produce dangerous hypercatharsis.

Convolvulin in sufficient dose is an active irritant poison, producing gastroenteritis and narcotism. Its action as a purgative seems to be wholly local, as from its intravenous injection no catharsis results, yet it exerts little if any irritant action on the conjunctiva, nasal mucous membrane or skin. It is not eliminated in the urine or the feces, and is therefore probably destroyed in the system by oxidation.

In olden bowel-moving times Jalap and Calomel were used together in doses of gr. x each, "ten and ten," as a routine purgative prescription. Less ponderous doses are now considered equally efficient, and one grain of each agent with the same quantity of extract of hyoscyamus as a corrective may be used with advantage at the onset of fevers and inflammations. As the compound powder it is much employed to produce free watery evacuations in ascites and anasarca. Being nearly tasteless it is a useful cathartic for children, and may be administered in syrup of rhubarb (gr. ij-v in ℥ss). As a vermifuge it is efficient as an adjunct to more powerful agents, and is employed with calomel and santolin for the expulsion of lumbrici. Jalap is contraindicated in all inflammatory conditions of the intestinal mucous membrane, but in proper doses it is one of the most manageable and efficient cathartics.

JAMBUL, Jamun (Unofficial),—the seeds and bark of *Eugenia Jambolana*, a native tree of India, has a very varied history of successes and failures in the treatment of diabetes. One writer contends that any efficient preparation should be made from the fresh seeds, discarding the pericarps, and avoiding the application of heat; also that a weak alcoholic menstruum exhausts the drug and gives a stable preparation. Dose of a fluidextract, ℥v-xv.

Reports, from observers abroad and in this country, show that favorable results have been obtained with Jambul in many cases of diabetes, even after the unsuccessful use of all the usual remedies. In two severe cases, in which 7 and 3 per cent. respectively of glucose was excreted, the urine was brought back to normal and kept there for two years, by the use of this remedy. It should be given with or after meals, in water or wine sweetened with a small quantity of saccharin, and accompanied by general treatment.

JUGLANS, Butternut (Unofficial),—is the bark of the root, collected in autumn, of *Juglans cinerea*, the Butternut or White Walnut, an indigenous forest tree of the nat. ord. Juglandaceæ. It contains an orange-yellow, crystalline and acrid substance named *Juglandic Acid* or *Nucin*, resembling Chrysophanic Acid, also some resin, volatile acid, etc., but neither tannin nor any alkaloid. Dose of the extract, gr. v-xx.

Juglans is a mild cathartic operating without the production of pain or irritant symptoms. It is never used in substance, but the extract is a good laxative in doses of gr. v-x, and a purgative in larger doses. It has considerable reputation in dysentery and chronic constipation.

JUNIPERUS, Juniper,—the source of the official *Oleum Juniperi*, is the fruit of *Juniperus communis*, an evergreen shrub of the nat. ord. Coniferæ, growing in Europe and N. America. It contains a *Volatile Oil*, which consists of terpenes and camphors in complex combination, also a non-crystallizable principle named *Juniperin*, and grape sugar, resin, formic, acetic and malic acids, etc. The Oil, a Spirit, and a Compound Spirit are official.

Preparations.

Oleum Juniperi, Oil of Juniper,—the volatile oil, a colorless or faintly greenish-yellow liquid, of terebinthinate and sweetish taste and the odor of juniper; soluble in 10 volumes of 90 per cent. alcohol. Dose, ℥j-v [av. ℥iij.]

Spiritus Juniperi, Spirit of Juniper,—has of the Oil 5 in Alcohol 95. Dose, ℥j-iv [av. ℥xxx] or more, according to the quantity of alcohol desired.

Spiritus Juniperi Compositus, Compound Spirit of Juniper,—has of the Oil 8, Oil of Caraway 1, Oil of Fennel 1, Alcohol 1400, Water to 2000. It approximates closely to a good grade of *Gin*. Dose, ℥j-iv [av. ℥ij] or more, according to the quantity of alcohol desired.

Oleum Cadinum, Oil of Cade, (Empyreumatic Oil of Juniper)—is a product of the dry distillation of the wood of *Juniperus Oxycedrus*. It is a tar-like substance, of uncertain composition and purity; insoluble in water, partially soluble in alcohol, completely so in ether, chloroform or carbon disulphide. Used locally as a stimulant.

Infusum Juniperi, Infusion of Juniper (Unofficial),—has of Juniper Berries ℥j in Oj of boiling water. Dose ℥j-ij.

Juniper is a stomachic tonic, diaphoretic, diuretic and aphrodisiac. The oil is the active principle, and is readily diffused, exciting increased cardiac action, stimulating the kidneys and the action of the skin, and causing a subjective sense of heat throughout the system. It is eliminated chiefly by the kidneys, and may set up renal irritation, in large doses producing strangury, priapism, hematuria, suppression of the urine and uremic convulsions. It imparts a violet odor to the urine, and will produce diuresis when inhaled.

The Oil is used to flavor gin and to impart the diuretic power popularly ascribed to that liquor. The medicinal use of the juniper preparations (spirit and compound spirit) is restricted to their employment as vehicles for less irritant diuretics. The oil acts therapeutically like the oil of turpentine, and may be used in chronic pyelitis and cystitis, prostatorrhæa, and gleet, but is contraindicated in all cases in which acute nephritis exists.

Oil of Cade is used locally in chronic skin diseases as a stimulant application. It is too active for acute eruptions, but has been used with benefit in chronic eczema and psoriasis. The Oil of Tar (see under *PRX*) is equally efficient for all the purposes to which oil of cade has been applied.

KAMALA, Rottlera (Unofficial),—the glands and hairs from the capsules of *Mallotus philippinensis*, or *Rottlera tinctoria*, a small tree of the nat. ord. Euphorbiaceæ, growing in Abyssinia, Arabia, India, China, etc. It occurs as a granular, mobile, brick-red powder, inodorous and nearly tasteless, partly soluble in alcohol and in ether. It contains several resins, one of which is named *Rottlerin*, also tannin, starch, gum, and red coloring matter. Dose, ℥ss-ij.

Kamala is anthelmintic and purgative, sometimes causing nausea and colic, seldom vomiting. It is used as a teniafuge and to expel the round and thread worms. One or two drachms are given suspended in water, mucilage or syrup, and repeated in 4 hours if necessary. A tincture (℥vj in ℥xvj of alcohol) may be used in doses of ℥j-℥ss. In India it is used locally in scabies and other skin affections and has been found of especial service in herpetic

ringworm. As a remedy against tapeworm it is perhaps next after Male-fern in efficiency and requires no preparatory treatment.

KAVA-KAVA, Ava-Kava (Unofficial),—the root of *Piper methysticum*, a shrub of the nat. ord. Piperaceæ, growing in South America and the South Sea Islands. It contains a crystalline principle, *Kavahin* or *Methysticin*, which is analogous to Piperine, an acrid, greenish-yellow resin, *Kawin*, which is probably the active principle, also a Volatile Oil. Dose, ʒss-j macerated in water, or the same quantity of a fluidextract.

Kava is intoxicant, diuretic and motor-depressant. A beverage is prepared in the Hawaiian Islands by chewing the root and then infusing it in water or coconut milk, which produces a drowsy intoxication with pleasant dreams often of erotic character, and followed by severe headache. A moderate dose is tonic and stimulant, lessening the sense of fatigue and sharpening the mental faculties. It is highly recommended in gonorrhœa and gout, also in chronic gleet and obstinate cystitis.

KINO, Kino,—is the inspissated juice of *Pterocarpus Marsupium*, a tall tree of the nat. ord. Leguminosæ, growing in India. It contains 75 per cent. of a variety of tannin named *Kinotannic Acid*, which gives a greenish precipitate with persalts of iron; also a crystalline, neutral substance, *Kinoin*, and *Kino-red*, gum, pectin, etc. There are several other varieties of Kino in the market, brought from S. America, Africa, and Australia, which are products of other trees than the official one. Dose, gr. v-x [av. gr. vijss.]

Tinctura Kino, *Tincture of Kino*,—has of Kino 5, in Alcohol 65, Water 14, and Glycerin 15. Dose, ʒss-ij [av. ʒj.]

Pulvis Kino Compositus, *Compound Powder of Kino* (Unofficial),—contains 5 per cent. of Opium, and has of Kino 15, Opium 1, Cinnamon 4. Dose, gr. v-xx.

The action of Kino is the same as that of Tannic Acid, though less powerful, and it may be used for the same purposes, both internally and locally. It is chiefly employed as an astringent gargle and as a constituent of diarrhea-mixtures. The tincture, in drachm doses, is one of the most efficient means of combating the atonic diarrhea which results from the disuse of opium or morphine. Its incompatibles are the same as for Galls (see page 70).

KRAMERIA, Krameria (*Rhatany*),—is the dried root of *Krameria triandra*, or two other species, nat. ord. Krameriaceæ, shrubs which grow in Peru and Brazil. It contains 20 to 45 per cent. of *Rhatania-tannic Acid*, also *Rhatanine*, an alkaloid, and wax, gum, etc. Dose, gr. x-xx [av. gr. xv.]

Extractum Krameria, *Extract of Krameria*, aqueous. Dose, gr. v-x [av. gr. vijss.]

Fluidextractum Krameria, *Fluidextract of Krameria*.—Dose, ʒv-xx [av. ʒxv.]

Tinctura Krameria, *Tincture of Krameria*,—20 per cent. Dose, ʒss-ij [av. ʒj.]

Syrupus Krameria, *Syrup of Krameria*,—has of the Fluidextract 45 parts, with Syrup 55. Dose, ʒss-ʒss, [av. ʒj.]

Trochisci Krameria, *Troches of Krameria*,—each troche contains nearly gr. j of the extract, with Tragacanth, Sugar and Orange-Flower Water.

Krameria possesses the same astringent qualities as Tannic Acid and may be employed for the same purposes, except as an antidote to Antimony. It has long had a high reputation as an injection for fissure of the anus, as a local application to spongy gums, as a tonic for debilitated subjects, in chronic diarrhea, also in passive hemorrhages and mucous discharges, as menorrhagia and leucorrhœa. Its incompatibles are the same as for Galls (see page 70).

LACTUCARIUM, Lettuce,—is the concrete milk-juice of *Lactuca virosa*, the Acrid Lettuce, a biennial European plant of the nat. ord. Compositæ. It is partly soluble in alcohol and in ether, and yields a turbid mixture when triturated with water. Lactucarium is a mixture of several substances, the most important being *Lactocin*, which is thought to be the active principle. It occurs in white scales, is soluble in water, and is used as a sedative and hypnotic in doses of gr. j-v. Lactucarium also contains three bitter principles, *Lactucin*, *Lactopicrin* and *Lactucic Acid*; also *Lactucerin*, an inert, waxy substance, constituting nearly one-half of the drug. A minute quantity of a mydriatic alkaloid, believed to be *Hyoscyamine*, has been found in the plant, but not in commercial lactucarium. Dose, gr. x-xx [av. gr. xv.]

Tinctura Lactucarii, *Tincture of Lactucarium*,—50 per cent. Dose, ʒx-ʒij [av. ʒxxx], according to the activity of the drug.

Syrupus Lactucarii, *Syrup of Lactucarium*,—has of the Tincture 10 per cent. Dose, ʒj-ʒj [av. ʒij.]

Lactucarium is feebly hypnotic, somewhat sedative and diuretic. It is supposed to act similarly to Opium, but very feebly and without depressing after-symptoms. As much as half an ounce has been given to a dog without causing any special effect. Its preparations are very uncertain in activity, and are chiefly used as placebos, to allay cough and quiet nervous irritability. The syrup is a good vehicle for expectorants and antispasmodics.

LAPPA, Lappa, (*Burdock*),—is the dried root of *Arctium Lappa*, and of other species of *Arctium*, the common burdock, a biennial weed of the nat. ord. Compositæ, found in waste places and along roadsides in Europe, Asia and N. America. Three varieties are recognized, formerly known as *Lappa major*, *L. tomentosa*, and *L. minor*, of which the first-named is most frequently met with in this country. It contains a bitter principle, traces of a volatile oil, also inulin, resin, tannin, mucilage, sugar, etc. Dose, gr. xx-xlv [av. gr. xxx].

Fluidextractum Lappæ, *Fluidextract of Lappa*,—made with diluted alcohol. Dose, ʒxx-xlv [av. ʒxxx.] Dr. Squibb recommended a tincture of the seed; lb. j of ground seed to gall. j of whisky, allowed to stand for two weeks before decanting, and used in doses of ʒij-ij before meals.

Lappa promotes all the secretions and is considered aperient, diuretic and diaphoretic, without irritating qualities. In decoction it has been a popular domestic remedy for many morbid conditions, especially rheumatism, gout, pulmonary catarrhs, and chronic cutaneous affections. By several practitioners it is praised as an alterative in constitutional diseases, as syphilis and scrofula, also as an external application to swellings, hemorrhoids and chronic sores. A tincture of the seed has proved remarkably efficient as a stomachic tonic and has cured several cases of psoriasis inveterata.

LAVANDULA, Lavender,—the source of the official Oil of Lavender Flowers, is the fresh flowers of *Lavandula officinalis*, a small European shrub of the nat. ord. Labiata, largely cultivated in England. They have a fragrant odor, and an aromatic, camphoraceous taste; and contain resin and tannin, also a *Volatile Oil*.

Oleum Lavandulæ Florum, *Oil of Lavender Flowers*,—is a volatile oil distilled from fresh Lavender, and having the fragrant odor of the flowers. It is soluble in alcohol in all proportions, in 3 times its volume of a mixture of alcohol 3 and water 1, and in glacial acetic acid. Dose, ʒj-v [av. ʒij.]

Spiritus Lavandulæ, *Spirit of Lavender*,—has of the Oil 5, in Alcohol 95. A perfume and flavoring agent. Dose, ʒx-xlv [av. ʒxxx.]

Tinctura Lavandulæ Composita, *Compound Tincture of Lavender*,—an aromatic stimulant, composed of the Oil 8, Oil of Rosemary 2, Saigon Cinnamon 20, Cloves 5, Nutmeg 10, Red Saunders 10, Alcohol 750, Water to 1000. Is a constituent of Liquor Potassii Arsenitis. Dose, ʒx-xlv [av. ʒxxx.]

Lavender is aromatic, stimulant and carminative, but is rarely used alone as a medicine. It is an agreeable flavoring and perfume, in the form of the official spirit, which is sold under the name of *Lavender-water*, after the addition of Oil of Bergamot and Essence of Ambergris. The compound tincture is a very agreeable combination of spices, and is much used as a remedy for gastralgia, nausea, and flatulence, and as an adjuvant or corrigent of other medicines.

LEPTANDRA, Leptandra (*Culver's Root*),—is the rhizome and rootlets of *Veronica virginica*, an indigenous perennial plant of the nat. ord. Scrofulariaceæ. It contains a gluco-