

PANAX.

The root of *Panaxquinquefolia*, Linné (Nat. Ord. Araliaceae). Middle and northern United States in rich woods; becoming exceedingly scarce; also cultivated. *Dose*, 5 to 60 grains.

Common Name: Ginseng.

Principal Constituents.—Not well determined; resinous and probably an amorphous yellow principle which has been named panaquilon.

Preparation.—*Specific Medicine Panax.* *Dose*, 1 to 60 drops.

Specific Indications.—Nervous dyspepsia; mental and other forms of nervous exhaustion from overwork.

Action and Therapy.—A mild, stimulating tonic whose effects are observed only after quite a long period of administration. It is a feeble nerve stimulant and as such is adapted to nervous exhaustion of a mild type from too close application to work, and to mild forms of nervous dyspepsia and slight stomachic debility. As a medicine it acts kindly and quietly, giving a grateful sense of comfort to the stomach.

PAREIRA (Chondodendron).

The root of *Chondodendrontomentosum*, Ruiz et Pavon (and others...MM) (Nat. Ord. Menispermaceae). A vine of Brazil and Peru. *Dose*, 5 to 30 grains.

Common Names: Pareira-brava, Pareira Root.

Principal Constituents.—Tannin, and a white and a yellow alkaloid, the latter similar to *berberine*. The white alkaloid *pelosine*, found in undetermined species and in false pareira-brava, is identical with *berberine* and *buxine*.

Preparation.—*Specific Medicine Pareira.* *Dose*, 1 to 30 drops.

Specific Indications.—Irritation of the urinary tract, with abdominal tenderness; frequent desire to urinate with pain in urethra and glans upon urinating; chronic cystitis and pyelitis.

Action and Therapy.—Pareira is mostly employed as a tonic diuretic, in chronic inflammation of the bladder, and of the kidneys with excretion of pus. The indications, as given above, should be observed

in its use. It is not often employed.

PASSIFLORA.

The root and stem-base of *Passifloraincarnata*, Linné (Nat. Ord. Passifloraceae). Southern United States. *Dose*, 5 to 120 grains.

Common Names: Passion Flower, May Pop.

Principal Constituent.—Traces of an alkaloid.

Preparation.—*Specific Medicine Passiflora.* *Dose*, 1 to 120 drops.

Specific Indications.—Irritation of brain and nervous system, with atony; insomnia from worry or overwork, or from febrile excitement; sleeplessness in the young and the aged; convulsive movements; hysteria; infantile nervous irritability; dyspnea palpitation of the heart from excitement or shock.

Action and Therapy.—Passiflora is used chiefly in spasmodic affections and as a rest-producing agent. While somewhat hypnotic but acting slowly, it is better as a nerve calmative, rest resulting from its quieting influence, and sleep following in consequence of this rest rather than through any narcotic effect of the drug. It is one of the best agents we possess to allay restlessness and overcome wakefulness, when the result of exhaustion, with cerebral fullness, or due to the nervous excitement of debility. It is admirably adapted to young children and old persons to promote rest and sleep, and it acts similarly when sleeplessness is caused by worry, overwork-physical and mental-or due to the exhaustion of fevers. Few remedies are better to produce sleep during typhoid fever. The sleep induced by the restful influence of passiflora is a quiet, peaceful slumber, undisturbed by any unpleasantness, and the patient awakens calm and refreshed. Our experience with passiflora has shown it to be slow in producing sleep, and usually more effective in the second twenty-four hours than the first. Even small doses of it may cause nausea and vomiting. When this occurs its use should be discontinued. For the nervous phenomena and unrest accompanying la grippe, passiflora is a safe and often effectual remedy.

When due to atony, passiflora may relieve pain though its anodyne properties are not marked. It is occasionally useful in nervous forms of

headache due to debility, and in certain neuralgic pains associated with the process of menstruation. Reflex pains during pregnancy and the menopause may be relieved by it.

Passiflora is antispasmodic. If given when the aura is felt it may ward off or mitigate an attack of epilepsy, but is of no value when the seizure takes place. It is a better remedy to limit spasms of childhood, and has thus been successfully exhibited in trismus nascentium, and convulsions from dentition, or the presence of worms. It may be used with some degree of success in preventing spasm during meningeal disorders, in chorea, and hysterical convulsions. While more or less effectual in most varieties of spasm when established, except in epilepsy, it is a far better agent for intercurrent use to control the irritability which precedes and often provokes the convulsive explosions. It has been greatly lauded in tetanus, but little reliance should be placed upon so feeble an agent in so grave a condition. Whooping-cough is often mitigated by passiflora, and for spasmodic asthma it frequently proves one of the most effective of remedies.

PENTHORUM.

The whole herb of *Penthorum sedoides*, Linné (Nat. Ord. Crassulaceae). A perennial herb in wet situations in the United States and Canada. **Dose**, 1 to 60 grains.

Common Names: Virginia Stone-crop, Ditch Stone-crop.

Principal Constituent.—Tannin.

Preparation.—*Specific Medicine Penthorum*. **Dose**, 1 to 60 drops.

Specific Indications.—Chronic pharyngeal and nasal disorders, with dryness, fullness, and irritation and a purplish, congested appearance; catarrhal inflammations with profuse secretions; gastric catarrh, catarrhal diarrhea; sponginess of the gums.

Action and Therapy.—*External*. A wash for catarrhal surfaces, producing an astringent effect but no corrugation of the tissues.

Internal. While of some value in catarrhal diarrhea, this is a remedy best adapted to chronic catarrhal and congested states of the posterior nares and pharyngeal vault. It should be used locally while it is being administered internally; and quick results are not to be expected.

PEPO (*Cucurbita pepo*).

The dried, ripe seed of the cultivated varieties of *Cucurbita Pepo*, Linné (Nat. Ord. Cucurbitaceae). A native of the Levant; extensively cultivated. **Dose**, 1 ounce.

Common Name: Pumpkin Seed.

Principal Constituents.—A large amount of fixed oil (over 40 per cent) and a taeniafuge principle—a greenish-brown, acrid resin—; fatty acids and two proteids—myosin and vitellin.

Specific Indications.—Tape-worm; round worm; ardor urinae.

Action and Therapy.—An emulsion of pumpkin seeds prepared by rubbing one ounce of the crushed seeds with eight fluidounces of water, taken husks and all, after preparatory catharsis and fasting, is a safe and often efficient agent for the expulsion of tape-worm. A dose of castor oil should follow the administration of the emulsion. Sometimes oleo-resin of malefern is given with it, the concoction being sweetened if desired. Pepo will also remove round worms. The ethereal oil, in two drachm doses, has been similarly employed, but is less efficient than the whole seeds.

An infusion of pumpkin seed is useful as a lenitive and diuretic in scalding of urine, strangury and other irritative urinary disorders.

PETROSELINUM.

The dried, ripe fruit and root of *Petroselinum sativum*, Hoffman (Nat. Ord. Umbelliferae). Native of Europe; cultivated in all moderate climes.

Common Names: (1) Parsley Fruit, Parsley Seed; (2) Parsley Root.

Principal Constituents.—(Root.) An essential oil containing *Apiol*; (Fruit) Fatty oil (22 per cent), volatile oil (oil of parsley) containing *apiol* and *laevo-pinene*.

Preparation.—*Decoctum Petroselini*, Decoction of Parsley. **Dose**, 1 to 4 fluidounces.

Action and Therapy.—Decoction of parsley root is an active diuretic, as is also the oil (three or four drops). Both relieve urinary irritation, and have been extensively employed to relieve dropsical effusions

when the kidneys are in a condition to respond, especially when the edema follows scarlet fever.

Apiol is an active emmenagogue. When of good quality, doses of seven to fifteen grains are capable of producing effects similar to those of coffee—cerebral excitement with feeling of vigor and composure, and warmth in the stomach. Large doses (thirty to sixty grains) occasion intoxication, giddiness, flashes of light, ringing in ears, and headache similar to that resulting from cinchona. It is used almost entirely for the treatment of amenorrhea, due to ovarian inactivity. It should be administered in doses of seven to ten grains, three times a day for a week or so previous to the expected time of menstruation, and given oftener when the menses appear. It relieves pain by increasing the flow when menstruation is scanty. Owing to the uncertain quality of apiol preparations they frequently fail to produce any emmenagogue effects. A liquid apiol (*Oleoresina Petroselinii*) is to be preferred, given in doses of eight to twelve minims.

PHYSOSTIGMA.

The dried, ripe seed of *Physostigma venenosum*, Balfour (Nat. Ord. Leguminosae). A climbing perennial, native of Calabar, in the Gulf of Guinea, on the western coast of Africa, and around the sources of the river Coma, near Gabon. River banks. *Dose*, 1 to 3 grains.

Common Names: Calabar Bean, Ordeal Bean, Ordeal Bean of Calabar.

Chief Constituents.—*Physostigmine* or *eserine*, a very poisonous base; *calabarine*, less, poisonous and probably a decomposition product of the former; *eseridine*, *eseramine*, all of which are alkaloids; and *phytosterin*, closely resembling animal cholesterol.

Preparation.—*Specific Medicine Physostigma*, 1/30 to 5 drops. (For specific purposes in nervous disorders the small fractional doses are preferred.)

Specific Indications.—Feeble and tremulous pulse, cool surface, cold extremities, and contracted pupils; or pupils dilated, with small, rapid pulse; mental torpor in cerebro-spinal meningitis; difficult breathing with sense of constriction; meteorism.

Action and Toxicology.—Calabar bean is a spinal paralyzant, the brain being apparently unaffected by it. It is also probably a direct muscle

poison, though this is doubted by Wood. The motor and reflex centers of the cord are depressed, and finally paralyzed by it when given in poisonous doses. It also acts upon some of the medullary centers. The nerves are apparently not much affected by it, though some contend that it first stimulates and then destroys the excitability of their terminals in the muscles. Unstriated muscular tissue and the glands are stimulated by it, and peristalsis greatly exaggerated and intestinal secretion increased. It lengthens the diastolic pause, thus slowing the heart-beat and increasing its power, probably through its action upon the heart-muscle itself, or by stimulating the vagal terminals and the cardiac ganglia. Arterial tension is first raised by it; then lowered. When dyspnea occurs it is thought to be due to the tetanic action of calabarine, which is present in variable proportions in commercial extracts of physostigma, thus rendering the latter undesirable preparations. Physostigma and its alkaloids are eliminated chiefly in the urine, the latter being then capable of producing poisonous effects when tested upon the eyes of animals. Physostigma kills by centric respiratory paralysis.

Physostigma (and physostigmine [eserine] more powerfully) reduces intraocular tension and strongly contracts the pupils, the myosis taking place in a few minutes and lasting from six to twelve hours, and sometimes to a lesser degree for several days. It temporarily increases the power of accommodation for close vision, which action may be followed by spasm of accommodation. These effects often cause severe pain, which may continue for hours. Much diversity of opinion prevails as to the manner in which the drug acts upon the eye. Wood believes its ocular effects are caused by "local peripheral influence;" "that there is a simultaneous stimulation of the oculo-motor nerve-ending and paralysis of the peripheral sympathetic nerve-ending." As the pupil is known, in overwhelming doses, in human poisoning, to dilate he concludes: "that when the alkaloid is in sufficient amount the primary oculo-motor stimulation is followed by oculo-motor palsy". The view that the drug acts by constricting the vessels of the iris, or the view of Schmiedeberg, that eserine acts directly by stimulation of the iris muscle, is no longer generally held, though Hare still maintains the latter view. In fact, the whole range of physiological action of physostigma and its alkaloids is discordantly voiced by experimental investigators.

Full doses in man produce extreme prostration and muscular

weakness, loss of mobility, dizziness, slow, feeble and irregular pulse, nausea, and sometimes vomiting. Severe diarrhea often takes place and the pupils are usually contracted. If the alkaloid or the extract be applied to the conjunctiva close contraction takes place, even though atropine has previously produced dilatation; and the effects are confined only to the eye so treated. Poisonous doses increase the foregoing symptoms, with the addition of muscular tremors or fibrillary twitchings (confined only to portions of the muscle), the reflexes are abolished, respiration and circulation are extremely depressed and the victim dies of paralysis of the medulla-center of respiration.

The treatment of poisoning by physostigma and its alkaloidal salt consists in the hypodermatic administration of a full dose of atropine sulphate, the best-known physiologic antidote (prompt emesis and tannic acid if the poison has been swallowed), the application of external heat, and respiratory and cardiac stimulation by means of alcohol, ether, ammonia, digitalis, and strychnine. Wood suggests the availability of the antagonizing effect of pilocarpine (which by some is regarded equally as antidotal as atropine) in doses proportionate to the quantity of poison ingested.

Therapy.—External. Extract of physostigma for local use in ocular diseases has been entirely replaced by physostigmine.

Internal. Physostigma, in medicinal doses, has scarcely any effect upon the circulation, and but little on breathing. The secretions of the salivary, sweat, intestinal and mammary glands are increased by it. (See also Physostigminae Salicylas.) The drug is employed chiefly to reduce spasm and give tone to relaxed muscular walls of the stomach and bowels, and in the smaller doses in inflammatory diseases of the meninges. It has failed to sustain the reputation once accorded it in chorea, epilepsy, trismus neonatorum, and puerperal convulsions and reflex paralysis. In traumatic tetanus it has failed more often than it has benefited, but charity is held out in the view that probably inert preparations have been responsible for its failure, and the drug has not therefore had a fair trial. It is one of the suggested antidotes for strychnine poisoning, the alkaloid being preferred. For all of the above purposes the physiological doses have been advised.

In minute doses, however, physostigma gives favorable results in certain diseases of the brain and spinal cord. The usual prescription

for this purpose is: Rx Specific Medicine Physostigma, 5 drops; Water, 4 fluidounces. Mix. Sig.: Dose, one teaspoonful every two to four hours. The indications are a cool skin, cold extremities, feeble tremulous pulse, and contracted pupils. Occasionally the dilated pupils will guide if associated with a rapid, small and tense pulse. It is one of the few agents which has exerted a favorable influence in cerebro-spinal meningitis, the dull intellect, pupillary contraction, and small, weak pulse leading to its selection.

Physostigma, in the form of the extract or the specific medicine, may be used in weakened states of the gastro-intestinal canal, when giving rise to dilatation, visceral ptosis, and flatulence. Thus it is indicated in gastric and intestinal dilatation, fecal accumulation, and sometimes in tympanites, catarrh of the intestines and bladder, and constipation, with hard, dry feces. Nux vomica aids its action in intestinal atony, a state present in all of the above-named disorders. On account of its action upon the smooth muscular fibres of the intestines it is sometimes an ingredient of pills for the treatment of constipation. Owing to its stimulant action upon the bronchial muscular fibres it may be used in chronic bronchitis with bronchial dilation, with dyspnea, bronchial asthma and emphysema, to assist by its contractile force in expelling mucus. For the respiratory disorders quite full doses are required, and other agents, more kindly in action, are preferred in Eclectic practice as stimulating expectorants. From 1/20 to 1/10 grain of the extract is sufficient for the effect upon the bronchial and intestinal musculature. The same, or eserine (1/60 grain) has been used for excessive sweating, as in the night sweats of phthisis. Wood reports a case of phantom tumor, associated with intestinal dyspepsia, asserted to have been cured by it.

PHYTOLACCA.

The recently dried root and fruit of *Phytolacca decandra*, Linné (Nat. Ord. Phytolaccaceae). North America, along roadsides and fences, and in clearings and uncultivated fields; grows also in northern Africa, southern Europe, China, the Azores, and Sandwich Islands. *Dose*, 1 to 20 grains.

Common Names: Poke, Poke-root, Poke Weed, Garget, etc.

Principal Constituents.—*Root:* A remarkably large amount of potassium, a body closely resembling *saponin*, and the alkaloid *phytolaccine*. *Berries:* A purplish-red powder (the coloring body), indifferent phytolaccin, and phytolaccic acid.

Preparations.—1. *Specific Medicine Phytolacca.* (Prepared from the root.) Dose, 1 to 20 drops. (Usual form of administration: Rx Specific Medicine Phytolacca, 10-30 drops; Water, enough to make 4 fluidounce. Mix. Sig.: One teaspoonful every one, two or three hours.

2. *Tinctura Phytolaccae Recentium,* Green Tincture of Phytolacca. (Fresh, recently dried root, 8 ounces (This should read: Fresh root, 8 ounces [the customary definition of “Green Tincture”]...MM); Alcohol (76 per cent), 16 fluidounces.) *Dose,* 1 to 30 drops.

Specific Indications.—Pallid mucous tissues with ulceration; sore mouth, with small blisters on buccal mucous surfaces and tongue; sore lips, pallid and with separated epidermis; fauces full and mucous surfaces pallid, sometimes livid, with swollen tonsils and whitish or ashen-gray tenacious exudate; aphthae; imperfect glandular secretion; faucial, tonsillar or pharyngeal ulceration; secretions of mouth impart a white glaze over mucous membranes and tongue; white pultaceous sloughs at angles of mouth or lining the cheeks; hard painful glandular enlargements; pallid sore throat with cough and difficult respiration; mastitis; orchitis; parotitis; soreness and swelling of mammary glands; diphtheroidal sore throat; and fatty degeneration .

Action.—Physiologically, phytolacca acts upon the skin, the glandular structures, especially those of the mouth, throat, sexual system, and very markedly upon the mammary glands; also upon the fibrous and serous tissues, and mucous membranes of the digestive and urinary tracts. It is principally eliminated by the kidneys. Applied to the skin, either in the form of juice, strong decoction, or poultice of the root, it produces an erythematous, sometimes pustular, eruption. The powdered root when inhaled is very irritating to the respiratory passages, and often produces a severe coryza, with headache and prostration, pain in chest, back, and abdomen, conjunctival injection and ocular irritation, and occasionally causes violent emeto-catharsis. Upon the gastro-intestinal tract doses of from 10 to 30 grains of it act as an emetic and drastic cathartic, producing nausea which comes on slowly, amounting almost to anguish, finally after an hour or so resulting in emesis. It then continues to act upon the bowels, the purging being prolonged for a considerable length of time. It is seldom used for emeto-cathartic purposes, on account of its tardy action, which, when established, continues for some time. It rarely causes cramps or pain. Large doses produce powerful emeto-catharsis, with loss of muscular power -occasionally spasmodic action takes place,

and frequently a tingling or prickling sensation over the whole surface. Dimness of vision, diplopia, vertigo, and drowsiness are occasioned by large doses not sufficient to produce death. Phytolacca slows the heart's action, reduces the force of the pulse, and lessens the respiratory movements. It is a paralyzer of the spinal cord, acting principally on the medulla. In poisoning by this agent tetanic convulsions may ensue. Death results from carbonic acid poisoning, the result of respiratory paralysis.

The treatment of poisoning by phytolacca is that of gastro-enteritis.

Therapy.-External. A poultice of poke root has given relief to felons and mammary inflammation. If used early resolution may take place; if suppuration occurs it will hasten that process. Locke advised the specific medicine with glycerin (2 fluidrachms to 1 fluidounce) for external use in mammitis. The same preparation occasionally heals sore nipples, and an ointment has been used successfully in scaly forms of eczema, in glandular engorgement, and may give relief in some cases of hemorrhoids, and in goitre. In most instances its local use should be accompanied by its internal exhibition.

Internal. Medicines which act directly upon the glandular structures are not numerous. Among those that do so act, none is more direct than phytolacca. Phytolacca belongs to that class of remedies which is denominated alteratives. Whether such terms as the latter are justifiable in the light of present-day progress may be open to question. The experience of many years with phytolacca with success in what has been understood to be alterative effects, is a matter of Eclectic record. That it powerfully impresses the glands of the skin, lymphatic system, buccal, faucial, nasal, and sexual systems, and particularly the tonsils, ovaries, testicles, and mammary glands, we are well satisfied. The periosteal and other fibrous tissues are also acted upon by it, and there is no doubt but that it has more or less influence over the deposition of fats, its favorable action in fatty degeneration of the heart entitling it to consideration.

Phytolacca is pre-eminently a remedy for swollen or engorged glands and adenitis. It is of undeniable value in conditions which might be conveniently classed as the dyscrasias-scrofulous, syphilitic, and rheumatic. It is not a direct antisiphilitic in the sense that it will destroy treponema, but for the train of ills due to the ravages of that

disease as shown in the glandular and skin involvement it is among the most useful of drugs. When ulcerations result from the same cause it is particularly effective. It has long been used in various mixtures designed as antisyphilitics, which are, of course, but general alteratives. In those vague conditions, with pain and swellings at the joints, probably arthritic, and associated with swellings of the lymph glands, passing current under the elastic name of chronic rheumatism, phytolacca has acted most satisfactorily. It is, however, of little or no value in acute articular rheumatism.

Without phytolacca we should be at a loss to know how to treat glandular affections undergoing swelling or inflammation. Its most direct indication is hard, painful enlargement of the glands with associated pallid mucous membranes. It is not so direct a remedy for suppurating glands. It is of signal value in mumps, and inflammation of cervical, axillary, and inguinal glands, when not due to tuberculosis. Even then its influence is often shown by its power to reduce the glands more or less, but exceedingly slowly; while in those enlargements due to syphilis its effects are more prompt and decided. Its beneficial control over tonsillitis and swelling of the submaxillary glands is well known. In acute mastitis phytolacca is by far our best remedy, and its action is hastened by its conjoint administration with aconite and bryonia. This treatment, with mechanical support, gentle withdrawal of the milk, if possible, or sometimes strapping of the gland with adhesive plaster may avert suppuration. After surgical measures for the liberation of pus the use of phytolacca should be continued to reduce any remaining engorgement of the organ. Sore nipples and mammary tenderness, and morbid sensitiveness of the breasts during menstruation are relieved by phytolacca, and it is decidedly useful in the mammary swelling which sometimes occurs in infants.

Though its action upon the reproductive glands is less decided than upon other specialized glands and upon the lymphatic nodes, it is not without value sometimes in orchitis and ovaritis. It is most effectual in the former when the inflammation is occasioned by the metastasis of mumps. Phytolacca has aided in the reduction of goitre, but ordinarily it is little to be relied upon for that purpose; iris is more effective, and that fails far oftener than it succeeds, except in the soft varieties.

Phytolacca is important in dermatological practice. It destroys the "itch" insect, consequently it is of value in scabies, though it is by no

means as effectual as sulphur. The condition which calls for it internally in skin diseases is one of indolent action of the skin, usually associated with vitiated blood and hard glandular enlargements. There may be scaly, vesicular, pustular, or tuberculous eruptions, and lymphatic enlargements with pain. The skin may be inflamed, but does not itch because there is not activity enough in the part. It is often indicated in chronic eczema, syphilitic eruptions, psoriasis, tinea capitis, favus, and varicose and other ulcers of the leg. Associated with iris, it is a valuable agent in fissures, boils, carbuncles, dermal abscesses, and ulcerations of the outlets of the body. For skin diseases it should be employed internally and locally. Rx Specific Medicine Phytolacca, 1/2 fluidrachm; Water, 4 fluidounces. Sig.: Teaspoonful every three hours. Locally: Rx Specific Medicine Phytolacca, 2 fluidrachms; Glycerin, 1 fluidounce. Mix. Apply.

Phytolacca is useful in acute and chronic mucous affections, as in tracheitis, laryngitis, chronic catarrh, and especially in those affections where there is a tendency to the formation of false membrane. There is a pallid, somewhat leaden-colored tongue, with but little coating, being a slick, glutinous coat, if covered at all. The mucous membranes present whitish erosions, or vesicular patches. With these conditions it may be employed in follicular tonsillitis, follicular pharyngitis, stomatitis, aphthae, nursing sore mouth, or ordinary sore mouth, and syphilitic faucial ulcerations. It should be taken internally and used locally as a wash. It is one of our most valuable agents in sore throats resembling diphtheria, but is not curative in genuine diphtheria showing the presence of the Klebs-Loeffler bacillus. It may be and should be used conjointly with antidiphtheritic measures, however, to stimulate the mucous membranes, promote glandular activity and assist in loosening the membrane. Phytolacca acquired a reputation at one time as a positive remedy for diphtheria. That was before the presence of the bacillus was determinable by laboratory methods. It is largely possible that many border-line cases were then called diphtheria, as some streptococcic inflammations are now until bacteriological investigations prove otherwise. Even in true malignant types its use was an improvement over old-time treatment and the claims of those who advocated it for diphtheria were reasonably just. But time has clarified the situation, and now we use it as a valuable auxiliary remedy for sore throat with exudation.

Phytolacca has been suggested to prevent and to cure gastric ulcer, and the suggestion seems fairly reasonable provided the general specific indications are observed, and the case is one long preceded by debility and catarrhal hypersecretion. It has relieved headache due to gastric acidity. Its usefulness in nephritis with the voiding of albuminous urine is open to question, if not exceedingly doubtful, and the reputation of an extract of the juice of the berries for the reduction of obesity has not been sustained. Single results from the use of any remedy in any of the difficultly curable diseases do not justify the too common practice of asserting its wholesale utility for such disorders. We prefer a tincture prepared from the freshly dried root for internal administration.

PILOCARPUS.

The dried leaflets of (1) *Pilocarpus Jaborandi*, Holmes; or (2) *Pilocarpus microphyllus*, Stapf (Nat. Ord. Rutaceae). Brazil and Paraguay. **Dose**, 20 to 60 grains.

Common Names: Jaborandi, (1) Pernambuco Jaborandi, (2) Maranham Jaborandi.

Principal Constituents.—The powerful liquid alkaloid *pilocarpine* (C₁₁H₁₆N₂O₂); a colorless, viscid oil, isopilocarpine; a volatile oil chiefly pilocarpene (C₁₀H₁₆); and pilocarpidine (C₁₀H₁₄N₂O₂) in *Pilocarpus Jaborandi* only.

Preparation.—*Specific Medicine Jaborandi*. **Dose**, 1 to 60 drops.

Derivatives.—*Pilocarpina Hydrochloridum*, Pilocarpine Hydrochloride. Translucent, colorless and odorless crystals of a feebly bitter taste; hygroscopic in the air. Very soluble in water and alcohol, less soluble in chloroform, and not at all in ether. Dose, 1/12 to 1/6 grain by mouth; 1/24 to 1/8 grain (hypodermatically).

Pilocarpinae Nitrates, Pilocarpine Nitrate. Permanent, shining, odorless crystals, very soluble in water and less so in alcohol; insoluble in chloroform and ether. Dose, 1/12 to 1/4 grain (by mouth); 1/24 to 1/8 grain (hypodermatically).

Specific Indications.—Deficient secretion; marked dryness and heat of skin and mucosa; muscular pain; muscular spasms; pain with puffiness of tissues; urinal suppression, the urine being of high specific gravity and deep color; pulse full, hard, sharp and strong, with deficient secretion; increased temperature with dry skin and membranes; sthenic forms of fever; marked restlessness due to lack of secretion; ptyalism, with stomatitis; inflammatory rheumatism, with

swollen and painful parts, and dry membranes and skin; soreness and stiffness of joints in subacute rheumatism; dry, harsh cough; tenacious sputum; renal dropsy with deficiency of urine; uremia; uremic poisoning, with convulsions; itching, with jaundice; increased ocular tension; deafness due to deficient aural secretion; alopecia; poisoning by atropine or belladonna; colliquative sweating (minute dose).

Action and Toxicology.—Jaborandi and its alkaloid, pilocarpine, are the most powerful excitants of the secretions of the peripheral secretory glands known. In full doses they cause an enormous outpouring of sweat and saliva, and to a lesser degree stimulate the lachrymal, nasal, faucial, and bronchial secretory apparatus, and to a still lesser extent those of the stomach and intestines. Even the modified secretory organs of the aural canal are indirectly affected by them and the quantity of cerumen increased. The growth of hair and intensification of its color are stimulated by their internal action as well as when locally applied. By most pharmacologists the effect of these drugs upon peripheral secretion is attributed to the direct action upon the terminals of the peripheral nerves and not to any impression *per se* upon the epithelial secretory cells. This they prove by completely checking them with atropine, known to act upon the same parts but in exactly an opposite manner. Cushny declares that both act upon an intermediary receptor interposed between the nerve and cells at the myocellular junction, and that neither the nerve nor the cells are directly impressed. These bodies are stimulated by pilocarpine and muscarine (agaricine) and depressed or paralyzed by atropine. It is generally conceded that while atropine is the complete antagonist of pilocarpine, which chiefly acts in the manner described and to a very limited extent upon the central nervous system, on the other hand pilocarpine is, therefore, not a complete antagonist of atropine. The action of pilocarpine upon the involuntary muscles is caused in the same manner as upon the sudoriferous glands—by impressing the myo-neural receptors.

Moderate doses of these drugs have scarcely any effect upon the central nervous system, and pilocarpine is less apt than jaborandi to cause gastric and intestinal discomfort. Both, however, appear to increase peristalsis and in full doses may cause a persistent watery diarrhea, with straining or tormina after the diarrhea ceases. Upon the eye myosis is produced by both the local and internal use of them, and spasm of the accommodation also occurs. In large doses they are

cardiac depressants, probably affecting the heart muscle and to some degree vagal inhibition. The extent to which the vaso-motor system participates in first causing increased and then lowered blood pressure is not satisfactorily known. Full doses cause cardiac arrhythmia, and increase the number of heartbeats greatly, but render them weaker. The uterus, spleen, and bronchi contract under the influence of these drugs. Temperature, though at first considerably increased, falls when sweating has become well established. This action is more marked during fevers than in health. After the termination of sweating temperature regains its normal status, usually at once, but is sometimes delayed for several hours. As a rule, the secretion of milk is believed to be unaffected by pilocarpine, but contrary to what might be anticipated, where there is a diminished lacteal secretion, it apparently increases the supply.

One or two drachms of powdered jaborandi infused in a cupful of boiling water and taken at one dose will in about ten to twenty minutes cause a tingling of the skin with marked redness of the surface. This sensation is first experienced in the face, but soon extends to the whole surface of the body, and is quickly followed by an abundant perspiration, which is apt to last for four or five hours. Almost simultaneously with the sweating the secretion of saliva increases to such an extent as to greatly embarrass speech, the person being obliged to assume an inclined position that the escape of saliva may be facilitated. During this stage from one to two pints of saliva and even more may be secreted, and usually there will be in addition an augmentation of the bronchial and lachrymal flow. The saliva contains an abundance of ptyalin and salts and readily converts starch into sugar. At times the mucous glands of the intestines are so stimulated and peristalsis so increased as to cause diarrhoea, and it is not a rare circumstance that the submaxillary glands enlarge and become painful. Nausea and vomiting (less likely with pilocarpine), vertigo, hiccough, heaviness of the head, and contraction of the pupils may take place. From the commencement of perspiration the face becomes pale, the pulse temporarily fuller and more frequent; the pulsations become irregular, and with persons laboring under cardiac affections, a kind of asystole is observed. The effects of these drugs occur more readily in adults than in children, the latter in fact standing their action much better than adults. In using these medicines to produce diaphoresis it is not necessary to use warm drinks or other usual aids toward facilitating the sweating. During the sudorific action of

jaborandi the quantity of urine is lessened, to a greater or lesser extent, and micturition frequently proves painful. As urea exists to a large extent in the saliva and sweat caused by jaborandi (no uric acid being found), a diminution of it occurs in the urine voided; but, after sweating, it gradually returns to its normal figure in the urine. It would appear that the drug does not increase combustion in the body. Dryness of the mouth and throat, with a sense of fatigue and depression, most usually follows the cessation of its active effects. Administered in divided doses, jaborandi, instead of acting as a diaphoretic and sialagogue, becomes an active diuretic. The conclusions then are that jaborandi and its alkaloid exert a strong special influence upon the sudoriferous and salivary glands, and (in small doses) upon the renal glomerules, which stimulates their functional activity.

Pilocarpine, the active principle of jaborandi, has an action nearly identical; however, it causes less salivation, less vomiting, and is more certain in its effects. The hydrochloride and the nitrate of this alkaloid are used; they may be employed internally, or by subcutaneous injections. In poisoning by jaborandi or pilocarpine, death is not apt to result except where an existing grave cardiac disease renders the patient a victim to exhaustion. Atropine is the physiologic antagonist to its sudoriferous and muscular effects; morphine overcomes the nausea and diarrhoea and pain; strychnine, caffeine and digitalis may be required to support the heart.

Therapy.—External. Externally applied pilocarpus and pilocarpine are accredited with the rather singular effect of causing the hair to become darker in color, and to stimulate the growth of that appendage it is frequently employed in alopecia. The specific medicine, fluidextract, or the alkaloid, may be used in lotions with soap liniment and cologne; or the latter, with or without cantharides, may be incorporated with a lanolin base. The specific medicine may be applied in dry eczema, and to allay inflammation in erysipelas, mumps, mastitis, orchitis, epididymitis, and swollen and painful joints. Pilocarpine, being a strong myotic, is coming to be preferred to physostigmine (eserine) in eye affections, though acting slower and less profoundly than the latter, but with less irritation. In fact, it is a most valuable myotic in all conditions of the eye in which there is increased intraocular pressure. Locally used pilocarpine lessens pain from excessive use of the eyes, and alleviates congestive conditions. By some it is preferred to eserine

in glaucoma. After traumatism, with increased ocular tension, the latter as well as pain is relieved by the local use of pilocarpine hydrochloride. Instilled in the eye it is also useful in keratitis and phlyctenular conjunctivitis, both in the early stage.

Internal. Jaborandi is diaphoretic, sialagogue, myotic, sedative, diuretic and antispasmodic, according to the manner of employing it. The keynote to its therapy is arrest of secretion whether it be of the glands of the skin, the glands of special ferments, or the glands of the mucous tracts. Oversecretion due to weakness of the glands is also corrected by it, and the debilitating or unhealthful outpour controlled. In other words, like many other drugs having a single though apparently a double action, it tends to stimulate normal secretion by correcting faulty functioning as manifested in either deficiency or hypersecretion. It is also of value in the early stage of acute inflammations, particularly of the skin, respiratory organs, and in acute rheumatism. When given too freely in the latter it may produce vomiting and excessive sweating. Then it should be discontinued. As the regulation of abnormal secretion has ever been a cardinal feature of Eclectic therapeutics, the adoption of pilocarpus has given us a remedy capable of great good, but one which, on account of its depressing action on the heart and the debility occasioned by excessive diaphoresis, must be used with judgment and care.

Pilocarpus was once used for many purposes for which it is now discarded. Among these were dropsies of various origin. At the present day its eliminative powers are sought only in dropsy of renal origin, not to cure the disease producing it, but to unburden the system of watery accumulation and to some extent of poisonous and convulsive irritants. Occasionally it is used in the attempt to remove pleural effusions, but other agents are better. Owing to its depressing action upon the heart and the danger of inducing pulmonary edema it should not be employed in dropsies of cardiac origin. Such deaths as have occurred from pilocarpus and its alkaloid have been caused by these two accidents. While it is generally advised that it is safe in the early stages of acute Bright's disease, most clinicians are extremely cautious or do not use it at all in chronic parenchymatous nephritis nor in any advanced form of nephritis, especially in those past middle life. Pilocarpine is the one great theoretical and apparently practical drug for uremic convulsions, relieving the kidneys of their burden by placing it upon the skin, whereby a large amount of fluid together with

urea and toxins are eliminated. In this condition it is expedient to quicken its action by hot drinks, heat to the surface of the body, and the aid of enveloping blankets. One-twelfth to one-sixth grain of pilocarpine nitrate may be given hypodermatically.

Since these earlier and still established uses for pilocarpus the drug has come into prominence in Eclectic practice chiefly through the writings of Webster, Ketchum, and Foltz. Added to its diuretic and sudorific qualities, jaborandi is sedative and antispasmodic, many preferring it to veratrum for the former purpose, and to lobelia or gelsemium for the latter. The indications for this drug, specifically considered, may be summed up as follows: It is a remedy for sthenic conditions, and must be avoided, or its use carefully guarded, in weakened conditions of the heart. Jaborandi is efficient in disorders exhibiting a dry, hot skin, with febrile reaction, especially when accompanied by acute suppression of the secretions; dry, parched mouth; full, strong, hard, and sharp pulse; deficient renal activity with deep-red urine, scanty in quantity and of high specific gravity; restlessness, and, with any of these symptoms, pain. jaborandi is claimed by Webster to be adapted to almost any febrile or inflammatory condition, sthenic or asthenic, with or without a dry skin. Most observers, however, prefer to limit its use to sthenic conditions only.

As a remedy for pain and inflammation jaborandi has been highly endorsed in mammitis, with dry skin and suppressed lacteal secretion, in acute articular inflammation and acute articular rheumatism, the joint being extremely painful and swollen. In erysipelas with dry skin and elevation of temperature it is especially valued, and is also locally applied. Webster declares that in cerebro-spinal meningitis it has no equal. This view has not been universally endorsed. In rheumatic affections its value is enhanced by its power to eliminate urea and uric acid from the system. Jaborandi is indicated by stiffness, soreness, and swelling of the joints, whether the parts show redness or pallor. Many declare it one of the most important agents to use in the early stage of acute inflammatory rheumatism. One of its chief indications in such disorders is puffiness of the tissues. Its action should not be carried to extremes, however, and the ever-present danger of cardiac depression should be kept in mind. Jaborandi has proved a useful drug in exanthematous diseases with tardy appearance or tendency to retrocession of the eruption, and by this action has been thought to avert the danger of post-scarlatinal dropsy. For acute (preferably) or

chronic muscular pain, pleurodynia, lumbago, and muscular spasm, it sometimes proves a most efficient drug. The specific indications must, of course, be observed.

Jaborandi is recommended for cough when the throat is very dry and secretion checked. It is well recommended in bronchial asthma and whooping-cough with dryness of the respiratory passages. Small doses relieve "winter cough," and the cough of chronic bronchitis with lack of secretion, and dry, irritable, hoarse cough. In the early stage of bronchitis, and in the congestive stage of pneumonia, it rapidly relieves the local inflammation, and reduces the fever if it be given in diaphoretic doses. Some employ it in the attempt to abort acute lobar and lobular pneumonias, and sometimes it is effective at least in limiting the damage done by a violent sudden invasion. Here again the caution concerning the heart depression and the danger of pulmonic edema must be remembered, and the drug used with extreme good judgment. In respiratory troubles it does best service when associated with other indicated remedies, as bryonia, asclepias, lobelia, etc. In acute tonsillitis with secretion of tenacious pharyngeal mucus it serves an excellent purpose. Foltz valued it highly in pharyngitis sicca. When exudation has taken place in pleurisy, jaborandi is one of the best agents to effect the removal of the fluid and promote resolution. Some value it to increase secretory activity. It finds also a place in the treatment of dry croup and laryngismus stridulus. In laryngeal diphtheria (so-called membranous croup), if the child is strong, jaborandi may be administered in doses sufficient to increase the secretions of the throat, and thus loosen the false membranes. Many, however, cannot stand its action, and only in the sthenic cases, and never in the debilitated, should it be attempted. The well-known toxic effect of diphtheria in inducing cardiac and vaso-motor paralysis renders the use of any possible circulatory depressant inadvisable. And this is true of jaborandi in the doses necessary to induce free secretion.

Jaborandi has given good service in metastatic and gonorrhoeal orchitis, ovaritis, and metritis, the specific indications for it being present. Both internally and locally it sometimes alleviates in parotitis (mumps).

Jaborandi is one of the most useful of agents in properly selected cases of la grippe or epidemic influenza, and of catarrhal fever. In fact the

drug acts admirably as a non-stimulating diaphoretic and sedative in many inflammatory and febrile conditions, provided the stomach is not too irritable to retain the medicine. It is sometimes used like gelsemium to prepare the system for the kindly action of quinine in intermittent fevers. It should never be used in adynamic fevers, such as typhoid fever.

Small doses of pilocarpus restrain excessive secretion. This is well exhibited in its successful use in controlling some cases of polyuria (diabetes insipidus), colliquative night sweats, and ptyalism and the consequent aphthous stomatitis induced by the latter. In the first named its action is enhanced by ergot.

Acting upon the theory that the act of parturition is favored by free diaphoresis, jaborandi and its alkaloid have been successfully used in cases of tedious labor due to a rigid, hard os uteri. In these cases the pains are severe yet ineffectual, the skin dry, pulse full, sharp, and hard, and there is some febrile reaction. These conditions are rectified by diaphoretic doses of the drug. They are, however, rarely employed for this purpose.

Rarely in diaphoretic doses, it may do good in the albuminuria of pregnancy.

Many skin disorders of a dry character appear to be benefited by the internal (and external) use of jaborandi. Among these are eczema, pruritus, particularly when occurring in a jaundiced skin, prurigo, hyperhydrosis pedum and psoriasis. (See also *External Uses*.)

The late Dr. Foltz was an enthusiastic advocate of the use of jaborandi in eye, ear, nose, and throat disorders, particularly where there is a lack of the natural secretions of these parts. Full doses of jaborandi contract the pupils, impair accommodation, diminish intraocular tension, and increase secretion. Locally applied, the action is similar, the effects upon the pupil, however, being much less pronounced when the drug is internally administered. Foltz praised it in rheumatic iritis, and for the absorption of "non-organized vitreous opacities". In iritis he always used it, and believed that it shortened the duration of the disease, and if adhesions were present, assisted in their absorption. Optic neuritis, retinal detachment, choroiditis, episcleritis, tobacco and alcoholic amblyopia, and atrophy of the optic nerve are also

conditions in which he advised its use. Others have advised it in hemorrhages and plastic exudations of the retina, hemorrhage into the vitreous humor, floating bodies in the vitreous, glaucoma, and corneal opacities. For ocular affections Foltz advised as a dose from three to ten drops of specific medicine jaborandi, every two or three hours; and as a collyrium, one to two grains of pilocarpine hydrochloride to two fluidounces of water. In ear disorders jaborandi improves by increasing the secretions of the aural cavities and canals. Unhealthy cerumen is frequently restored to its natural condition by the continued use of small doses of jaborandi. Jaborandi is the best remedy in non-suppurative inflammation of the middle ear, of the proliferous type (Foltz), and it proves a good drug for nervous deafness, deafness following scarlet fever and diphtheria, and with appropriate adjunct specific treatment, in inner ear diseases of syphilitic origin (Foltz). The alkaloidal salts ($\frac{1}{3}$ to $\frac{1}{6}$ grain subcutaneously) have been employed in these disorders, but the specific medicine jaborandi is to be preferred in doses of three to ten drops every three or four hours.

Pilocarpus and its alkaloidal salts have been used to counteract the poisonous effects of belladonna, atropine, stramonium, daturine, and poisonous bites or stings, and in ptomaine poisoning from canned fish and meats. In the latter instances it has no antidotal power, but favors elimination of the offending material. While failing to completely counteract the toxic effects of atropine, it nearly always relieves the unpleasant dryness of tissues following the use of that alkaloid or of belladonna.

Where depressing effects are produced by jaborandi, as sometimes occurs where there is valvular disease or fatty degeneration of the heart, or morbid pulmonic circulation, strychnine hypodermatically may sustain the heart-action. Digitalis, cactus, caffeine, or strophanthus may also be used. The profuse sweating may be checked by atropine. When pilocarpine acts like atropine, such effects are probably due to contaminating jaborine. In cases where the internal exhibition of jaborandi by mouth occasions nausea or vomiting, this may be avoided in giving the dose by rectal enema. Coffee is also said to prevent its nauseating effect.

The dose of jaborandi in infusion (45 grains to 2 fluidounces of water) is 1 fluidounce, which may, if necessary, be repeated every ten or fifteen minutes; of the fluidextract, from 10 drops to 1 drachm; of

specific medicine jaborandi, 1 to 30 drops; of pilocarpine or its salts, internally, from 1/4 to 3/4 grain; by subcutaneous injection, 1/20 to 1/4 grain, in solution.

Pilocarpine.—The alkaloid pilocarpine is used in the forms of hydrochloride and nitrate in the same diseases as the infusion and alcoholic preparations of the leaves. The effects of the alkaloid are said to be more certain than when the leaves are used, and the tendency to nausea and vomiting is greatly diminished. Pilocarpine may be used in many of the aforementioned disorders, although jaborandi is generally preferred by the Eclectic physicians.

PIMENTA.

The nearly ripe fruit of *Pimenta officinalis*, Lindley (Nat. Ord. Myrtaceae). South America and West Indies, particularly Jamaica. **Dose**, 10 to 30 grains.

Common Names: Allspice, Pimento, Jamaica Pepper.

Principal Constituents.—An essential oil (*Oleum Pimenta*) and an aromatic green resin.

Preparation.—*Specific Medicine Pimenta*. **Dose**, 2 to 30 drops.

Action and Therapy.—A pungent, aromatic stimulant and carminative, but used chiefly as a flavoring agent. The oil, in doses of two to five drops, is sometimes given in flatulence and other conditions in which essential oils are usually displayed.

PIPER NIGRUM.

The unripe berries of *Piper nigrum*, Linné (Nat. Ord. Piperaceae). East Indies. **Dose**, 1 to 15 grains.

Common Names: Pepper, Black Pepper.

Principal Constituents.—*Piperine* (C₁₇H₁₉NO₃); oil of pepper, the chief constituent of which is laevo-phellandrene; and the alkaloid *chavicine*.

Preparation.—*Tinctura Piperi*, Tincture of Pepper (8 ounces to Alcohol, 16 fluidounces). **Dose**, 1 to 30 drops.

Derivative.—*Piperinum*, Piperin. (A neutral principle derived from Pepper and
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allied plants.) Dose, 1 to 8 grains.

Specific Indications.—Gastric atony; congestive chills.

Action and Therapy.—Black pepper may be used as a corrigent of griping medicines. Combined with quinine it is frequently of service in intermittents, especially when congestive chill takes place. Piperin was once advised for the same purpose, but is less effective than the tincture of pepper; and even this frequently fails. Black pepper has carminative properties, and is useful in flatulence, and rarely may be used in gastric atony in those unaccustomed to the free use of pepper as a condiment.

PIPER METHYSTICUM.

The root of *Piper methysticum*, Forster (Nat. Ord. Piperaceae). South Sea Islands.
Dose, 5 to 60 grains.

Common Names: Kava-Kava, Ava, Ava-Pepper Shrub, Intoxicating Long Pepper.

Principal Constituents.—Starch (50 per cent), *methysticin* (C₁₅H₁₄O₅), the methyl ester of methysticic acid; *kavahin* (methylene protocatechuic aldehyde, identical with heliotropin or piperonal); and the chief active principle, an acrid resin (2 per cent) separable into the local anesthetic *alpha-resin* and the less active *beta-resin*.

Preparation.—*Specific Medicine Piper Methysticum.* *Dose*, 5 to 60 drops.

Specific Indications.—Irritation, inflammation, or debility of the urinary passages; chronic catarrhal inflammations; vesical irritation and inflammation; vesical atony; painful micturition, strangury, and dysuria; gonorrhoea, slow and intractable; gleet; anorexia; gastric atony; pale and edematous tissues, with scanty or irregular flow of urine, and indisposition to exertion; dizziness and despondency; neuralgia, idiopathic or reflex.

Action.—Piper Methysticum stimulates the salivary but not the cutaneous glands, and strongly excites the kidneys to watery diuresis, proportionately less solid material being voided in the urine. Upon the stomach it acts much like the stimulant bitters, increasing the appetite, and produces neither diarrhea nor dysentery. The central nervous system is stimulated by it to a species of intoxication,

somewhat resembling but differing, however, from that caused by ethylic inebriation. Large doses will cause a drowsy and reserved intoxication, with confused dreams. The taste being agreeable, it is said one easily becomes a proselyte to its seductive qualities. The intoxicating drink prepared from it by the natives of certain Pacific islands induces an intoxication of a reserved drowsy character attended with confused dreams. Its long-continued use by them has caused more or less obscuration of vision and a dry, cracked, scaly and ulcerated skin, and lesions closely allied to leprosy.

Therapy.—*Piper methysticum*, “the intoxicating long pepper”, is not an old medicine, though under the name of kava-kava and closely similar appellations it has been used in the preparation of a disgusting ceremonial drink among certain South Sea Islanders from early times. As a medicine it has the fourfold quality of being stimulant, sialagogue, tonic, and anaesthetic. Its field of action is upon the sensory nerves and mucous tracts of the body, more especially those of the genito-urinal and gastro-intestinal tubes.

Piper methysticum is an appetizer and tonic to the gastro-intestinal organs, this influence being especially marked when associated with urinary disorders. The patient is pale, the urinary product inconstant in quality; the tissues, especially of feet and legs, are edematous patient is indisposed to exertion, and has the general appearance of one with Bright’s disease, yet there is no albumen nor evidence of any particular disease. Such symptoms clear up quickly under this remedy, and the appetite is quickly restored. *Piper methysticum* augments digestion and promotes better assimilation. The glandular activity of the digestive tract is increased, natural secretion and excretion favored, constipation is overcome, and hemorrhoids, if present, are reduced. It also exerts a marked curative influence in chronic intestinal catarrh.

The best known remedial action of this drug is upon the genito-urinal tract, in which, through presumably decreasing the blood supply by contracting the capillaries, it allays irritation with its consequent pain in urination, difficult micturition, and inflammation with discharges of mucus or muco-pus. Its reputation as a blennostatic in gonorrhoea is well sustained, but, as with all remedies, the specific condition must be present for its best results. It relieves in that form of acute gonorrhoea which is sluggish, tardy in responding to treatment, and tending

toward the establishment of gleet. It is also a good agent in gleet. In the more acute cases it favorably assists the action of gelsemium, belladonna, and macrotys; while if there is marked debility it may be given with nux vomica or strychnine. Piper methysticum increases the power to urinate and, through its anaesthetic qualities, alleviates pain in the bladder and urethra, hence its value in debilitated and irritated conditions of those organs. It thus becomes an effective remedy sometimes in dysuria, painful micturition, strangury, chronic inflammation of the neck of the bladder, acute urethritis, nocturnal enuresis of old and young when due to muscular atony, and old feeble cases of catarrh of the bladder. It is also of some value in acute vaginitis, chronic bronchitis, rheumatism, and dropsy due to renal inefficiency.

Piper methysticum is a remedy for neuralgic pain, especially of the branches of the 5th nerve. It sometimes relieves ocular and aural neuralgia, toothache when not due to dental caries, neuralgia of the stomach and intestines, and neuralgic and spasmodic dysmenorrhea. Such reflex neuralgias as abdominal neuroses due to prostatic, urethral, or testicular diseases, or pectoral neuralgia arising reflexly from nervous dyspepsia are cases for the exhibition of Piper methysticum.

PISCIDIA.

The bark of the root of *Piscidia piscipula*, Jacquin (Nat. Ord. Leguminosae). West Indies and rarely in Florida. *Dose*, 5 to 60 grains.

Common Name: Jamaica Dogwood.

Principal Constituent.—The chief active body is *piscidin* (C₂₉H₂₄O₈), a neutral principle.

Preparation.—*Fluidextractum Piscidiae*, Fluidextract of Piscidia. *Dose*, 10 to 60 drops.

Specific Indications.—Insomnia and nervous unrest; spasm, pain, and nervous irritability; migraine, neuralgia.

Action and Toxicology.—Jamaica dogwood controls pain and produces sleep by its narcotic action. It increases salivary and cutaneous secretion, slows the pulse, first increases then lowers arterial tension

(due to the heart weakening), dilates the pupils, reduces reflex activity, may induce convulsions, and proves narcotic to man and animals. Nausea, vomiting, and convulsions have followed a half-drachm dose of the fluidextract. Death, in animals, is caused by either heart failure or respiratory paralysis.

Therapy.—External. Reputed to relieve toothache due to exposed dental pulp, alveolar abscess, or peridental inflammation, and has been advised locally for the relief of pain in hemorrhoids.

Internally. Jamaica dogwood is used to relieve pain, overcome spasm, allay nervous excitability, and produce sleep. It may be cautiously used in the insomnia of the aged and in those of an excessively nervous temperament. By many it is advised where opium would be used to control pain, but for any good reason is not desirable—in neuralgias, painful spasms, ticdouloureux, sciatica, enteralgia, dysmenorrhea, and the pains of fractures and carcinoma. It has aided some cases of spasmodic and reflex cough. In whooping-cough, in which it has been advised, it should be used with great caution. Foltz advised it in neuralgia of the eyeball and in supraorbital neuralgia, and others speak well of results with it in inflammatory and painful affections of the eye and ear. It has never been used to a great extent by Eclectic physicians; and in children and the feeble it should be employed with caution on account of its tendency to produce convulsions, even though it may satisfactorily relieve pain.

PIX LIQUIDA.

Tar, Pine Tar.

A liquid obtained by the destructive distillation of the wood of *Pinus palustris*, Miller, and other species of *Pinus* (Nat. Ord. Pinaceae).

Description.—A blackish-brown, viscid, semiliquid, amorphous substance, but gradually becoming granular and opaque; odor empyreumatic and terebinthinate, taste sharp and tarry. Slightly soluble in water, with a brownish color and acid reaction. Mixes with alcohol, ether, chloroform, and oils. Upon distillation it yields *oil of tar* and pyroligneous acid. **Dose**, 5 to 15 grains.

Principal Constituents.—Oil of turpentine, creosote, phenol, catechol, xylol, toluol, acetic acid, acetone, methyl alcohol, and at least ten resins.

Preparations.—1 *Oleum Picis Liquidae* Rectificatum, Rectified Oil of Tar. *Dose*, 3 to 5 minims.

2. *Aqua Picis Liquida*, Tar Water. *Dose*, 1 to 3 fluidounces every four to six hours.

3. *Syrupus Picis Liquida*, Syrup of Tar. *Dose*, 1 to 2 fluidrachms.

Action.—Tar is irritant and antiseptic. Upon prolonged application tar acne may ensue, and in some instances it has produced poisoning similar to that of phenol. Internally it excites the circulation and the secretions, especially of the kidneys and lungs, and acts as an antiseptic to those tracts, thus proving diuretic, disinfectant and expectorant. Overdoses produce headache, indigestion, black vomit and stools, and blackish urine with blood and albumen and a decided tar-like odor.

Therapy.—*External.* Tar is chiefly used as an antipruritic and antiparasitic. It is of use in scaly skin diseases, and in various preparations it has been applied in psoriasis, chronic eczema, prurigo, porrigo, lichen, sycosis, lupus vulgaris and erythematosus, pemphigus, tinea capitis and other forms of ringworm, scabies, and boils. Some persons are very susceptible to tar, an erythema following the application of even dilute preparations of it.

Internal. Tar water, or syrup of tar, may be used in bronchial cough, and to prevent the recurrence of boils, in chronic urinary catarrhs, and in eczema and psoriasis (together with its external use). Tar should not be given to those having a disposition to hemorrhages. Syrup of wild cherry added to tar water or the syrup of tar makes a useful cough remedy for chronic bronchitis.

PLANTAGO.

The whole plant of *Plantago major*, Linné (Nat. Ord. Plantaginaceae). A very common weed everywhere, especially in lawns and along roadsides, growing in rich soils.

Common Names: Plantain, Rib Grass, Ribwort.

Principal Constituents.—Resin, and citric and oxalic acids.

Preparation.—*Specific Medicine Plantago.* *Dose*, 1 to 60 drops.

Action and Therapy.—*External.* The crushed leaves very promptly relieve the distressing symptoms caused by punctures from the horny appendages of larvae of lepidoptera and the irritation produced by certain caterpillars, as well as the stings of insects and bites of spiders. The promptness with which it relieves the burning pain of wounds caused by the first named and dissipates the rapidly spreading erythema, as we have personally experienced, leads us to believe it may be of value in erysipelas, and should be tried when that disease occurs in the summer season when the fresh plant can be obtained. The alcoholic preparations have been advised as topical applications in toothache, when due to a sensitive pulp, and in earache.

Internal. Plantago is reputed useful in bed wetting in children, due to relaxation of the vesical sphincter, with copious discharge of pale urine.

PODOPHYLLUM.

The dried rhizome and roots of *Podophyllum peltatum*, Linné (Nat. Ord. Berberidaceae). Rich woods and thickets of North America. *Dose*, 5 to 30 grains.

Common Names: May Apple, Mandrake, Lemon Apple, Wild Lemon, Raccoon Berry.

Principal Constituents.—*Resin of podophyllum* (see below) and podophyllic acid, a coloring substance; *podophyllotoxin*, the purgative principle of the resin exists free in the rhizome.

Preparations.—1. *Specific Medicine Podophyllum.* *Dose*, 1/10 to 30 drops; fractional doses preferred.

2. *Elixir Podophylli*, Elixir of Podophyllum. *Dose*, 1/2 to 1 fluidrachm.

Derivative.—*Resina Podophylli*, Resin of Podophyllum (Podophyllin). A light brown to greenish-yellow, amorphous powder turning darker when heated above 77° F, or when exposed to light. It has a faint peculiar odor and feebly bitter taste. It is very irritating to the conjunctivae and to other mucous membranes. Soluble in alcohol, chloroform and ether. It consists chiefly of the purgative principle *podophyllotoxin* mixed with *podophyllic acid* (80 per cent), other minor resins, and a yellow, coloring body, podophylloquercitin. Resin of podophyllum was first isolated and used by Dr. John King. *Dose*, 1/30 to 1/2 grain.

Preparation.—*Trituratio Podophylli*, Trituration of Podophyllin (1 to 100). *Dose*, 5 to 10 grains.

Specific Indications.—*I. Podophyllum.* Podophyllum is specifically indicated by fullness of tissues, and particularly by fullness of superficial veins; oppressed full pulse; dirty yellowish coating of tongue and dizziness. It is contraindicated by pinched features and tissues, contracted skin and tongue.

II. Resin of Podophyllum (Podophyllin). Podophyllin is specifically indicated by fullness of tissues, fullness of veins, sodden, expressionless countenance, dizziness, tongue coated dirty yellowish-white, heavy headaches, indisposition to bodily exertion, intestinal atony, with sense of weight and fullness, full open pulse; “pain deep in ischiatic notches;” and as an ideal cholagogue; clay-colored stools, floating upon water; stools, hard, dry, and accompanied by distended abdomen and colicky pain. It is contraindicated by pinched features, and small, wiry pulse, or when the pulse has a sharp stroke.

Action and Toxicology.—Applied continuously podophyllum and its resin cause irritation and suppuration of the skin and subcutaneous tissues; inhaled they provoke sneezing and violent coryza, and drug workers handling either are sometimes affected with conjunctival inflammation. The green rhizome or large doses of the dried drug (30 to 60 grains), or its resin, produces violent emeto-catharsis and gastro-enteritis. Smaller doses are cathartic; and doses short of catharsis induce ptyalism. Hence the names once applied—“vegetable mercury” and “vegetable calomel”. Both undoubtedly increase the secretion of bile, notwithstanding the many statements to the contrary. This is most apt to occur from the small dose which stimulates, and less likely from a drastic dose which hurries the drug through the intestinal canal. Even the latter is said to cause a flow of biliary secretion, probably by emptying the duodenum and producing a derivative effect. All the intestinal glands are stimulated by podophyllum; and the catharsis, like that from jalap, is slow, sometimes from ten to twelve hours (podophyllin, four to ten), and even a day elapsing before purgation takes place. Then it is likely to persist several days and if the dose be large to occasion debilitating hydro-catharsis. Very little tormina is caused by them compared with the thoroughness of their action. This may be prevented, in a measure, by administration with leptandra, hyoscyamus or belladonna and aromatic carminatives, such as ginger, cloves, etc. When the resin is precipitated by alum in its preparation, it is more apt to gripe; common salt intensifies its action and cream of tartar increases the hydragogue effect; alkalies favorably modify or check its activity. *Podophyllin (resin of podophyllum)* is

correspondingly more energetic than the parent drug. The evacuations of podophyllum purgation are copious, prolonged, and dark or bile-stained in color.

Overdoses of podophyllum, or its resin, produce hyper-emesis, drastic hyper-catharsis, with griping and tormina, and large doses have caused death by gastro-enteritis. Even moderate doses, when contraindicated, occasion painful and griping irritation and inflammation.

Therapy.—*I. Podophyllum.* Podophyllum is a certain but slow cathartic; it is also alterative. Unlike most strong cathartics the effects are quite permanent and the tone of the intestines improved. It may be used in nearly all cases in which podophyllin is useful, though there are some conditions where the former gives better results than the latter. (Compare to *Resina Podophylli*). These conditions we will briefly notice. It is conceded that as an alterative it is infinitely more decided in its action than the resin. It exerts a strong influence upon the glandular system. Associated with proper hygienic measures and the indicated tonics and other alterative drugs, it will give good results as an aid to elimination of broken-down products in the secondary phase of syphilis, in so-called chronic rheumatism and in scrofula. The dose should be small, not sufficient to produce any marked intestinal activity. In stomach troubles, podophyllum is often superior to podophyllin. It acts as a gentle stimulant tonic, improves the appetite, and is particularly valuable in atonic dyspepsia, gastric and intestinal catarrh, and atonic forms of indigestion, when the patient complains of dizziness, loss of appetite, and heavy headache. There is indisposition to exertion, the movements being heavy and sluggish, the tongue is dirty and flabby, and the superficial veins, abdomen, and tissues in general are characterized by fullness. Its action on the liver renders it particularly serviceable where gastric disturbances are due to hepatic torpor. In stomach disorders, hydrastis, nux vomica and other tonics and peptics may also be indicated and associated with this drug. Podophyllum, iris, chionanthus and chelidonium are excellent agents for that rarely occurring affection, chronic hepatitis. By its slow and thorough action, yet permanent in its effects in restoring and maintaining the normal hepatic and intestinal secretions, podophyllum is one of the very best agents to overcome habitual constipation, and more especially if it be due to portal engorgement. The small dose should be given and continued until the evacuations

become regular and normal. Formerly this drug was much employed in bilious, remittent and intermittent fevers. Cathartic and sometimes emeto-cathartic doses were employed with the result of producing so profound an impression on the hepatic function and on the portal circle and general glandular system that, it is asserted, the disease was often aborted, or at least rendered milder and of short duration. It is never so employed at the present day. When at the inception of fevers a cathartic is needed, which, however, is not often, specific medicine podophyllum may be combined with compound syrup of rhubarb and potassa (neutralizing cordial), or to render it milder, lobelia, ipecac, leptandra, hyoscyamus or belladonna may be administered with it. Though rarely now used as a cathartic in dropsy, if selected at all, it should be given with cream of tartar. Further uses of this drug are identical with those of podophyllin, some preferring to employ interchangeably one for the other for the purposes named here and under Podophyllin. The usual medicinal dose of specific medicine podophyllum ranges from one to ten drops. Dose of the powdered root (almost never used), as a cathartic, from ten to thirty grains; of the tincture, from ten to sixty drops; as a sialagogue and alterative, from one to five grains of the powder, or from one to ten drops of the tincture.

II. Resin of Podophyllum (Podophyllin). Podophyllin possesses the cathartic properties of the crude drug in an exalted degree. While it is slow in action, it is certain in its results. Some persons are so susceptible to the action of the drug, that a dose of one-half grain will actively purge them. The ordinary cathartic dose of this resin generally requires from four to ten hours to act, but this action is quite persistent, often producing copious alvine discharges for one to two days, and when over leaves the intestines in a normal condition, seldom being followed by the afterconstipation so common from the use of ordinary purgatives. As with the crude drug the cathartic action of podophyllin is increased by common salt. From four to eight grains operate as an active emeto-cathartic, with griping, nausea, prostration, and watery stools; from two to four grains, as a drastic cathartic, with nausea and griping; from one-half to two grains generally operate as an active cathartic, leaving the bowels in a soluble condition; in very small doses, it is gently aperient and alterative. In doses of one-half or one grain, it is one of our most valuable cholagogue cathartics, operating mildly, yet effectually and very persistently arousing the biliary and digestive apparatus to a normal action. It also exerts a favorable influence on the cutaneous functions, producing and

maintaining a constant moisture on the skin. In doses of from one-eighth to one-half grain, or rather in doses insufficient to purge, it is strongly but quietly alterative, and will induce ptyalism in some persons. This drug should not be given in bulk, but should be combined with ginger, hyoscyamus, leptandra, or some form of alkali, which renders it less liable to nauseate or gripe. Should catharsis be too severe, an alkaline solution, with aromatics, by mouth, will check it. A popular and good method of preparation is that of triturating it with milk sugar (lactin). This not only obviates, to a certain extent, its irritant action, but singularly increases its purgative qualities. During its administration, all articles of food difficult of digestion should be avoided. According to Locke podophyllin prepared by alum water is apt to gripe. Eclectics long made use of this resin in cases where mercurials were used by other practitioners, and found the result vastly in favor of resin of podophyllum. It appeared to fulfill all the purgative indications, at least, for which mercurials were recommended and used.

It is not, however, for its cathartic use that podophyllin is most valued by the Eclectic profession, but rather for its specific effect when given in small doses. Properly administered it is a stimulant to the sympathetic nervous system, acting principally upon the parts supplied by the solar plexus. It improves digestion and blood-making and stimulates normal excretion. For its action upon the liver, repeated small doses of the trituration (1 to 100), or a daily pill of podophyllin (1/20 grain) and hydrastin (1/4 grain) is much to be preferred to its cathartic dose. It should be given in the same manner when its action on the pancreas and spleen is desired.

The value of podophyllin in small doses, in gastric and intestinal disorders, has not been as well appreciated as it deserves to be. It has a specific action on forms of stomach and bowel trouble with atony, characterized by full and relaxed tissues, with mucous discharge. The case is never one of loss of function from irritability, but from atony. In the summer disorders of children, especially cholera infantum, it often will be indicated, and is quick to restore normal action when the bowels are loose, with passages of mucoid, slimy material. The movements of the child are sluggish, the tongue is coated a dirty yellowish-white, the superficial veins are full, and the countenance is dull and expressionless. In chronic types of disease, associated with feeble digestive power, which is but little improved by the ordinary

stomach tonic, this drug renders excellent service. The trouble is usually atony of the upper part of the small intestines, and the stimulant dose of triturated podophyllin corrects the difficulty. Podophyllin is a favorite anti-constipation remedy. It is equally valuable in costiveness of the young child and in the aged. In very young babies this trouble will yield to: Rx Podophyllin (2 x trit.), 30 grains; Brown Sugar, 2 drachms; Water, 4 fluidounces. Mix. Sig.: Teaspoonful four times a day. For adults the daily use of from one to two of the podophyllin and hydrastin pills ($1/20$ and $1/4$ grain) will generally be sufficient to gradually overcome the trouble. The cathartic dose should never be employed for the relief of constipation, or when a cholagogue action is required. When the stools are hard and grayish-white or clay-colored, and float upon water, the remedy is especially effective, as it is also in dry stools, with tympanitic abdomen and wandering, colicky pains. Flatulent colic of children, when associated with constipation, will readily yield to small doses of this drug, while as a remedy for dysentery and both acute and chronic diarrhea, all of the recurring type and accompanied by portal sluggishness and hepatic torpor, few remedies will excel it. Dyspepsia, with atony and thickened mucous membranes secreting abundantly, calls for stimulant doses of podophyllin. The head feels full, the tissues and veins appear full and doughy, the skin is sodden, and a dirty coating covers the tongue from tip to base. Rx Podophyllin, $1/20$ grain, three times a day. Cardialgia, accompanied by constipation, sometimes yields to the trituration (1 to 100).

This drug has been justly valued in hepatic disorders. In that state ordinarily known as "biliousness," this drug or specific medicine iris can usually be depended upon. Indeed, they act well in combination. There is dizziness, a bitter taste, the stools show an absence of bile, and greenish, bitter material is vomited. Podophyllin is often indicated in both acute and chronic hepatitis, though usually contraindicated in inflammations of the gastro-intestinal tract. Fullness—in the region of the liver, with aching under the scapulae and in the back of the neck, with dizziness, usually calls for this drug. In catarrhal jaundice with clay-colored stools it may be alternated with chionanthus. In the unpleasantness attendant upon the retention or passage of biliary calculi, and in mild forms of cholecystitis a purge of podophyllin may assist in relieving distressing symptoms or in aiding the passage of the concretions. It is not, however, a drug to be relied upon unaided, either for a cure or to remove the calculi, but rather to improve the secretion

and elimination of bile. When indicated there is great pain in the region of the gall bladder coursing to the left and downward. Sometimes there is constipation, as often diarrhea. There is a bad taste, and the patient is jaundiced. Rx Podophyllin, 2 grains, at night, followed in the morning with a large quantity of olive oil. In hemorrhoids, dependent on biliary insufficiency with portal inactivity, it may be given in alternation with sulphur, the podophyllin being particularly desired when there is constipation with tenesmus. The small dose alone is required, from 1/20 to 1/10 grain, three or four times a day.

Podophyllin may give good service in cough accompanied by bronchorrhea, especially if it be associated with gastric catarrh. Here minute doses of sulphur are also valuable. In heart disease, when aggravated by hepatic inactivity and portal torpor, the cardiac remedy may be rendered more efficient if associated with minute doses of this drug. It has long been recognized as serviceable in the rheumatic diathesis, when the patient is sallow and inactive, presents fullness of tissue, and complains of dull pain and heaviness in the right hypochondrium. In renal disorders, when the general specific indications for its use are present, it will usually restore the secretory power of the kidneys.

Podophyllin has long enjoyed the reputation of exerting a powerful action upon the lymphatic glandular system. It acts quietly but effectively as an alterative, one of the best in the whole domain of medicine, at the same time aiding and improving the digestive process. It was formerly, and is still with many, a favorite remedy in secondary and tertiary syphilis as an eliminant of broken-down material. Ellingwood declares it a good remedy for persistent pustular conditions, eczema, and cracked or fissured skin.

Podophyllin is a remedy for pain, according to Scudder--deep-seated pain in the ischiatic notches. It has served a good purpose in inflammations (when not of the digestive tract), accompanied by great constipation. Here the cathartic action is required, as it is also in the forming stage of febrile diseases, with the exception of typhoid fever, in which it is not to be commended, notwithstanding it was a prominent medicine in the so-called Woodbridge and other supposed abortive forms of treatment for enteric fever. In malarial cachexia, small doses of podophyllin may be alternated, or given with cinchona or quinine. For

all of the preceding uses medicine podophyllum may also be used, but the dose must be correspondingly larger. For the gastric disorders many prefer it to the resin. Younkin advises cathartic doses (1/6 grain, every two hours, ten grains of potassium bitartrate) for the relief of gonorrhoeal epididymitis. The dose of podophyllin, as a cathartic, is from 1/2 to 2 grains; as an alterative and stimulant, 1 /100 to 1/10 grain; as a cholagogue, 1/20 to 1/10 grain. A good form in most disorders requiring the small dose, is the following: Rx Podophyllin Trituration (1 to 100), 5-30 grains; Water, 4 fluidounces. **Dose**, one teaspoonful every one to three hours.

POLYMNIA.

The root of *PolymniaUvedalia*, Linné (Nat. Ord. Compositae). Central United States to Florida. **Dose**, 5 to 30 grains.

Common Names: Uvedalia, Bear's Foot, Leaf Cup.

Principal Constituents.—A dark-brown, acrid resin and a straw-colored, balsam-like resin.

Preparations.—1. *Specific Medicine Polymnia*. **Dose**, 1 to 30 drops.

2. *UnguentumPolymnia*, Ointment of Polymnia (Uvedalia Ointment). Fresh Polymnia, 8; Lard or mutton tallow, 16. Light green in color.

Specific Indications.—Full, sodden, inelastic, flabby tissues; splenic and hepatic enlargement, with fullness, weight and burning in the hypochondriac and epigastric regions; congestion and impairment of the functions of the organs supplied by the celiac axis; impaired blood-making with tumid abdomen; low, inflammatory deposits.

Action and Therapy.—*External*. Uvedalia stimulates the growth of hair. Scudder advised the following hair tonic: Rx Specific Medicine Polymnia, 2 fluidounces; Bay Rum, 6 fluidounces. Mix. Sig.: Rub thoroughly into the scalp once or twice a day. Howe added to this lotion Tincture of Cantharis, 2 fluidrachms, and Fowler's Solution of Arsenic, 2 fluidrachms. Uvedalia ointment may be used, rubbed warm and well into the abdomen, for the reduction of engorged spleen (ague cake); the specific medicine must be administered internally at the same time. Its discutient powers have been taken advantage of in other painful swellings due to low inflammatory deposits and in mammitis particularly, scrofulous enlargement of the lymphatic glands, and

spinal irritation.

Internal. Polymnia is one of the best of the spleen remedies reducing engorgement of that organ best when due to malarial cachexia. To a lesser degree it has a similar effect upon the liver. Its special field of activity is upon the parts supplied with blood by the celiac distribution. It is thought to favor a better splenic participation in blood-making; and may well be further studied for its influence upon all the ductless glands. In atonic dyspepsia and chronic gastritis depending upon a general cachexia, most often malarial, with a sluggish gastric and hepatic circulation, and attended by full, heavy, burning sensation it is often of signal benefit. It is still undetermined whether it exerts a specific influence upon leucocythemia; but it is certain that the correction of splenic and hepatic wrongs by this drug cannot but exert a beneficial effect. To be of any service in affections of the ductless glands it should be administered for a prolonged period. Scudder valued it for uterine subinvolution and hypertrophy of the cervix, when indicated by the sodden inelastic condition, pallid tissues and impaired circulation above referred to. Large doses of polymnia are said to produce painful emeto-catharsis, gastro-intestinal inflammation, convulsions and death.

POPULUS TREMULOIDES.

The bark of the *Populus tremuloides*, Michaux (Nat. Ord. Salicaceae). Lower Canada and northern and middle United States. **Dose**, 1 to 30 grains.

Common Names: American Poplar, American Aspen, Quaking Aspen.

Principal Constituents.—*Populin* and *salicin*.

Preparation.—*Tinctura Populi*, Tincture of Populus (saturated). **Dose**, 1 to 30 drops.

Specific Indications.—Marked debility with digestive impairment; tenesmic action after urination.

Action and Therapy.—A neglected remedy of considerable value in debility of the urinary tract and of the digestive organs. It acts best in small or fractional doses. When so given it is of value in tenesmic action of the bladder immediately following urination. Owing to the salicin and populin present it has had a considerable reputation in

malarial fevers and should be more generally employed as a post-febrile tonic.

PRINOS.

The bark and berries of *Ilex verticillata* (L.) Gray, (*Prinos verticillatus*, Linné) (Nat. Ord. Aquifoliaceae). Moist woods and streams throughout the United States. **Dose** (bark), 5 to 60 grams.

Common Names: Black Alder, Winterberry.

Principal Constituents.—Resin, tannin, and an amorphous, bitter principle.

Preparation.—*Tinctura Prini*, Tincture of Prinos (Bark, 8 ounces to Alcohol (76 per cent), 16 fluidounces). **Dose**, 5 to 60 drops.

Action and Therapy.—Black alder is tonic, astringent and alterative, and especially effective as the latter. Many alterative syrups contain black alder. The berries are cathartic and vermifuge. Tincture of black alder and specific medicine hydrastis form an excellent tonic in atonic dyspepsia, when debility is marked and there is a tendency to diarrhea.

PRUNUS VIRGINIANA.

The stem-bark of *Prunus serotina*, Ehrhart or *Prunus virginiana*, Miller, collected in the autumn and carefully dried (Nat. Ord. Rosaceae). Woods of eastern half of the United States. **Dose**, 5 to 60 grains.

Common Names: Wild Cherry, Wild Black Cherry Bark.

Principal Constituents.—*Amygdalin* (acted upon by water yields hydrocyanic acid, oil of bitter almond, and glucose); *emulsin* (destroyed by heating), and tannic acid.

Preparations.—1. *Specific Medicine Prunus*. **Dose**, 5 to 60 drops.

2. *Syrupus Pruni Virginianae*, Syrup of Wild Cherry. **Dose**, 1 to 2 fluidrachms.

Specific Indications.—Weak, rapid circulation; continuous irritative cough, with profuse muco-purulent expectoration; cardiac palpitation from debility; cardiac pain; dyspnea; loss of appetite and gastric irritability.

Action and Therapy.—Wild cherry is an excellent sedative and tonic, quieting irritation of the mucosa, terminal nerves, and lessening violent cardiac action dependent upon weakness. When a tonic and sedative is desired that will not unduly excite the circulation, wild cherry is a most useful drug. As such it may be used in atonic dyspepsia, and in convalescence from fevers and inflammations, especially after pleurisy, pneumonia, and la grippe. While the syrup is an effectual and popular preparation, the cold infusion is better for these purposes.

Wild cherry in syrup is an admirable sedative for cough, acting much like hydrocyanic acid and even better, besides it is more controllable. For the cough of phthisis it is one of the most satisfactory agents, and the syrup is in common use as a vehicle for other cough remedies. In phthisis it not only relieves irritation and cough, but it gives a certain amount of power, and restrains colliquative sweating and diarrhoea. Wild cherry may be used in most cases of irritation of the mucosa with or without hypersecretion in any part of the body—pulmonic, gastrointestinal and renal.

Wild cherry is very efficient in uncomplicated palpitation of the heart, and where digitalis is required it lessens the irritative action of the latter upon the stomach. Wild cherry would be more valued if properly prepared. The cold infusion (sweetened, if desired) should be preferred; boiling temporarily destroys its value, and unless a good quality of bark, carefully preserved, is used, the syrup may have little value.

PTELEA.

The bark of the root of *Ptelea trifoliata*, Linné (Nat. Ord. Rutaceae). A common shrub of the United States, especially west of the Alleghenies. **Dose**, 5 to 30 grains.

Common Names: Wafer Ash, Shrubby Trefoil, Wing Seed, Hop Tree.

Principal Constituents.—Resins, a volatile oil, a berberine-like bitter, and *arginine* (C₆H₁₄N₄O₂).

Preparation.—*Specific Medicine Ptelea.* **Dose**, 1 to 30 drops.

Specific Indications.—Asthmatic dyspnea; chronic diseases with constriction of chest and short breathing.

Action and Therapy.—Ptelea is regarded by some as second only to hydrastis as a tonic. It acts as a sedative to irritated membranes, and is said to be tolerated by the stomach when other tonics might aggravate. The field in which it has been mostly used is in convalescence from fevers, debility resulting from gastro-intestinal irritation, and in asthmatic seizures accompanied by a sense of constriction in the thorax.

PULSATILLA.

The recent herb of *Anemone Pulsatilla*, Linné, and of *Anemone pratensis*, Linné, collected soon after flowering (Nat. Ord. Ranunculaceae). Southern Europe and Asia.

Common Names: Pasque-Flower, Passe-Flower, Meadow Anemone, Wind Flower.

Principal Constituents.—A yellow, acrid oil, yielding anemone camphor, a vesicating principle easily decomposing into *anemonin* (C₁₀H₈O₄) and *isoanemonic acid*.

Preparation.—*Specific Medicine Pulsatilla*. Dose, 1/10 to 10 drops. (The usual form of administration: Rx Specific Medicine Pulsatilla, 5-30 drops; Water, enough to make 4 fluidounces. Mix. Sig.: One teaspoonful every 2 or 3 hours.)

Specific Indications.—Nervousness with despondency, sadness and disposition to weep, without being able to tell why, or to weep while asleep; unnatural fear; fear of impending danger or death; morbid mental excitation associated with physical debility; marked depression of spirits; insomnia, with nervous exhaustion; pain, with debility; headache, with nervousness, not dependent on determination of blood to the head; neuralgia in anemic nervous subjects; mental depression and gloom over reproductive wrongs and disturbances, as spermatorrhea, and tardy and insufficient menstruation (with sense of fullness and weakness in back and hips); nervous collapse, due to overwork, sexual indulgence, masturbation, or to the excessive use of tobacco; amenorrhea with chilliness and mental depression; dysmenorrhea, with gloomy mentality and chilliness; pain from exposure to winds; epiphora; styes; deep-seated heavy pain in the globe of the eye; jumping toothache from abscess near the dental pulp; stomach disorders from indulgence in pastries and fats; pasty, creamy, or white coating upon the tongue, with greasy taste; thick, bland, and

inoffensive mucous discharges; alternating constipation and diarrhea, with venous congestion.

Action.-Topically applied, the fresh plant of pulsatilla is irritant, and, if kept long in contact with the skin, may vesicate. When chewed, it produces a benumbing sensation and tingling formication, somewhat like that produced by aconite or prickly ash. Taken internally in overdoses, it is a gastric irritant, producing a sense of rawness, burning pain in stomach, with endeavors to vomit, all accompanied by marked prostration. A sense of constriction and tightness of the chest, with chilliness, marked weakness, and some congestion, has been produced by large doses. Full doses depress the action of the heart, lower arterial tension, and reduce temperature. Sensory and motor paralyzes have followed very large doses of pulsatilla, while toxic doses may produce mydriasis, stupor, coma, and convulsions. In medicinal doses, pulsatilla increases the power and regulates the action of the heart, and gives a better character to the pulse rate, particularly slowing the irritable, rapid and feeble pulse due to nervous depression. It improves the sympathetic system and cerebral functions, and especially strengthens sympathetic innervation, this action being very marked in troubles of the reproductive organs of the male and female.

Therapy.—*External.* The value of pulsatilla has been emphasized in “jerking” or “jumping” toothache, usually due to the formation of a pus cavity near the nerve. Full strength specific medicine pulsatilla, or diluted one-half with water, is applied besides giving the drug internally. This treatment is also commended as “especially useful in inflammations caused by dead teeth, and the inflammatory, painful, and unpleasant conditions of the pulp cavity in those in which the nerve has been destroyed.”

Internal. Though not of Eclectic origin, pulsatilla is one of the most important medicines in Eclectic therapy. For certain nervous phases, both in acute and chronic diseases, no remedy can exactly duplicate its action. It is most largely employed in nervous conditions of the debilitated, particularly women and children, in mental disorders, and in stomach derangements and disorders of the reproductive tract with debility and faulty nutrition of the nerve-centers. All through the indications for pulsatilla run depression and irritability with melancholy and sadness, and a disposition to look upon the dark side of life. With this gloomy mentality there is more or less of restlessness.

The patient is easily inclined to weep, is unsettled and the mind wanders. Thought is concentrated with difficulty, the pulse is soft, open, and weak, and altogether the patient is miserable and despondent. Scudder, who introduced it into Eclectic practice, declared its most important use is to allay irritation of the nervous system in persons of feeble health, thus giving sleep and rest, preventing unnecessary expenditure of nerve force, and by this means facilitating the action of tonics and restoratives. He found it to be most certain in its action in feeble women and men who have become nervous from sedentary habits or mental overexertion, as well as in the nervousness and restlessness of masturbators, or persons addicted to the excessive use of tobacco. He also declared it the remedy for nervous women when there is debility and faulty nutrition of the nerve centers.

Pulsatilla, though a remedy of wide applicability, is particularly adapted to conditions in which the depressed mind is a prominent factor. A gloomy mentality, a state of nerve depression and unrest, a disposition to brood over real or imagined trouble, a tendency to look on the dark side of life, sadness, mild restlessness, and a state of mental unrest generally denominated in broad terms "nervousness", are factors in the condition of the patient requiring pulsatilla. As stated before, the pulsatilla patient weeps readily, and the mind is inclined to wander-to be unsettled. The pulse requiring pulsatilla is weak, soft, and open, and the tissues have a tendency to dryness (except when the mucous tissues are discharging thick, bland material), and about the orbits the parts appear contracted, sunken, and dark in color. The whole countenance and movements of the body depict sadness, moroseness, despondency, and lack of tone. Hysteria of the mild and weeping form may be a symptom. The complex is one of nervous depression, the nutrition of the nerve centers is at fault. With such symptoms, pulsatilla may be confidently prescribed in the conditions and disorders enumerated in this article.

Pulsatilla may be given to induce sleep when there is great exhaustion and opiates are inadmissible. If the insomnia depends upon determination of blood to the brain, pulsatilla will not relieve, but when due to nervous exhaustion it is a prompt remedy to give rest, after which sleep obtains. Where sleep is disturbed by unpleasant dreams, and the patient awakens sad and languid, pulsatilla should be given.

Pulsatilla has a large field of usefulness in troubles incident to the

reproductive organs of both sexes. As an emmenagogue, it serves a useful purpose in amenorrhea in nervous and anemic subjects, with chilliness a prominent symptom. When menstruation is suppressed, tardy or scanty from taking cold, or from emotional causes, pulsatilla is the remedy. In dysmenorrhea, not due to mechanical causes, and with the above-named nervous symptoms, few remedies are more effective. leucorrhoea, with a free, thick, milky or yellow bland discharge and pain in the loins, and particularly in scrofulous individuals, calls for pulsatilla. It is useful in mild forms of hysteria, where the patient is weak and weeps, has fears of impending danger, and passes large quantities of clear, limpid urine, and menstruation is suppressed. The long-continued use of pulsatilla as an intercurrent remedy is accredited with curative effects in uterine colic, but it is of no value during an attack. Pulsatilla frequently relieves in ovaritis and ovaralgia with tensive, tearing pain. Sluggish, ineffectual, and weak labor-pains are sometimes remedied by this drug, though it is seldom used for this purpose since more active agents have come into use. It frequently alleviates pain when dependent on or associated with debility, and sometimes when due to acute inflammation. In epididymitis and orchitis, whether due to gonorrhoeal infection or to metastasis from mumps, it is quite universally employed by practitioners of all schools of medicine. Here the dose should be large. The dark-red, congested, enlarged, and sensitive testicle indicates it. It relieves the pains of orchialgia, and subdues mammary swelling from the metastasis of mumps. Pulsatilla increases sexual power, but lessens morbid sexual excitement. It is especially valuable in relieving urethral irritation and consequent spermatorrhea and prostaticorrhea. In these troubles it overcomes the nervous apprehension so frequently a troublesome feature. It also alleviates the nervous irritability accompanying or produced by varicocele. In gonorrhoea, particularly of the chronic type, pulsatilla is of value when the urethral membrane is swollen. Many unpleasant conditions of the urinary apparatus are relieved by pulsatilla, as frequent but ineffectual attempts at urination, the bladder giving a sensation as if bloated; dribbling of urine from movement, the dysuria of pregnancy, and in involuntary micturition from colds or from nervous debility.

Pulsatilla is a useful remedy in headache of various types. It relieves frontal headache from nasal catarrh; nervous headache, particularly when due to gastric disturbances, with greasy taste; menstrual headache, with chilliness and suppressed menses; bilious and gastric

headaches, of a dull and heavy character, with greasy taste and nausea; and headache due to uterine irregularities or to a rheumatic diathesis. These headaches are all of anemic character—the opposite of those relieved by gelsemium. Constipation in the hysterical female sometimes yields to nux vomica and pulsatilla, and the latter has a pleasing action in some forms of indigestion and dyspepsia. These are the cases in which there is a thick, creamy paste upon the tongue and a greasy taste. Such troubles are frequently brought about by indulgence in pastries and fatty food. Pain is not marked, but there is pyrosis and greasy eructations, gastric distention, uneasy gnawing sensations in the stomach, and chilliness may be a pronounced symptom. The patient is nervous, sad, and may have a soft, yellow diarrhea. For such cases pulsatilla is an excellent remedy. It is also said to relieve alternating constipation and diarrhea with venous congestion.

Though ordinarily not a remedy for acute inflammations (contraindicated in gastro-intestinal inflammation), there are some conditions where small doses of pulsatilla are beneficial when the usual symptoms calling for the drug are present. These are acute inflammation of the nose, fauces, larynx, or bronchi. It is especially effective in the secondary stage of acute nasal catarrh, when the nasopharynx is affected and there is a sense of rawness and moisture, and an abundant discharge of thick, yellow, bland, inoffensive mucus or muco-pus. Pulsatilla often serves a good purpose in asthma superinduced by pregnancy, or by suppressed menses, and it favorably influences whooping-cough in properly selected cases. So-called “stomach cough” is frequently cured by pulsatilla. For the secondary stage of common colds, when the Eustachian tubes feel stuffed and occluded, with a moderate degree of deafness, pulsatilla alternated with gelsemium provides a most beneficial treatment.

Pulsatilla is a very important remedy to control the catarrhal symptoms of the exanthemata; it also allays the irritability frequently accompanying these disorders. In measles, it has done good service in checking the coryza and profuse lachrimation, as well as the dry, tight, painful cough, and when retrocession of the eruption has taken place, it has reversed this unpleasant condition. It relieves the nervous irritability in varicella.

Pulsatilla is a most efficient drug in real and imaginary cardiac

affections. It has proved useful in cardiac hypertrophy and in dilatation of the venous heart. It is especially effective in functional heart disorders with giddiness, imperfect voluntary motion, impaired vision, and with a symptom described as a sense of pressure over the larynx and trachea, with imperfect respiratory movement, and sense of impending danger; these symptoms are not unfrequently associated with functional heart disease, dyspepsia, uterine disease, or over-excitation of the sexual system, and are generally very unpleasant and annoying. It often relieves that form of venous congestion which stops short of inflammation, as in threatened ovaritis, orchitis, varicocele, and crural phlebitis. Varicocele and other varicoses are sometimes improved by its administration with other indicated remedies. Its chief advantage, outside of some control over the venous structure, is the relief it gives from the nervous complications. It has been used to good advantage for the relief of the nervousness attending hemorrhoids, and has some control over the venous congestion causing them. Pulsatilla gives prompt relief in earache, brought on by cold, wet, and exposure to winds. For this purpose it is the best drug we have used. There is an absence of fever, the pulse is open and soft, the child sobs, the face is pale, the tissues full and waxen, the pain is intense and frequently paroxysmal and tearing in character—evidently a neuralgic condition, for physical signs of local disturbance are seldom observed. In purulent otitis media, with thick, yellow, bland discharge, and impaired hearing and tinnitus aurium, pulsatilla is the indicated remedy.

One of the earliest uses of pulsatilla was for the relief of “amaurosis, cataract, and opacity of the cornea”, conditions in which the reputed value of pulsatilla is very much overrated. There is a condition, sometimes known as “nervous blindness”, which has been benefited by pulsatilla, and this is probably that formerly referred to under the elastic term amaurosis. Pulsatilla has an excellent record as a remedy for hordeolum or “stye”. It also relieves promptly when the conjunctiva is hyperaemic and vision weakened, especially after reading, or from sexual abuse or sexual excesses, and in profuse lachrimation from exposure to winds or when in the wind. It should be used locally (10 drops to water, 2 fluidounces) and also given internally in small doses. In chronic conjunctivitis, with bland, yellow discharges, in scrofulous individuals, or due to the exanthemata, and in ophthalmia with like discharge, pulsatilla has been used with success. It relieves deepseated, heavy pain in the globe of the eye, and has been

recommended in inflammation of the lachrymal sac.

Pulsatilla has been used with varying degrees of success in rheumatism, when the pains were shifting and relieved by cold and aggravated by warmth. Depression of spirits is here a prominent feature. It has also aided in restoring the flow of milk in agalactia in nervous and fear-depressed women, whose breasts were painful and swollen. The dose of specific medicine pulsatilla is from a fraction of a drop to ten drops, administered in water; of anemonin, 1/20 to 1/4 grain.

PYROLA.

The whole plant of *Pyrola rotundifolia*, Linné (Nat. Ord. Ericaceae). Damp and shady woods in the United States. *Dose*, 5 to 60 grains.

Common Names: Canker Lettuce, Shin Leaf, False Wintergreen.

Principal Constituents.—*Ericolin, arbutin, urson*, tannic, gallic and malic acids, etc.

Preparations.—1. *Infusum Pyrolae*, Infusion of Pyrola (1 ounce to Water, 16 fluidounces). *Dose*, 1 to 2 fluidounces.

2. *Tinctura Pyrola*, Tincture of Pyrola (8 ounces to Alcohol (76 per cent), 16 fluidounces). *Dose*, 1 to 60 drops.

Specific Indication.—Irritation of urinary tract.

Action and Therapy.—*External.* A splendid but much neglected agent in infusion, as a wash for sore throat and aphthous ulcerations of the mouth.

Internal. As it has similar properties to uva ursi and chimaphila and exerts a similar antiseptic action, it is of much value in urinary disorders with irritation and tendency to ulcerations and sepsis. The urine contains much mucus and sometimes blood.

monographs extracted from
The Eclectic Materia Medica, Pharmacology and Therapeutics
by Harvey Wickes Felter, M.D. (1922)

NOTE: Throughout these monographs are references to “Specific Medicines”. In some respects Specific Medicines are the single reason that Eclecticism survived so long in the face of “Organized Medicine” and were still being manufactured for the surviving Eclectic M.D.s as late as the early 1960s. Using up to eight organic solvents and the Lloyd Extractor, Specific Medicines represented the strongest possible concentration of the bioactive aspects of botanicals that would stay in a colloidal solution.

Perfected over four decades by John Uri Lloyd, each Specific Medicine was prepared according to the nature of THAT specific plant. You cannot translate a Specific Medicine into “tincture” or “fluidextract”. The latter are GENERIC or standard strengths applied across the board to ALL botanicals. A Specific Medicine represented the greatest strength, without degradation, for a PARTICULAR plant, using anywhere from several to all of the solvents to achieve this. The Eclectic physician was trained to use botanicals in an oftentimes rural setting, and these medicines had to resist breakdown in the deepest winter and the hottest summer. Since they needed to contain even the most ephemeral constituents of a plant remedy, Lloyd approached each plant separately.

The amazing quality of these preparations assuredly maintained the Eclectic Movement long after others had faded. Lloyd’s recipes were Patent Medicines, were not “official”, and when relatives finally closed down the Lloyd Brother’s Pharmacy in Cincinnati, these formulae disappeared. One of the hottest topics for many years amongst professional herbalists in North America and Europe has been “So who has the Lloyd Formulas, already?” Since we cannot access them, the best approach is the use of well made tinctures, capsules or tea. I might suggest the preparations and doses recommended in my Herbal Materia Medica 5.0 as a starting place...in many respects I am perhaps a “Neo-Eclectic” at heart, and have tended to follow the later Eclectics in my approach to plants and dosages.

Michael Moore
Bisbee, Arizona
October, 2001