

we possess against tænia. Two ounces of the fresh seed are pounded in a mortar, with a half-pint of water, until the husks are loosened and an emulsion is made. The mixture is then strained, and the whole amount is taken fasting; but Squibb maintains that all should be taken, husks included. If an action of the bowels does not take place in two hours, the emulsion should be followed by castor-oil. If success is not attained, the dose may be repeated each morning until the parasite is produced. Numerous cases of successful use of pumpkin-seed emulsion have been reported.

The expressed oil, which is bland and unirritating, like almond-oil, may be used as a substitute for the seeds. It should be given in the dose of a half-ounce, two or more times, and after several hours followed by castor-oil. The rules already given, in regard to preliminary treatment, should also be followed.

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URINO-GENITAL REMEDIES.

THESE remedies are employed chiefly for their action on the genito-urinary passages. They stimulate the kidneys to increased activity, and excite the functions of the pelvic viscera. In excessive quantity, or long continued, they may set up inflammation of the kidney, produce strangury and bloody urine, excite uterine contractions, and stimulate to an unnatural degree the sexual propensities. They contain an essential oil, or principle, which makes its exit by the urinary passages and excites local irritation by direct contact.

Terebinthina.—Turpentine. A concrete oleo-resin obtained from *Pinus australis* Michaux, and from other species of *Pinus* (Nat. Ord. *Coniferae*). (U. S. P.)

Oleum Terebinthinæ.—Oil of turpentine. A volatile oil distilled from turpentine. (U. S. P.) *Essence de térébinthine*, Fr.; *Terpentinöl*, Ger. Dose, \mathfrak{m} ν — $\frac{z}{3}$ ss.

Linimentum Terebinthinæ.—Liniment of turpentine. (Resin cerate, sixty-five parts; oil of turpentine, thirty-five parts.)

ANTAGONISTS AND INCOMPATIBLES.—All remedies increasing waste, and the vaso-motor depressants, counterbalance the therapeutical actions of turpentine. In cases of poisoning the stomach should be promptly emptied, and anodynes and demulcents should be administered. Elimination should be favored, and the toxic symptoms treated according to the systemic indications. Ozonized oil of turpentine is an antidote to phosphorus, preventing the formation of phosphoric acid and converting the poison into an insoluble spermaceti-like substance. Turpentine worn in a vial about the neck prevents necrosis of the jaw and steatosis of organs in workmen engaged in manufactures employing phosphorus.

SYNERGISTS.—The diffusible and alcoholic stimulants favor the action of turpentine.

PHYSIOLOGICAL ACTIONS.—Turpentine-oil is a limpid, colorless fluid, having a strong, peculiar, and diffusive odor, and a hot and pungent taste. It is very slightly soluble in water. The oil exposed to the air absorbs oxygen (ozone), which it retains with great tenacity. Applied to the skin, turpentine causes heat, redness followed by a vesicular eruption, and sometimes by intractable ulcerations. A few drops produce a sense of heat at the epigastrium, and a large dose (medicinal) causes intense burning pain, nausea, eructations of the oil, intestinal irritation and purging (usually). Notwithstanding its slight solubility in water, turpentine diffuses into the blood with facility, and is quickly recognized in the breath, sweat, and urine. The action of the heart and arteries is increased by it, the arterial tension rises, and a general sense of warmth and exhilaration is experienced. In large doses (one or two ounces) vomiting, thirst, and a febrile state, are induced; the muscular strength is diminished, the power of co-ordination is impaired; exhilaration of mind, incoherence of ideas, and rambling insensibility, follow. In toxic doses there are complete muscular relaxation and profound insensibility with abolition of all reflex movements; the face is flushed or cyanosed, the pupils usually dilated, and the breathing labored and stertorous. All the organs by which turpentine is eliminated, especially the kidneys, suffer from extreme irritation when large doses have been swallowed. The skin is usually moist, and exhales a turpentine-odor; the bronchial secretion is increased, and convulsive coughing is induced; the urine is scanty and bloody, and there is violent strangury. The only fatal cases which have been reported have occurred in children (Taylor). From four to six ounces have not destroyed life in adults.

As regards its action on the organs of circulation, the author's experiments show that turpentine stimulates the vaso-motor nervous system when administered in moderate doses. A large quantity quickly exhausts the irritability of the sympathetic ganglia, the action of the heart becomes weak, and the arterial tension falls; the respira-

tory movements are at first stimulated, but afterward become shallow, and carbonic-acid poisoning supervenes. The brains of animals killed by turpentine smell strongly of it, and hence it may be concluded that it has a direct action on the cells of the cerebral lobes.

Turpentine has decided antiseptic power. It arrests fermentation processes, putrefaction, and is very destructive of minute organisms (vibrio, bacteria, etc.).

The vapor of turpentine inhaled produces nasal and bronchial irritation, frontal headache, and renal irritation, even bloody urine and strangury.

On *post mortem* after turpentine-poisoning, violent gastro-intestinal irritation, ecchymoses of the air-passages, congestion of the lungs, and hyperæmia of the kidneys, are noted.

THE RAPY.—*Flatulence* may be quickly relieved by a few drops (three to five) of turpentine, on a lump of sugar. This remedy is especially indicated in flatulence persisting from a paretic state of the muscular layer of the bowel. There is abundant evidence to prove the curative power of oil of turpentine in *chronic intestinal catarrh*. It is especially indicated when the tongue is dry and glazed, when there is tympanitic distention of the bowels, and when the alvine discharges consist either of fluid fæces or scybala, mixed with mucus and pale, watery blood. It is best administered in an emulsion, with almond-oil and opium. ℞ Ol. terebinthini, ʒj; ol. amygdal. express., ʒss; tinct. opii, ʒij; mucil. acaciæ, ʒv; aquæ laur.-cerasi, ʒss. M. Sig.: *A teaspoonful every three, four, or six hours*. The same remedy, in a similar combination, is very effective in acute dysentery after the subsidence of the more acute symptoms. The following is probably the true explanation of its action in these cases: it gives tonicity to the vessels, and to the muscular fiber of the intestines; arrests the putrefactive and fermentative processes which take place in the vitiated mucus and articles of food, and increases the cutaneous capillary circulation, thus relieving congestion of internal organs.

Stimulating enemata are made of turpentine, mucilage, oils, etc. These are especially indicated in constipation, and in impaction of the rectum. ℞ Ol. terebinthini, ʒij—ʒj; ol. ricini, ʒij; vitell. ovi unius; decoct. hordei, ʒviij—Oj. M. Sig.: *As an enema*. Such injections are frequently used in tympanitic distention of the large intestine, in flatulent colic, in impaction of the cæcum, etc.

A combination of equal parts of turpentine and ether constitutes the well-known remedy of Durand for the solution and cure of *biliary calculi*. Notwithstanding the unquestionable utility of this remedy, we can not admit with Durand that its efficacy depends on its solvent power (Trousseau). During the attack of biliary colic this remedy may be administered with a view to its anodyne and antispasmodic effect; but, as Köhler states, it is by no means equal to morphine and

chloral hydrate. In the after-treatment, clinical experience is in favor of the occasional administration of Durand's remedy during a course of Vichy or Carlsbad water.

Turpentine is one of the most effective remedies which we possess in the treatment of *tenia*. Full doses (ʒss—ʒij) are required, and the rules for preliminary treatment already laid down (see ANTHELMINTICS) should be adhered to. Turpentine should be combined with a purgative, in order to insure prompt cathartic effect. If absorption of any considerable part of the turpentine takes place, violent intoxication will follow, and irritation of the kidneys, hæmaturia, and strangury, will be produced in the efforts at elimination. The oleo-resin of *filix mas* may be combined with turpentine. ℞ Ol. terebinthinæ, ʒj; oleo-resinæ filicis, ʒj; vitell. ovi no. ij; ol. ricini, ʒj. M. Sig.: *A draught*. This is an effective, but by no means an agreeable, mixture. An ounce each of turpentine and castor-oil may be administered, as the cathartic, after the use of the decoction of pomegranate.

Turpentine being a cardiac stimulant, and an excitant of the capillary circulation, is contraindicated in hypertrophy of the heart, and when advanced atheroma of the cerebral arteries may be presumed to exist. It is a serviceable *cardiac stimulant* when the action of the heart is weak, and the arterial tension low. In the *passive hæmorrhages* we possess few agents more generally useful. The indications for its use are a condition of debility, relaxation of the vessels, and an impoverished condition of the blood. Transudations on the free mucous surfaces—*epistaxis, bronchial hæmorrhage, hæmatemesis, intestinal hæmorrhages, hæmaturia*—when associated with the state of constitutional depression defined above, are forms of hæmorrhage in which turpentine should be used. ℞ Ol. terebinthinæ, ʒiij; ext. digitalis fl., ʒj; mucil. acaciæ, ʒss; aquæ menthæ pip., ʒj. M. Sig.: *A teaspoonful every three hours*. The hæmorrhagic transudations which take place in *purpura*, in *scorbutus*, and allied states, are also arrested by turpentine. It need hardly be stated that active hæmorrhage and a condition of plethora contraindicate the use of turpentine.

As a stimulant to the vaso-motor nervous system, turpentine is indicated in *fevers* when the action of the heart is feeble, the arterial tension low, and the peripheral circulation languid. Ten drops in an emulsion is a suitable form, and every two hours is a proper interval for its administration in this condition of things. According to G. B. Wood, a dry tongue, peeling off in flakes, leaving a glazed surface beneath, is a special indication for the use of turpentine in fevers. The intestinal hæmorrhage of typhoid may be restrained by turpentine.

Clinical experience is in favor of the use of turpentine in *puerperal fever* and in *yellow fever*. The indications for its employment in these maladies are just the same as those mentioned above in typhoid. Cardiac weakness, depression of the vaso-motor nervous system, a dis-

solved state of the blood, are the conditions requiring turpentine. Tympanitic distention of the abdomen is an additional indication in puerperal fever. Similarly, turpentine is used in *epidemic dysentery*, *traumatic erysipelas*, *hospital gangrene*, etc. In these various states, employed with a well-defined conception of its real powers, this remedy is more generally serviceable as a stimulant than alcohol. As respects the dosage, in febrile diseases, a rule may be formulated as follows: for the intestinal complications, small doses frequently repeated (ten drops); as a stimulant to the vaso-motor nervous system, larger doses ($\text{m} \times - 3 \text{ss}$) at somewhat longer intervals.

In the article on "PHOSPHORUS" attention has been called to the utility of turpentine in poisoning by this substance.

The physiological effects of turpentine indicate its utility in certain disorders of the nervous system. As an enema, turpentine has been used for its derivative effect in *insolation* or *sunstroke* (Levick, Wood), and in *cerebro-spinal meningitis* (Hirsch). So accurate an authority as Topinard maintains the utility of this remedy in the cystic complications of *posterior spinal sclerosis*. Turpentine has long been used successfully in *epilepsy*, but in those cases only in which the seizures were due to the reflex impression of intestinal parasites (*tæniæ*). *Tic-douloureux* and *sciatica*, when rheumatic in origin, or when produced by fecal accumulations, have been cured by the vigorous use of turpentine, but we have now other means of treatment more generally useful and less disagreeable.

As turpentine is largely eliminated by the bronchial and renal mucous membrane, decided effects are produced at these points. In diffusing outward, a change in the tonicity of the vessels, and in the character of the secretions, must necessarily be produced. Clinical experience confirms the deductions of theory. In *chronic bronchitis*, with profuse expectoration (*bronchorrhœa*), especially when the expectorated matters have a fetid odor, turpentine is an excellent remedy (Oppolzer). In *gangrene of the lung*, although it is not curative, it acts beneficially in diminishing the fetor. In *pneumonia* and *capillary bronchitis*, when the vital powers are depressed and the peripheral circulation is feeble, turpentine is one of the best stimulants which we can employ. The depression which occurs during the period of crisis in pneumonia, and the condition of purulent infiltration, especially indicate the use of this remedy. In the so-called *humid asthma*, and in *emphysema* with profuse bronchial catarrh, good results are obtained by the use of turpentine. In these various pulmonary maladies, the action of turpentine is largely local, as already explained, but it should not be forgotten that the powerful stimulation of the cutaneous circulation which it causes must contribute no small share of the curative action.

In *hydro-nephrosis* and *pyo-nephrosis* turpentine is used as in bronchial catarrh, viz., to alter by actual contact the relaxed condition of

the vessels, and the pathological secretions of the mucous membrane. It is, of course, contraindicated during the existence of acute symptoms. *Chronic catarrh of the bladder* is not unfrequently much improved by the use of this agent. It is most serviceable in those cases resulting from a transference of urethral inflammation, or due to prostatic disease. *Incontinence of urine*, the result of atony of the muscular layer of the bladder, is sometimes removed by small doses of turpentine. *Chronic gonorrhœa*, *gleet*, *spermatorrhœa*, and *prostorrhœa*, when the discharges peculiar to these maladies are due to a relaxed condition of the affected parts, are not unfrequently remarkably benefited by moderate doses of turpentine.

EXTERNAL USES OF TURPENTINE.—The author long ago pointed out the fact that turpentine is one of the most efficient applications in *hospital gangrene*. The mortified parts are first removed with the scissors, and the remedy is then applied directly to the affected surface, by means of a piece of cotton cloth saturated with it. Fetor is removed and sloughing is arrested, and but little pain attends the application.

Turpentine-stupes are much employed as a local and external means of treating internal inflammations. A piece of spongio-piline, or of flannel, large enough to cover the affected part, is first moistened with hot water, and then a few drops of turpentine (five to ten drops only) are sprinkled on it. As very severe smarting, inflammation, and vesication of the skin may occur from the application, and be experienced, indeed, some time subsequently to the removal of the stupe, care must be used not to continue it too long.

Liniment of turpentine is a convenient counter-irritant in cases of *myalgia*, *superficial neuralgia*, *lumbago*, etc. An excellent counter-irritant application is made by mixing equal parts of oil of turpentine, acetic acid, and liniment of camphor (Stillé). The most successful treatment of severe *burns* is by the plan of Kentish, which consists in first washing the injured surface with turpentine, and then applying an ointment made by mixing basilicon-ointment with turpentine. *Erysipelas* has been treated by the same measures by Meigs, and the same applications are generally in use in *chilblains*.

Inhalations of turpentine-vapor, or atomized turpentine, is an efficient means of local treatment in *chronic laryngeal and bronchial affections*. As a matter of curious therapeutics, it may be mentioned that gonorrhœa has been successfully treated by requiring the patient to inhale the vapor of turpentine.

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Copaiba.—Copaiba. The oleo-resin of *Copaifera Langsdorffii* Desfontaines, and of other species of *Copaifera* (Nat. Ord. *Leguminosæ*, *Papilionaceæ*). (U. S. P.) *Baume de copahu*, Fr.; *Copaiva-Balsam*, Ger. Dose, ℥ x—3 j.

Massa Copaibæ.—Mass of copaiba. (Copaiba, 94 parts; magnesia, 6 parts.)

Oleum Copaibæ.—Oil of copaiba. A volatile oil distilled from copaiba. Dose, ℥ v—3 ss.

Resina Copaibæ.—Resin of copaiba. The residue left after distilling off the volatile oil from copaiba. Dose, gr. j—gr. v.

COMPOSITION.—Balsam of copaiba differs from the true balsams in not containing cinnamic acid. It is an oleo-resin, the volatile oil constituting from forty to sixty per cent. The oil of copaiba is isomeric with the oil of turpentine, but it differs in some of its physical properties from the latter. The resin has an acid reaction, and has been entitled *copaivic acid*.

ACTIONS AND USES.—Copaiba has a nauseous, bitter, and very disagreeable taste. When taken into the stomach it causes some heat, and offensive eructations, tasting of the balsam, occur. Indigestion, heaviness at the epigastrium, anorexia, are frequently produced by it, and diarrhoea is an occasional result of its use. It is, therefore, a gastro-intestinal irritant. Both the oil and the resin diffuse into the blood. The various excretions, the sweat, the bronchial mucus, the urine, acquire a peculiar and rather a fragrant odor from its presence. This odor is especially observable in the urine, and in this secretion the resin may be discovered also by the addition of nitric acid, which causes a precipitate. At the points of elimination more or less irritation is produced, and, as a result of the irritation, increased secretion; hence copaiba is said to be diaphoretic, diuretic, and expectorant. Very serious injury may be done to the gastro-intestinal canal, and to the kidneys, by the use of this agent in large doses. The author has known gastro-intestinal catarrh to persist many months after a course of copaiba, and he has reason to believe that desquamative nephritis and fibroid kidney have resulted from its free administration for a lengthened period. While small doses of balsam will increase the gross amount of urine and of the solid contents, large doses will actually cause a diminution in the amount both of water and solids by setting up renal irritation. Although, during a course of balsam, nitric acid causes a precipitation

of the resin, which is dissolved on the addition of alcohol, the author has, in several instances at least, detected albumen in the urine of those taking this remedy.

Copaiba is contraindicated when a condition of gastro-intestinal irritation and hyperæmia of the kidneys exist.

Gonorrhœa is the disease to which copaiba is most especially adapted. Its administration should not be begun, however, until after the acuter symptoms have subsided. As the action of the remedy is local or direct, acute symptoms are rather aggravated by it. Combination with liquor potassæ promotes its curative action by diminishing the acidity, and hence the irritation produced by the urine. Combination with agents acting synergistically, as oils of cubebs and sandalwood, is also desirable. The following formulæ exemplify these therapeutical facts: ℞ Copaibæ, pulv. cubebæ, āā ʒ ij; aluminis, ʒ j; opii, gr. v. M. Sig.: *One to two drachms, night and morning.* ℞ Ol. copaibæ, ol. cubebæ, ol. santal. flav., āā ʒ j; magnesiæ, ʒ ij. M. Ft. pil. no. lx. Sig.: *Two pills every four hours.*

In *chronic catarrh of the bladder*, copaiba is useful by virtue of the local action which it has upon the mucous membrane. Its nauseous taste and the gastric and renal irritation produced by it are serious objections to its use in a malady which requires the persistent and long-continued application of remedies in order to even moderate its symptoms.

For *acute bronchitis* after the subsidence of the fever, for *chronic bronchitis* with profuse secretion, for *bronchorrhœa* (dilated bronchi), copaiba is the most generally serviceable expectorant. Unfortunately, it is so disagreeable that it is difficult to overcome the repugnance of patients. Even when administered in capsules, or in pill-form with magnesia, the nauseous eructations excite disgust. ℞ Copaibæ, balsam. tolutan., pulv. acaciæ, āā ʒ ss; acid. sulphur. aromat., ʒ ss; aquæ destil., ʒ vj. M. Sig.: *A tablespoonful, two or three times a day, in chronic bronchial affections, whooping-cough, etc.* ℞ Copaibæ; syrup. tolutan., āā ʒ ss; aquæ menthæ pip., ʒ ij; spirit. etheris nitrosi, ʒ j. M. Sig.: *A teaspoonful every four hours.*

Excellent results have been obtained from the use of copaiba in *dropsy*, especially in *ascites*. In these cases it acts powerfully on the kidneys. Wilks holds that copaiba-resin is a more efficient diuretic than the balsam. ℞ Res. copaibæ, ʒ iij; alcohol., ʒ v; spirit. chloroformi, ʒ j; mucil. acaciæ, ʒ ij; aquæ ad ʒ xij. M. Sig.: *A tablespoonful ter in die.* It is conveniently given in pill-form also.

In some subjects possessed of an irritable skin, copaiba produces an eruption of urticaria, or roseola, or erythema. This is not in consequence of a selective action on the skin, but is the result merely of the gastro-intestinal disturbance. Influenced, probably, by this fact that an eruption may be caused by copaiba, this agent has been proposed

as a remedy in certain *cutaneous diseases*—in those characterized by torpor of the peripheral circulation.

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Cubeba.—Cubeb. The unripe fruit of *Cubeba officinalis* Miquel (Nat. Ord. *Piperaceæ*). (U. S. P.) *Cubèbes*, Fr.; *Cubeben*, Ger.

Extractum Cubebe Fluidum.—Fluid extract of cubeb. Dose, ʒ ss—ʒ ij.

Oleum Cubebe.—Oil of cubeb. Dose, ℥ v—ʒ ss.

Oleo-resina Cubebe.—Oleo-resin of cubeb. Dose, ℥ v—ʒ ss.

Tinctura Cubebe.—Tincture of cubeb. Dose, ʒ ss—ʒ ij.

Trochisci Cubebe.—Troches of cubeb.

COMPOSITION.—Cubeb contains a volatile oil which varies in proportion from six to fifteen per cent. It is polymeric with oil of turpentine. This volatile oil separates in the cold into two distinct substances—a camphoraceous substance (*cubebene*), and a liquid portion (*cubeben*). Besides these, a neutral crystallizable principle (*cubebin*) has been isolated. Cubeb also contains a resin, divisible into two distinct substances, an indifferent portion and an acid (*cubebic acid*). The therapeutical properties of the drug reside chiefly, if not exclusively, in the oil and resin, hence the oleo-resin is an efficient preparation.

ACTIONS AND USES.—The taste of cubeb is aromatic, pungent, and somewhat camphoraceous. In the stomach it excites a sensation of warmth, and, in moderate doses, promotes the appetite and the digestive capacity. In considerable doses it is laxative, and produces a feeling of heat and irritation about the rectum. Ingested in a large quantity, cubeb sets up a gastro-intestinal catarrh, and may even cause acute inflammatory symptoms. The active principles diffuse into the blood. The action of the heart and vascular system is increased by cubeb, the surface becomes warm and perspiring under its use, and the bronchial and urinary secretions are more abundant. The odor of cubeb is imparted to the breath and to the urine, and the resin may be precipitated from the urine by the addition of nitric acid. As explained in the previous article (COPAIBA), the resin precipitated by nitric acid resembles albumen, but differs from the latter substance in being soluble in alcohol.

Cubeb stimulates the venereal appetite in man, and promotes the catamenial flux in women.

Finely-powdered cubeb is an efficient local application in *chronic nasal catarrh*. It is blown into the nares by an insufflator. It gives considerable relief also in *hay-asthma*, when there is no fever, and the secretion of the nasal mucous membrane is profuse and watery. Powdered cubeb is useful as a topical application when the mucous membrane of the fauces is relaxed, or the seat of chronic inflammation (*follicular pharyngitis*). The official cubeb-troches are employed by singers and public readers, to maintain the tonicity of the mucous membrane and to prevent or relieve hoarseness.

Cubeb may also be used, in small doses, to promote secretion and increase digestion in cases of *atonic dyspepsia*. *Chronic catarrh of the colon and rectum*, with a relaxed condition of the mucous membrane and of the inferior hæmorrhoidal vessels, may be removed by cubeb. Sometimes these cases take the form of a mucous dysentery.

The most important application of cubeb is in the treatment of *gonorrhœa*. Unlike copaiba, it may be administered with good effect during the acute stage. The best results are obtained from a mixture of the two agents. *Catarrh of the bladder, prostatic rhœa, spermatorrhœa*, are maladies in which cubeb may be employed with more or less advantage. When the sexual appetite is weak, and the erections feeble, cubeb will sometimes, if the troubles are functional, remove them.

Irritability of the bladder, nervous or functional in character, especially as it occurs in women, is generally relieved by cubeb; but cantharides is a more efficient remedy for this troublesome affection.

In *chronic bronchial affections*, with profuse expectoration, cubeb has a remedial effect similar to that possessed by copaiba, and is useful under the same conditions.

Piper.—Black pepper. The unripe berries of *Piper nigrum* Linné (Nat. Ord. *Piperaceæ*). (U. S. P.) *Poivre noir*, Fr.; *Schwarzer Pfeffer*, Ger.

COMPOSITION.—Pepper contains a resin and an essential oil, and a neutral crystallizable principle (*piperin*).

Oleo-resina Piperis.—Oleo-resin of black pepper. This contains the active constituents of pepper, and is an eligible preparation. Dose, ℥ j—℥ v.

Piperina.—Piperin. A proximate principle of feebly alkaloidal power, prepared from pepper, and occurring also in other plants of the natural order *Piperaceæ*. Colorless, or pale yellowish shining, four-sided prisms, permanent in the air, odorless and almost tasteless when first put in the mouth, but on prolonged contact producing a biting sensation. It has a neutral reaction, is almost insoluble in water, but soluble in thirty parts of alcohol at 60° Fahr. Dose, gr. j—gr. x.

Capsicum.—Capsicum. The fruit of *Capsicum fastigiatum* Blume (Nat. Ord. *Solanaceæ*). (U. S. P.) *Poivre d'Inde*, Fr.; *Spanischer Pfeffer*, Ger.

COMPOSITION.—The acrid, pungent qualities of capsicum are due to a peculiar substance (*capsicin*), a thick, yellowish-red liquid. Fellétar, whose observations have been confirmed by Flückiger, has isolated a volatile alkaloid having the odor of conine.

Extractum Capsici Fluidum.—Fluid extract of capsicum. Dose, ℥ v—3 j.

Oleo-resina Capsici.—Oleo-resin of capsicum. Dose, ℥ j—℥ v.

Tinctura Capsici.—Tincture of capsicum. Dose, ℥ x—3 j.

ACTIONS AND USES.—Notwithstanding black and red pepper belong to different orders, they are closely related therapeutically and in their physiological actions. They may with propriety be considered together.

When applied to the skin, pepper excites redness, heat, and superficial inflammation. Red pepper, if in contact with the skin a sufficient length of time, will produce vesication. It also causes great irritation of the mucous membrane. It has a hot, pungent, and rather acrid taste, and increases the flow of saliva. In the stomach a sensation of warmth is produced by it, the secretions are more abundant, digestion is more active, and the appetite is promoted. In an excessive quantity gastritis may be produced. The intestinal secretions are no doubt increased, and the alvine evacuations rendered more easy and copious.

The action of the heart and arteries is increased by pepper, a subjective sensation of warmth is experienced throughout the system, and cutaneous transpiration becomes more abundant. Elimination takes place chiefly through the kidneys. The flow of urine is increased, micturition is more frequent, and more or less vesical tenesmus occurs. Decided aphrodisiac effects are produced by red pepper.

The tincture of capsicum may be usefully employed as a stomachic in *atonic dyspepsia*. It is especially indicated in the *dyspepsia of chronic alcoholism*, when there are present trembling and insomnia. *Flatulent colic* may be relieved by capsicum, especially when this disorder occurs in hysterical subjects. The author has seen excellent results from the use of this remedy in the dyspepsia and flatulence of hypochondriacal subjects, and of women at the climacteric period.

Capsicum is an excellent addition to beef-tea when this aliment is administered in *fevers*, and other low conditions of the system. The tincture may be employed under the same circumstances as a cardiac stimulant. Piperin has been used in *cholera* as a stimulant, local and general, and in low conditions of the system from any cause except gastro-intestinal inflammation. At one time it was much prescribed in *malarial fevers* as an adjunct to quinine chiefly, and antiperiodic powers were ascribed to it; but such views are no longer entertained.

The evidence is conclusive that capsicum quiets restlessness and induces sleep in *delirium tremens*. It may be administered mixed with beef-tea or other animal broths, or thirty grains made into a bolus, with sirup or honey, may be given. As capsicum belongs to the family *Solanaceæ*, and as Fellétar discovered in it a volatile alkaloid, a rational explanation is afforded of its action on the cerebrum. According to Ringer, the tincture of capsicum is the best substitute for the stimulant when an attempt is made to break the *alcohol-habit*. It is also very serviceable in the treatment of the *opium-habit*. The good effect of the remedy in these cases is in part due to its action as a stomachic stimulant, and partly, doubtless, to its cerebral effects.

The oleo-resins of black and red pepper have been used with good results in the treatment of *intermittent fever*. They are useful chiefly as adjuvants to more efficient remedies.

Capsicum is contraindicated in all acute affections of the genito-urinary apparatus. In *chronic parenchymatous nephritis* it checks the waste of albumen. In *chronic pyelitis*, *chronic cystitis*, and *prostor-rhoea*, it has a beneficial effect; but, although similar in action to, it is less efficient than, cubeb. Excellent results are often obtained from it in *functional impotence*, and in *spermatorrhœa* from deficient tone. In these genito-urinary maladies, the oleo-resin is the best preparation for administration. ℞ Oleo-resinæ capsici, ℥ j; ergotin (aq. ext.), ℥ ij. M. Ft. pil. no. xx. Sig.: *One three times a day*.

A capsicum-plaster is a mild *counter-irritant*. The infusion is employed as a gargle in *tonsillitis*, *diphtheria*, and *scarlet fever*. As it is a very irritating application, its use should be restricted to cases characterized by a low grade of action.

Juniperus.—Juniper. The fruit of *Juniperus communis* Linné (Nat. Ord. *Coniferæ*). (U. S. P.) *Baies de genièvre*, Fr.; *Wachholderbeeren*, Ger.

Infusum Juniperi.—Infusion of juniper (℥ j—Oj). Dose, ℥ ss—℥ ij. (Not official.)

Oleum Juniperi.—Oil of juniper. Dose, ℥ v—℥ xx.

Spiritus Juniperi Compositus.—Compound spirit of juniper. (Oil of juniper, 10 parts; alcohol, 3,000 parts; water, sufficient to make 5,000 parts; oils of caraway and fennel, each one part.) Dose, ℥ ss—℥ j.

Spiritus Juniperi.—Spirit of juniper. (Oil of juniper, 3 parts; alcohol, 97 parts.) Dose, ℥ j—℥ j.

COMPOSITION.—Juniper contains a *volatile oil*, upon which its medicinal effects chiefly depend. A non-crystallizable principle (*juniperine*) exists in the berries in very small quantity. It contains also formic, acetic, and malic acids.

ACTIONS AND USES.—Juniper increases the appetite and digestion,