the powder, grs. v to ℈j ; of the infusion or decoction, f℥j ; in large doses all the forms are liable to produce nausea. *Form.* 58. Officinal Prep. *Infusum Cusparie*. L. *Tinct. Bonplandiæ Trifoliatæ*. E. *Tinct. Angusturæ*. D. Adulterations. There is found in the market a particular bark, which has been called Fine Angustura, but which is of a different species, and is a very energetic poison. This bark is characterized by having its epidermis covered with a matter which has the appearance of rust of iron, and which, moreover, possesses certain chemical properties of this metal ; for if water acidulated with muriatic acid be agitated in contact with its powder, it assumes a beautiful green colour, and affords with an alkaline prussiate, (*Hydro-cyanate of Potass*) a Prussian blue precipitate. Late researches have detected the presence of an alkaline element in this bark, on which the name of *Brucia* has been bestowed. When this alkali is dissolved in boiling alcohol, and crystallized by spontaneous evaporation, it yields colourless and transparent crystals in the form of oblique quadrangular prisms.

DATURÆ STRAMONII HERBA. E. D.

The Herbaceous part of the Thorn Apple.

Qualities. *Odour*, fœtid and narcotic, occasioning head-ache and stupor ; *Taste*, bitter and somewhat nauseous. Chemical Composition. Gum, resin, and carbonate of ammonia ; the recent experiments of M. Brandes have also developed an alkaline element of activity, to which the name of *Daturia* has been assigned ; it appears to exist in native combination with malic acid ; when in an uncombined state it is nearly insoluble in water, and in cold alcohol, but boiling alcohol dissolves it. It has been obtained with difficulty in the form of quadrangular prisms. Solubility. The medicinal powers of the herb are alike extracted by aqueous and spirituous menstrua. Incompatible Substances. The infusion is precipitated by the salts of lead, silver, mercury, and iron ; the mineral acids would also appear to produce some essential changes which may diminish its efficacy. Acetic acid increases its powers, although it relieves the effects of an over-dose, if administered after the stomach has been emptied. This apparent anomaly is easily explained when we consider, that in the first case its operation is purely *chemical*, increasing the solubility of the active principle of the plant, while in the latter case it operates as a *vital* agent, restoring to the nervous system that energy which has been suspended by the narcotic influence of the vegetable. Medicinal Uses. It is narcotic, and has been regarded by many authors as eminently antispasmodic ; Dr. Barton, an American physician, made very extensive trials of its efficacy in Mania, the result of which is highly favourable to its use. Dr. Marcet first noticed its salutary effects in chronic diseases attended with violent pain ; he found it to lessen powerfully, and quickly, sensibility and pain, and to produce a sort of nervous shock, attended with a momentary affection of the head and eyes, with a degree of nausea, and with phænomena resembling those which are produced by intoxication. It seems to be more particularly beneficial in chronic rheumatism, sciatica, &c. Its root, smoked in the manner of tobacco, has been much extolled as a remedy in the paroxysms of spasmodic asthma ; this practice however, is not unattended with danger ;* the

* It is said to have been introduced into this country from Ceylon. See the observations made upon the subject of the narcotics used by the Indians, in page 9.

same transient feelings of relief may be procured by smoking a mixture of opium and any aromatic herb. Forms of Exhibition. Some discrepancy of opinion has existed upon this point; the native practitioners in the Carnatic gave the powdered root; Hufeland recommends a tincture of the whole plant; in this country an extract of the leaves, or, more lately, of the seeds, has been preferred, and I have been recently informed by Sir Henry Halford, that he has found a tincture made with the seeds,* a very efficient and unobjectionable preparation. Dr. Davy, at my request, has made a series of experiments upon the extracts prepared by Mr. Barry *in vacuo*, and his report upon the effects of that of stramonium, will be found under the article *Extract. Stramonii* which see. Dose. In the commencement, of the leaves powdered gr. i. of the seeds gr ss. It is said that the Turks sometimes use the Stramonium instead of Opium, and the Chinese infuse the seeds into beer. Cataplasms of the fresh bruised leaves have been very successfully used in sores of a highly irritable and painful nature. Officinal Preparation. *Extract. Stramonii.*

DECOCTA. L.E.D. *Decoctions.*

These are solutions of the active principles of vegetables, obtained by boiling them in water. To decide upon the expediency of this form of preparation, in each particular case, requires a knowledge of the chemical composition of the substance in question. In conducting the operation, the following rules must be observed:

1. *Those substances only should be decocted, whose medicinal powers reside in principles which are soluble in water.*
2. *If the active principle be volatile, decoction must be an injurious process; and, if it consist of extractive matter, long boiling, by favouring its oxidizement, will render it insipid, insoluble, and inert.*
3. *The substances to be decocted should be previously bruised, or sliced, so as to expose an extended surface to the action of the water.*
4. *The substances should be completely covered with water, and the vessel slightly closed, in order to prevent, as much as possible, the access of air: the boiling should be continued without interruption, and gently.*
5. *In compound decoctions, it is sometimes convenient not to put in all the ingredients from the beginning, but in succession, according to their hardness, and the difficulty with which their virtues are extracted; and if any aromatic, or other substances containing volatile principles, or oxidizable matter, enter into the composition, the boiling decoction should be simply poured upon them, and covered up until cold.*
6. *The relative proportions of different vegetable substances to the water, must be regulated by their nature: the following general rule may be admitted: of roots, barks, or dried woods from ℥ij to ℥vj to every pint of water: of herbs, leaves, or flowers, half that quantity will suffice.*
7. *The decoction ought to be filtered through linen, while hot, as important portions of the dissolved matter are frequently deposited on cooling; care must be also taken that the filtre is not too fine, for it frequently happens, that the virtues of a decoction depend upon the presence of particles which are suspended in a minutely divided state.*

* The seeds undoubtedly contain, in an eminent degree, all the properties of the plant. It was in the seeds that Brandes first discovered the Daturia.

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8. *A decoction should be prepared in small quantities only, and never employed, especially in summer, forty-eight hours after it has been made. It should be considered as an extemporaneous preparation, but introduced into the pharmacopœia for the purpose of convenience, and for the sake of abridging the labour of the physician.*

It is very important that the water employed for making decoction, should be free from that quality which is denominated *hardness*.

The officinal decoctions may be classed into simple and compound preparations.

1. *Simple.*

Decoctum Cinchonæ. See Cinchona, and *Form.* 41, 42, 127. The codex of Paris directs a decoction of bark, "*Decoctum Kinæ Kinæ*," which is only half the strength of ours, but contains an addition of a small quantity of carbonate of potass.

Decoctum Cydoniæ. The inner coats of the seeds of the Quince (*Pyrus Cydonia*) yield a very large proportion of mucilage, but as hot water extracts from them also fecula and other principles, the decoction very soon decomposes. It has been strongly recommended as an application to erysipelatous surfaces; and it would seem to be peculiarly adapted for such a purpose, since it is not so easily washed away from the part to which it is applied, as ordinary mucilage; for the same reason it has been preferred as an ingredient in injections, gargles, &c. It is stated by some practitoners to be a very useful application, when united with the *acetate of lead*, in cases of acute ophthalmia; such a combination, however, is extremely unchemical, and must invalidate the powers of the other ingredients. The native practitioners of India employ it as a cooling mucilaginous drink in gonorrhœa. An ounce of bruised Quince seed will make three pints of water as thick and ropy as the white of an egg; hence two drachms, the quantity directed by the College, is amply sufficient for a pint of the decoction. It is coagulated by *alcohol*, *acids*, and *metallic salts*.

Decoctum Digitalis. D. This is a very improper form for the exhibition of digitalis, being variable in strength.

Decoctum Dulcamaræ. L. In making this decoction we must take care that the opertion of boiling is not continued too long. See *Dulcamaræ Caules*. Dose, from f℥ss to f℥j.

Decoctum Lichenis. L.E.D. In this preparation we have the bitter principle of the plant united with its fecula. A portion of the former may be removed by macerating the lichen, and rejecting the first water. If ℥j of the moss be boiled for a quarter of an hour in f℥vj of water, we shall obtain mucilage of a consistence similar to that composed of one part of gum arabic and three of water. Its exhibition requires the same precaution as that of *Mucilago Acaciæ*. From the large proportion of fecula which this moss contains, it is perhaps as nutritive as any vegetable substance, the *Cerealia* of course excepted. See *Lichen Island*. Dose, a wine glass full occcasionally.

Decoctum Papaveris. L. In making this decoction the whole of the capsule should be bruised, in order to obtain its mucilage and anodyne principle; the seeds should be also retained, as they yield a portion of bland oil which increases the emollient quality to the decoction. A large quantity of fixed oil is constantly in the market, which is derived from the

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seeds of the poppy. This decoction is a useful fomentation in painful swellings, &c.

Decoctum Quercus. L.E. Decoction is the usual form in which *Oak Bark* is exhibited, since all its active principles are soluble in water. Its astringent virtues depend upon gallic acid, tannin, and extractive. The decoction is disturbed by the following substances: *the infusion of yellow cinchona; sub-acetate* and *acetate of lead; solutions of isinglass;* the *preparations of iron; oxy-muriate of mercury;* and *sulphate of zinc;* all *alkaline substances* destroy its astringency, and are consequently incompatible with it. It is principally useful as a local astringent, in the forms of gargle, injection, or lotion. Its internal exhibition in obstinate diarrhœas, and alvine hemorrhages, has also proved highly beneficial. See *Form:* 51, 61. Dose, f℥ss to f℥j. Dr. Eberle states that in the Intermittents of very young children, he has in some cases used this decoction as a bath with efficacy.

Decoctum Sarsaparillæ. L. E. D. See Sarsaparilla. In making this decoction, it is rarely properly digested or boiled for a sufficient length of time to extract its virtues. The only salts which occasion precipitates in this decoction are, *nitrate of mercury* and *acetate of lead; lime water* has the same effect. Dose, f℥iv to f℥vj.

Decoctum Veratri. Stimulant and acrid: internally, it is cathartic, but too violent to be safely exhibited; it is useful as a lotion in scabies, and other cutaneous eruptions.

2. *Compound Decoctions.*

Decoctum Aloes Compositum. It resembles the well known *Beaume de vie, although less purgative, and is a scientific preparation,* constructed upon the true principles of medicinal combination. Aloes is the base, to which are added, 1st, sub-carbonate of potass, 2ndly, powdered myrrh, 3dly, extract of liquorice, 4thly, saffron, and after the decoction is made, 5thly, compound tincture of cardamoms. By the 1st ingredient the aloes is rendered more soluble; the 2d and 3d suspend the portion not dissolved, and at the same time disguise its bitterness; the 4th imparts an aromatic flavour, and the 5th not only renders it more grateful to the stomach, but prevents any spontaneous decomposition from taking place. Its taste is improved by keeping. It is a warm, gentle cathartic. *Form:* 80. Dose, f℥ss to f℥j. Its operation is different from that of simple aloes. See *Aloes.* The following substances are incompatible with it; *strong acids, oxy-muriate of mercury; tartarized antimony; sulphate of zinc;* and *acetate of lead;* and those salts which are decomposed by sub-carbonate of potass.

Decoctum Guaiaci Compositum. E. Commonly called *Decoction of woods.* This decoction has fallen into disuse, and deservedly, for it can possess but little power, except as a diluent, or demulcent; the water takes up from the guaiacum only a small portion of extractive matter, and the virtues of sassafras, if any, must be dissipated. Dose. f℥ss to f℥j.

Decoctum Hordei Compositum.* An elegant and useful demulcent, with an aperient tendency.

* The oriental beverage, Sherbet, from the Arabic word Sherb to drink, so celebrated in eastern song, is a decoction of barley-meal and sugar, perfumed with roses, violet, or citron.

Decoctum Sarsaparillæ Compositum. L.D. This decoction, which is an imitation of the once celebrated *Lisbon Diet Drink*,* differs materially from the *Decoct : Guaiaci comp* : from the addition of the mezereon root, which renders it diaphoretic and alterative, and useful in the treatment of secondary syphilis, and chronic rheumatism. Dose, from f℥iv to f℥vj three or four times a day.

DIGITALIS FOLIA. L.E.D. (Digitalis Purpurea.)
Foxglove.

Qualities. The leaves, when properly dried, have a slight narcotic *odour*, and a bitter nauseous *taste*, and when reduced to powder, a beautiful green *colour*. Chemical Composition. Extractive matter, and a green resin, in both of which the narcotic properties reside; they appear also to contain ammonia, and some other salts.† Solubility. Both water and alcohol extract their virtues, but decoction injures them. Incompatible Substances. See *Infusum Digitalis*. Medicinal Uses. It is directly sedative, although some maintain the contrary opinion, diminishing the frequency of the pulse, and the general irritability of the system, and increasing the action of the absorbents, and the discharge by urine. The effects appear to be in a great degree connected with its sensible influence upon the body, which is indicated by feelings of slight nausea and languor; accordingly, every attempt to prevent these unpleasant effects, or to *correct* the operation of digitalis, by combining it with aromatic, or stimulant medicines, seems to be fatal to the diuretic powers of the remedy. Dr. Blackall, in his "Observations upon the cure of Dropsies," has offered some remarks which bear upon this point, and to which I have before referred. *See* pages 99 & 154.

Several of the formulæ introduced under the class of diuretics are combinations supported by high authority, but it is doubtful whether their adoption can be sanctioned upon principle; they are however well calculated to illustrate the nature of diuretic compounds, and this is the only purpose for which they were selected. See *Form* : 103. The French have introduced in their new Codex, an ethereal tincture, *Tinctura Ætherea Digitalis purpureæ*, in which the sedative influence of the plant must be entirely overwhelmed by the stimulant properties of the menstruum. Under the head of *Diuretics*, I have so fully considered the value of diuretic combinations, and the *modus operandi* of Digitalis, that it is unnecessary to dwell upon the subject in this place. Digitalis has considerable influence over the action of the heart;

* Lisbon Diet Drink. Decoctum Lusitanicum.—℞. Sarsap : concis : Rad : Chinæ, aa ℥j—Nucum Jugland : Cortice Siccatarum, No. xx. Antimonii Sulphureti ℥ij. Lapidis Pumicis pulverisat;—Aquæ distillat : lib : x.—The powdered antimony and pumice stone are to be tied in separate pieces of rag, and boiled along with the other ingredients. The use of the pumice stone is merely mechanical, to divide the antimony.

† It is said that M. Royer has lately succeeded in obtaining from Digitalis its active basis; to which he has given the name of *Digitalin*. It was procured by digesting the plant in æther, and treating the solution with hydrated oxide of lead. It appears as a brown pasty substance, capable of slowly restoring the blue colour of reddened litmus paper; very bitter, and deliquescent. It was difficult to obtain it crystallized, but a drop of its solution in alcohol, evaporated on glass, over a lamp, when examined by the microscope, exhibited abundance of minute crystals. (Bib. Univ. xxvi. 102. Farther experiments, however, are required to establish the truth of this statement.

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and in certain diseases, attended with inordinate motions of that organ, it proves eminently serviceable ; I have employed it with great satisfaction in cases of palpitation connected with a state of general irritability, so frequently occurring in female disorders ; and according to my observations where it succeeds, opium generally does harm. *Form:* 32. FORMS OF EXHIBITION. In substance, tincture, or infusion ; the latter form is most efficient as a diuretic. DOSE of the powdered leavs gr. j, in a pill, twice a day ; the augmentation of the dose should proceed at the rate of one-fourth of the original quantity, every second day, until its operation becomes apparent, either on the kidneys, or on the constitution generally. If it produce such a disturbance in the primæ viæ as to occasion vomiting or purging, its diuretic powers will be lost ; in such a case the addition of a small portion of opium, or opiate confection, may be expedient. The distressing effects of an overdose are best counteracted by tincture of opium in brandy and water, and by the application of a blister to the pit of the stomach. A London Surgeon has lately stated that he has prescribed the tincture of Digitalis, in the dose of twenty five drops, three times a day, in barley water, with great success in Gonorrhœa. OFFICINAL PREPARATIONS *Infus: Digitalis.* L. E. *Tinct: Digital:* L. E.D. *Decoct: Digitalis:* D. It is very important that the leaves of this plant be properly collected, and accurately preserved : they should be gathered when the plant is beginning to flower, and, as it is biennial, in the second year of its growth ; the largest and deepest coloured flowers should be also selected, for they are the most powerful ; they should be also carefully dried until they become crisp, or they will lose much of their virtue ; the too common method of tying them in bundles, and hanging them up to dry, should be avoided, for a fermentation is produced by such means, and the parts least exposed soon become rotten. The powdered leaves ought to be preserved in opaque bottles, and kept from the action of light as well as of air and moisture ; a damp atmosphere has, upon a principle already explained, a very injurious operation, by carrying off those faint poisonous effluvia with which its efficacy seems to be ultimately connected.

DULCAMARÆ CAULES. L.D.

(Solanum Dulcamara.)

The Twigs of *Woody Nightshade*, or *Bitter-sweet.*

The virtues of this plant are extracted by boiling water, but long coction destroys them ; the usual and best form in which it can be administered is that of decoction or infusion. This plant is much more appreciated on the continent than in this country ; we rarely use it except in cutaneous affections ; Professor Richter of Gottingen states that he has employed it in *Phthisis Pituitosa* with very extraordinary success ; and Sir A. Crichton says that in the few cases of chronic tubercular Phthisis in which he has given it, it appeared to increase the powers of the Sarsaparilla with which it was usually combined. OFFICINAL PREP : *Decoct : Dulcam :* L.

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