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AN
EXPERIMENTAL HISTORY OF THE
MATERIA MEDICA,
OR OF THE
NATURAL AND ARTIFICIAL SUBSTANCES
MADE USE OF IN
M E D I C I N E :

CONTAINING A COMPENDIOUS VIEW OF THEIR

NATURAL HISTORY,

An ACCOUNT of their PHARMACEUTIC PROPERTIES,

And an Estimate of their

MEDICINAL POWERS,

So far as they can be ascertained by EXPERIENCE, or by RATIONAL
INDUCTION from their SENSIBLE QUALITIES.

By WILLIAM LEWIS, M.B. F.R.S.

IN TWO VOLUMES.

VOL. II.

THE FOURTH EDITION,

With numerous ADDITIONS and CORRECTIONS

By JOHN AIKIN, M.D.

*Rationalem quidem puto Medicinam esse debere:
instrui vero ab evidentibus.* CELSUS.

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T H E

MATERIA MEDICA.

JACOBÆA.

JACOBÆA Pharm. Paris. *Jacobæa vulgaris* laciniata C. B. *Senecio major* sive *flos sancti jacobi* Matthiol. *Senecio Jacobæa* Linn. RAGWORT: a plant with a firm round stalk generally purplish; oblong dark green leaves, deeply jagged almost to the rib, and the sections jagged again and somewhat crumpled: on the tops of the stalks grow umbel-like clusters of yellow flowers, of the radiated discous kind, followed by small oblong seeds winged with down. It is perennial, common in uncultivated fields and by road sides, and flowers in July.

THE leaves of ragwort have a roughish bitterish subacid taste, extremely nauseous, far different from that of the herbaceous groundsel to which they have by some been accounted similar. Simon Paulli relates, that they were

found of great service in an epidemic camp dysentery, many soldiers having been cured of that disease by drinking a decoction of them; and expresses some concern, that a medicine of so much efficacy should be at the same time so very disgusting to the palate. This however is an inconvenience that may be easily palliated: the active matter of ragwort, whatever its virtue may be, is dissolved both by water and by rectified spirit, and on inspissating the filtered tinctures, remains concentrated in the extracts; which may be taken, without offence to the palate, in the form of a bolus or pill. The spirituous extract is in less quantity than the watery, and proportionably stronger in taste; though rather less nauseous than the herb in substance.

JALAPIUM.

JALAPIUM Pharm. Lond. Jalapa Pharm. Edinb. Machoacanna nigra. JALAP: the dried root of the *mirabilis peruviana* or marvel-of-peru, *mirabilia peruviana Gerard. solanum mexicanum flore parvo C. B. Convolvulus Jalapa Linn.* (a)* a plant with thick, fleshy radish-like roots; jointed stalks and branches; acuminate somewhat oval leaves set in pairs; and elegant, numerous, monopetalous, funnel-shaped flowers, purple, yellow, white, or diversely variegated, standing in double cups, of which the innermost incloses the flower and the outer surrounds its basis: each flower is followed by a wrinkled, roundish,

* (a) The later botanists are not perfectly agreed concerning the genus of the plant producing jalap. Linnæus first made it a *mirabilis*; and Bergius now gives it as the *mirabilis dichotoma Linn.* from the resemblance between the root of that plant and the jalap of the shops.

pentagonal

pentagonal umbilicated fruit, about the size of a pepper corn, including a white kernel. It is perennial, a native of the West Indies, and cultivated in our gardens on account of the beauty and duration of its odoriferous flowers, which open only during the night, and of which it produces continual successions from June or July till checked by frosts; at which time the roots, which do not endure our winter, are taken up, and preserved in sand till spring. Whether the roots produced here are equivalent in virtue to those which are brought from abroad, has not, that I know of, been tried.

The officinal jalap roots come from the province of Xalapa in New Spain; in thin transverse slices, solid, hard, weighty, of a blackish colour on the outside or cortical part, internally of a dark greyish with several black circular striæ: the hardest, darkest coloured, and those which have the most of these resinous veins, are the best. Slices of bryony root, which are said to be sometimes mixed with them, may be distinguished by their whiter colour and less compact texture.

THIS root has scarcely any smell, and very little taste upon the tongue: swallowed, it affects the throat with a slight kind of pungency and heat. Taken in doses of a scruple or half a dram, it proves an effectual and in general a safe purgative; very rarely occasioning any severe gripes or nausea, which too frequently accompany the other strong cathartics. Some have prohibited the use of this cathartic to children; probably on no very good foundation. Young children, from the laxity of their solids, and the soft lubricating quality of their food, generally bear these kinds of medicines better than

adults, and adults of a spongy, lax, or weak habit, better than the rigid or robust. Few, if any, of the strong resinous purgatives are in either case more innocent than jalap.

Jalap root, digested in as much rectified spirit as will cover it to the height of about four fingers, gives out greatest part of the resinous matter in which its activity resides, and tinges the menstruum of a yellowish brown colour. On inspissating the filtered tincture to about one half, and adding to the remainder a proper quantity of water, the liquor becomes milky, and on standing deposits the pure resin. This preparation, given by itself, irritates and gripes violently, without proving considerably purgative: thoroughly triturated with testaceous or other powders, or with soap; or ground with almonds or powdered gum-arabic, and made into an emulsion with water; or dissolved in rectified spirit, and mixed with a proper quantity of syrup, that the solution may bear being diluted with watery liquors without precipitation; it purges, in doses of eight or ten grains, as effectually, and for the most part as mildly, as the jalap in substance.

The jalap remaining after sufficient digestion with spirit, has no cathartic virtue: boiled in water, it gives out a mucilaginous substance, which operates only by urine. Water applied at first takes up a portion of the resin along with the gum, and hence the watery decoction and extract prove weakly cathartic as well as diuretic: the root still retaining great part of its resin, so as to purge considerably. The resinous and gummy parts may be united into one extract, by first drawing a tincture from the powdered root with rectified spirit, then boiling the residuum in fresh quantities of water, evaporating the

the decoctions till they begin to grow thick, mixing in by degrees the tincture inspissated to a like thickness, and continuing a gentle heat till the whole is reduced to a due consistence.

This extract may be taken by itself in doses of ^{Extractum} twelve grains or more: the gummy matter of ^{jalapii Ph.} the jalap being sufficient to divide the resin and ^{Lond. & Ed.} prevent its too violent irritation.

The proportion of active matter differs greatly in different parcels of the jalap; sixteen ounces of some sorts yielding hardly two of resin, while the same quantity of others affords three or four. Hence the extracts of jalap appear preferable to the root in substance, not only on account of the dose being rendered smaller by the rejection of the woody parts, but likewise as being more uniform and certain in strength. Tinctures of jalap made in proof spirit are nearly similar in quality to the gummy resinous extract, this menstruum taking up both the resinous and gummy parts of the root: these preparations, made from different kinds of jalap, will vary in strength somewhat more than the solid extract or resin, but not so much as some have suspected, or as the roots in substance; for in the proportions usually employed, the proof spirit does not take up the whole of the virtue of any kind of jalap, and perhaps it does not extract much more from one kind than from another, provided the jalap be of moderate goodness. If three† or four‡ ounces of jalap be digested in a ^{Tinct. jalap.} pint of proof spirit, the residuum will still give ^{† Ph. Ed.} out a portion of resinous matter to rectified ^{‡ Ph. Lond.} spirit, and this resin will be in greater quantity in proportion as the root itself was the more resinous.

ICHTHYOCOLLA.

ICHTHYOCOLLA Pharm. Lond. ISINGLAS or FISH-GLUE: a solid glutinous substance, prepared from a fish of the sturgeon kind, caught in the rivers of Russia and Hungary. The skin, fins, &c. are boiled in water, the decoction inspissated to a due consistence, and then poured out so as to form thin cakes; which are either exsiccated in that form, or cut while soft into slices and rolled up into spiral, horse shoe, and other shapes. The best is in thin, clear, and almost transparent pieces.

* A different account of the formation of isinglass is given by Mr. Jackson in *Philos. Transf.* vol. lxiii. part I. He asserts that the solution of animal substances of every kind gives *glue*, not *isinglass*; that this last is nothing more than certain membranous parts of fishes, as the air-bladder, intestines, peritonæum, &c. in their entire state, only freed from their natural mucus and adhering matters, and rolled and twisted into the forms in which we get it.

ICHTHYOCOLLA is one of the purest and finest of the animal glues, of no particular smell or taste. Beaten into shreds, it dissolves pretty readily in boiling water or milk, and forms a gelatinous substance, which yields a mild nutriment, and proves useful medicinally in some disorders arising from a sharpness and colliquation of the humours. A solution of it in water, curiously spread, whilst hot, upon silk, affords an elegant sticking plaster for slight injuries of the skin, not easily separable from the part by water, and scarcely inferior to the more compounded one sold under the name of the ladies black plaster,

plaster, in which different balsams and resins are joined to the ichthyocola.

ILLECEBRA.

ILLECEBRA, *Vermicularis*, *Piper murale*, *Sedum minus*. *Sempervivum minus vermiculatum acre* C. B. *Sedum acre* Linn. WALLPEPPER OR STONECROP: a small plant, having its stalks covered with little fleshy conical leaves set thick together in the manner of scales: on the tops appear pentapetalous yellow flowers, each of which is followed by several pods full of small seeds. It is annual, grows on old walls and dry stony grounds, and flowers in July.

THIS plant has a very acrid taste, and no remarkable smell: applied externally, it vesicates the part: taken internally, in no great quantity, it proves strongly emetic. Its active matter appears, from the accounts given by authors, to be in great part forced out along with the watery juice by expression; to dissolve both in water and fermented liquors by infusion; and not to be dissipated, or not soon, by boiling. It is said to have been used with success in sundry chronic disorders (*a*), but its durable acrimony, and the great vehemence of its operation, have prevented its being received in practice.

IMPERATORIA.

IMPERATORIA Pharm. Edinb. *Imperatoria major* C. B. *Imperatoria astrutium* Lob. & Linn. *Astrantia* Dod. *Smyrnion hortense* Trag. *Stru-*

(*a*) Below, *Eph. nat. curios. dec. i. ann. vi. & vii. obs. 22.*
Boerhaave, *hist. plant. p. 369.*

thium hodie vocatum Cord. MASTERWORT : an umbelliferous plant, with large winged leaves divided into three indented segments; producing thick oblong, striated seeds surrounded with a narrow leafy margin: the roots are oblong, thick, knobby, jointed, with several lateral fibres, brown on the outside and whitish within. It is perennial, a native of the Alps and Pyreneans, from whence we are supplied with roots supposed to be superiour to those which are raised in our gardens.

THE root of *imperatoria* is a very warm and moderately grateful aromatic, nearly of the same nature with that of *angelica*. Infused in water, or digested in rectified spirit, it impregnates both menstrua strongly with its fragrant smell; the former weakly, the latter strongly, with its warmth, pungency, and bitterishness; the former with a muddy brownish, the latter with a bright yellow colour. On inspissating the spirituous tincture, very little of its flavour exhales with the spirit: the remaining deep yellow extract smells moderately of the root, and impresses on the organs of taste a considerable bitterness and glowing pungency. Water carries off in evaporation nearly all the specific flavour of the masterwort, leaving, in the dark brown extract, a nauseous bitterness with a slight degree of warmth or acrimony.

IPECACOANHA.

IPECACUANHA Pharm. Lond. & Edinb.
Hippecacuanna; Radix brazilensis. Psychotria
emetica

emetica Linn.**(a)* IPECACOANHA: a slender root, brought from the Spanish West Indies, in short pieces, variously bent and contorted, full of wrinkles and deep circular fissures, which reach quite down to a small whitish woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, and looks smooth and resinous on breaking. Two sorts of this root are met with in the shops, one brought from Peru, the other from Brazil; usually denominated from their external colour, the first *whitish*, *grey*, or *ash-coloured*, the other *brown* ipecacoanha.**(b)* The first is generally preferred, being found to operate with the greatest certainty and mildness.

A root has been brought over under the name of white ipecacoanha, which has little or nothing of the virtues of the two foregoing: this is readily distinguished by its yellowish white colour, woody texture, and having no fissures or wrinkles. More dangerous abuses have sometimes been committed, by the substitution or mixture of the roots of an American *apocynum*, which have been found to operate with great violence both upwards and downwards, and in some instances, as is said, to prove fatal: these may be known by their being larger than the true ipecacoanha, the fissures more distant, the intermediate spaces smoother, and more particularly by the colour of the medullary fibre, which in the poisonous roots is a deep reddish yellow, in the true ipecacoanha a whitish or pale greyish.

**(a)* This is the name given it in the supplement to Linnæus; it was formerly reckoned by him a species of *Lonicera*.

**(b)* Both kinds have been found in the neighbourhood of Rio di Janeiro. *Lond. Med. Journ.* ix. 69.

IPECACOANHA has scarcely any smell, unless during its pulverization or infusion in liquors, in which circumstances it emits a faint nauseous one: in chewing, the wrinkled cortical part proves bitterish and subacid, and covers the tongue as it were with a kind of mucilage; the medullary woody fibre is nearly insipid, and gives out to menstrua very little active matter. Geoffroy observes, that in pulverizing considerable quantities, the finer powder that flies off, unless great care be taken to avoid it, is apt to affect the operator with a difficulty of breathing, a spitting of blood, a bleeding at the nose, or a swelling and inflammation of the eyes and face, and sometimes of the throat; and that these symptoms go off in a few days, either spontaneously, or by the assistance of venæsection. *In the Philosophical Transactions, vol. lxvi. part I. is a remarkable case of violent asthmatic fits in a lady caused by the effluvia of powdered ipecacoanha.

THIS root is the mildest and safest emetic that has yet been discovered; and may be ventured on almost in the lowest circumstances where the stomach requires to be unloaded. The common dose is from ten grains to a scruple and upwards: in the medical observations and inquiries published by a society of physicians in London, a great number of cases are mentioned, in which two grains operated sufficiently: in constitutions which bore vomiting ill, and which were greatly ruffled by the usual doses, two or three grains operated with great ease. Where it fails of operating upwards, it commonly purges, and sometimes considerably: in this intention it may be employed, in several cases, to advantage, in conjunction with other purgatives,

to

to determine its action downwards: I have found fifteen grains of jalap, with two or three of ipecacoanha, purge more than twice the quantity of jalap by itself.

The ipecacoanha was first introduced, about the middle of last century, as a specific in dysenteries; and repeated experience has confirmed its efficacy in this distemper, not only when used as an emetic, but likewise when given in such small doses as scarcely to affect the grosser emunctories. In common dysenteric fluxes, it frequently performs a cure in a very short space of time; not by its exerting an astringent power, as some have supposed, for it does not appear to have any real astringency; nor by its mucilaginous substance covering the intestines and incrustating thin humours, as others with more plausibility, have inferred both from its mucilaginous taste, and from the ropiness and sliminess which it manifestly communicates to the contents of the stomach; but apparently by promoting perspiration, the freedom of which is in these cases of the utmost importance, and an increase of which, even in a state of health, is generally observed to diminish the evacuation by stool. In common dysenteries, the skin is for the most part dry and tense, and perspiration obstructed: and indeed this obstruction, and the conversion of the perspirable matter upon the intestines, is very frequently the immediate cause of the disease. Most of the common diaphoretics pass off, in these cases, without effect: but ipecacoanha, if the patient, after a puke or two be covered up warm in bed, brings on a free diaphoresis or a plentiful sweat, by which I have often known the distemper terminated at once.

In

In putrid or malignant dysenteries, or where the patient breathes a tainted air, it has not been found equally successful: it requires here to be continued for several days, or repeated as an evacuant, with the further assistance of rhubarb, cordial antiseptics, and mild opiates or astringents. Where plentiful evacuation is necessary, or the offending matter lodged deep, and the operation can be borne without inconvenience, the ipecacoanha, as Dr. Pringle observes, is most advantageously given in small quantities at a time, and repeated at proper intervals, till a vomiting or purging comes on.

*In the spasmodic asthma, Dr. Akenfide remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as ipecacoanha. In violent paroxysms, a scruple procures great and immediate relief. For habitual indisposition, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks. It is equally useful where it does not vomit, as where it does. The relief seems owing to its general antispasmodic or relaxing property, of which its emetic operation is probably a particular consequence (*a*).

*In the *Stockholm acts* 1770, are several cases of uterine hæmorrhages cured by one third or half a grain, rubbed with sugar, given every four hours or oftener. In one case, the hæmorrhage returned on discontinuing the medicine, and ceased on repeating it. These small doses had good effects in catarrhal coughs, even in those which attend consumptions; and if not beneficial, are at least not hurtful, in bloody coughs, in which vomiting has several times

(*a*) Med. Transact. i. 93.

been observed to come on, without any increase of the hæmorrhage. They may be useful in peripneumony and pleurisy, in which cough is often the most troublesome symptom, and in which Seneka root (which in increased doses proves also emetic) has been so much recommended.

The emetic virtue of ipecacoanha resides in its resinous parts. By digesting the root in fresh quantities of rectified spirit, and inspissating the filtered tinctures, a resinous extract is obtained, to the quantity of about three ounces from sixteen, which, by itself, vomits strongly, and with great irritation: the residuum yields to water nearly four ounces of a soft tenacious mucilage, which has scarcely any sensible operation. If only a part of the resin be extracted, by slight digestion in a little highly rectified spirit, the remaining root proves more gentle, and rather purgative than emetic: in this state it is recommended by some in dysenteries accompanied with a considerable fever, where the root with its natural quantity of resin might irritate too much; but as small doses of the root itself operate with all the ease and gentleness that can be wished for, this precarious method of weakening it does not appear advisable.

By boiling it in water, a part of the resin is taken up with the mucilage; the extract amounting to about six ounces from sixteen, and proving mildly emetic. The best menstruum for extracting the entire virtue of the root appears to be a mixture of one part of pure spirit with two or rather three parts of water: after sufficient digestion in this menstruum, neither water nor spirit took up any thing considerable from the remainder. In the shops wine is employed: an ounce of the root
is

Vinum ipe-
cacuanhæ

† *Pb. Lond.*

‡ *Pb. Ed.*

is macerated or digested in a pint† or fifteen ounces of mountain‡. These tinctures, in doses of from half an ounce or less to an ounce and upwards, prove mildly emetic.

I R I S.

IRIS: a perennial plant with long narrow sword-like leaves, standing edgewise to the stalk; and large naked flowers, divided deeply into six segments, of which, alternately, one is erect and another arched downwards, with three smaller productions in the middle, inclosing the stamina and pistil: the roots are tuberous, irregular, and full of joints.

1. *IRIS vulgaris germanica sive silvestris C. B. Iris germanica Linn.* Flower-de-luce, common iris or orrice: with blue flowers, whose arched segments are bearded with a yellowish matter, standing several on one stalk higher than the leaves. It is a native of the mountainous parts of Germany, common in our gardens, and flowers in June.

THE roots of this plant have, when fresh, a disagreeable smell, and an acrid nauseous taste. They are a strong irritating cathartic; in which intention, their expressed juice has been given in hydropic cases, from one or two drams to three or four ounces, diluted largely with watery or vinous liquors, to prevent its inflaming the throat. The remarkable differences in the dose, as directed by different practical writers, appear to have proceeded from hence; that some employed the juice in its recent turbid state, loaded with the acrimonious cathartic matter of the root; others, such as had been depurated

depurated by settling, and which had deposited, along with the feculencies, a great share of the active parts. By gently inspissating the juice, it is rendered less violent in cathartic power, and less liable to irritate and inflame; but becomes at the same time too precarious in strength to be depended on: by inspissation to perfect dryness, its purgative virtue is almost, if not altogether, destroyed. The root itself loses also, in drying, its offensive smell, and its nauseous acrimony, and along with these its cathartic quality: in this state, it discovers a slight and not disagreeable pungency and bitterness, accompanied with a kind of aromatic flavour, nearly of the same kind with that of the following species, but weaker and less grateful.

The bluish expressed juice of the flowers changes on being inspissated, especially if a little lime-water is added, to a fine green; and in this form is directed, in foreign pharmacopœias; for tinging some of the unctuous compositions called odoriferous or apoplectic balsams.

2. IRIS. *Pharm. Lond. Iris florentina Pharm. Edinb. & Linn. Iris alba florentina C. B.* Florence orrice; supposed to be only a variety of the foregoing occasioned by difference of climate; distinguishable from it in our gardens, by the flowers being white, and the leaves inclining more to bluish. The shops are supplied from Italy with dried roots superiour to those of our own growth; in oblong flattish pieces freed from the fibres and brownish bark, externally of a whitish colour with brownish specks, internally inclining to yellowish, easily reducible

reducible into a farinaceous yellowish white powder.

THIS root, in its recent state, does not seem to differ much from the preceding; being, like it, nauseous, acrimonious, and purgative, though not quite in so great a degree; and losing these qualities on being dried. The dry root, as met with in the shops, has an unctuous, bitterish, pungent taste, not very strong, but very durable in the mouth: and a light agreeable smell, approaching to that of violets. It is used in perfumes; in sternutatory powders; for communicating a grateful flavour, somewhat like that of raspberries, to wines and to spirits; and medicinally in disorders of the breast, for attenuating viscid phlegm, and promoting expectoration. Its smell and taste are extracted both by water and rectified spirit, most perfectly by the latter. In distillation, it gives over with water the whole of its peculiar flavour, its bitterness and a slight acrimony remaining in the inspissated extract: the distilled water smells very agreeably, but no essential oil is obtained though some pounds of the root be subjected to the operation at once. Rectified spirit brings over a part of its violet smell, but little or nothing of its warmth or taste: the inspissated extract is a pungent, bitterish, balsamic mass, glowing in the mouth like pepper; its quantity is about one fifteenth of the weight of the root.

3. *IRIS palustris* Pharm. Edinb. *Iris palustris lutea* Ger. *Gladiolus luteus*. *Acorus vulgaris* Pharm. Augustan. *Acorus adulterinus* C. B. *Pseudoacorum* Matth. *Pseudoris* Dod. *Butomon* Clus. *Iris Pseud-Acorus* Linn. Yellow water-flag,

flag, bastard acorus, sedge: with reddish roots, yellow unbearded flowers standing several on one stalk, and the middle ribs of the leaves prominent. It is common by the sides of rivers and marshes, and flowers in June.

THE roots of this species are, when fresh, rather more acrid, and more strongly cathartic, than either of the preceding. The expressed juice, given to the quantity of eighty drops every hour or two, and occasionally increased, has, in some instances, produced plentiful evacuations, after jalap, gamboge, and mercurials had failed (*a*): but however successful it may have sometimes been as a drastic purgative, it is accompanied, like the other irises, with a capital inconvenience; its strength being so precarious, or so variable in different states, that it is by no means fit for general use. The juice, both of this and of the other kinds of iris, has been employed also externally for clearing the skin of serpiginous eruptions; and sometimes snuffed up the nose as a strong errhine: even for these purposes it is to be used with caution, being subject, by its great acrimony, to inflame or vesicate the parts.

The dry roots are much weaker and less agreeable than those of either of the preceding species of iris. They have scarcely any smell; and when chewed in substance, discover very little taste. An extract made from them by rectified spirit is likewise weaker and more nauseous, though its quantity is less, amounting only to one twenty-fourth of the weight of the root: it has nothing of the flavour or aromatic warmth of those of the other two, but an

(*a*) *Edinburgh medical essays*, vol. v. art. 8.

ungrateful austere bitterishness and a kind of saline pungency. It is the root in this dry state that the writers on medicines mean, when they speak of the yellow water-flag root as being astringent and stomachic: it does not, however, appear to have any great claim to these virtues, and among us is no otherwise made use of than as an ingredient in the officinal arum powder, in which it is said to be employed only in deference to the original of Birckmann first published by Quercetanus.

* *JUGLANS.*

JUGLANS Pharm. Lond. Nux juglans C. B. Juglans regia Linn. WALNUT: a large tree commonly cultivated in this and most other countries of Europe for its fruit, which is a fleshy drupe, becoming husky when ripe, and inclosing a nut with an edible kernel. The unripe fruit (which is the part specified in the London catalogue) has a sharp acerb taste, and when handled, tinges the skin with rust-coloured durable spots. Infused in water it imparts a bitter harsh taste to the fluid, which becomes blackish on the addition of vitriol of iron. An extract prepared from it is subsaline, lightly acerb and styptic, and sufficiently grateful to the smell. This extract is accounted an excellent anthelmintic, given twice or thrice a day in the dose of a tea spoonful to children. It proves purgative, and expels the worms with the stools. A syrup made with a strong decoction of green walnuts and brown sugar, is much used in some parts of England as a domestic aperient medicine. The outer covering and shell of the fruit have been joined with guaiacum and sarsaparilla as ingredients for sudorific decoctions

decoctions in rheumatic and venereal cases. Green walnuts enter an antivenereal decoction, the formula of which is given in a Treatise on the Venereal Disease by Dr. Swediaur, edition second and third. This decoction is by some supposed to be the genuine LISBON *diet drink* which has acquired considerable reputation among the nostrums for this malady.

The culinary use of unripe walnuts as a pickle is well known.

J U J U B Æ.

JUJUBÆ Pharm. Paris. *Jujubæ majores oblongæ* C. B. *Zizyphus* Dod. *Rhamnus Zizyphus* Linn. JUBUBES: a half-dried fruit of the plum kind, about the size and shape of an olive: consisting of a pretty thick reddish yellow skin, a whitish fungous pulp, and a wrinkled stone pointed at both ends: the produce of a prickly tree, with three-ribbed leaves, and herbaceous or yellowish flowers, sometimes found wild, and commonly cultivated in the southern parts of Europe.

This fruit, when in perfection, has an agreeable sweet taste; and in those countries where it is common, makes an article of food in its recent state, and of medicine when half dried; decoctions of it being used, like other glutinous sweets, as incrassants, and demulcents in fluxions on the breast. Among us, it has long stood neglected, and is now become a stranger to the shops; the tree not producing fruit in this climate; and that, which we received from abroad, being commonly mouldy or carious.

ANOTHER fruit of the same kind, of a dark blackish hue, furnished with an ash-coloured

cup at the bottom, from which it easily parts, is sometimes brought from the eastern countries, under the names of *sebesten*, *myxa*, or *myxaria*. It is produced by the *Cordia Myxa* of Linnæus. It is more glutinous than the jujube; to which it has been commonly joined in pectoral decoctions; and along with which it is now discarded by the colleges both of London and Edinburgh.

JUNCUS ODORATUS.

JUNCUS ODORATUS *five aromaticus* C. B. *Schænanthus*, *squinanthum*, *fænum camelorum*, & *palea de mecha quibusdam*. *Andropogon Schænanthus* Linn. SWEET RUSH OR CAMEL'S HAY: a dried herb, of the grass kind, brought from Turkey and Arabia, in bundles about a foot long; consisting of smooth stalks, in shape and colour somewhat resembling barley straws, full of a fungous pith like those of rushes; and leaves like those of wheat surrounding the stalk with several coats: towards the tops of the stalks are sometimes found short woolly spikes of imperfect red flowers, set in double rows.

THE sweet rush, when in perfection, has an agreeable smell, and a warm, bitterish, not unpleasant taste. Distilled with water, it yields a small quantity of a yellowish, fragrant, and very pungent essential oil: the remaining decoction, thus divested of the aromatic matter of the plant, proves unpleasantly roughish, bitterish, and somewhat acrid. A tincture made in rectified spirit, in colour greenish yellow, yields, on being inspissated, a tolerably grateful, bitterish, aromatic extract. This plant, formerly employed as a warm stomachic and deobstruent,
appears

appears from the above experiments to be of no inconsiderable activity; but in this country, more common aromatic vegetables have now superseded its use. It has been kept in the shops only as an ingredient in the mithridate and theriaca; and the two colleges, having at last expunged those compositions, have dropt the *juncus odoratus*.

JUNIPERUS.

JUNIPERUS: *juniperus vulgaris fruticosa* C. B. *Juniperus communis* Linn. JUNIPER: an evergreen tree or bush, clothed with slender narrow stiff sharp leaves, like prickles, which stand generally three together: the flowers are a kind of small scaly catkins growing on one plant; the fruit, round berries, growing on a different one, containing, each, three oblong irregular seeds. It is common on heaths in different parts of Europe; and is found, at all seasons of the year, both with unripe green or red berries, and with ripe bluish black ones.

The BERRIES, *baccæ juniperi* Pharm. Lond. & Edinb. are brought chiefly from Holland and Italy: they should be chosen fresh, not much shrivelled, and free from mouldiness, which they are very subject to contract in keeping. They have a moderately strong not disagreeable smell, and a warm pungent sweetish taste, which if they are long chewed or previously well bruised, is followed by a considerable bitterness. The sweetness appears to reside in the juice or soft pulpy part of the berry: the bitterness, in the seeds; and the aromatic flavour, in oily vesicles, spread throughout the substance both of the pulp and of the seeds, and distinguishable even by the eye. The fresh berries yield, on expression,

a rich, sweet, honey-like aromatic juice: if previously powdered, so as to thoroughly break the seeds, which is not done without difficulty, the juice proves tart and bitter. The same differences are observable also in tinctures and infusions made from the dry berries, according as the berry is taken entire or thoroughly bruised.

Ol. e baccis
juniperi *Ph.*
Lond. & Ed.

They give out nearly all their virtue both to water and rectified spirit, and tinge the former of a brownish yellow, the latter of a bright orange colour. Distilled with water, they yield a yellowish essential oil, very subtle and pungent, in smell greatly resembling the berries, in quantity (if they have been sufficiently bruised) about one ounce from forty: the decoction, inspissated to the consistence of a rob or extract, has a pleasant, balsamic, sweet taste, with a greater or less degree of bitterishness. A part of the flavour of the berries arises also in distillation with rectified spirit: the inspissated tincture consists of two distinct substances; one oily and sweet: the other tenacious, resinous, and aromatic.

These berries are useful carminatives, detergents, and diuretics. The distilled oil is a very stimulating diuretic, approaching in quality to that of turpentine, like which, it impregnates the urine with a violet smell: the spirituous extract gives the same kind of smell; as does likewise the berry in substance, in a lower degree; but the watery extract or rob, as being divested of the oil, has no such effect. This last may be used with advantage in cases where the more stimulating preparations would be improper; as in catarrhs, debilities of the stomach and intestines, and difficulties of the urinary excretions, in persons of an advanced age. Among the aromatics that have been tried in composition
with

with juniper berries, sweet fennel seeds and caraway seeds seem the best adapted to improve their flavour: a cordial water is prepared in the shops by drawing off a gallon of proof spirit from a pound of the berries and an ounce and a half of each of the seeds. The water is strongly impregnated with the volatile virtue of the berry; to which the more fixt ones may in many cases be usefully superadded, by mixing with it a proper quantity of the rob.

Spiritus juniperi comp.
Ph. Lond.

The wood, *lignum juniperinum*, *cedrinum lignum*. Pharm. Paris. has been recommended as a sudorific, and by some accounted similar to guaiacum or sassafras, to either of which it is greatly inferior. It has a weak not unpleasant smell, and very little taste: decoctions and extracts, made from it with water, are disagreeably bitterish, subastringent, and balsamic: the spirituous tinctures are weaker than the watery, and yield, on being inspissated, an almost insipid resin. The quantity of watery extract, according to Cartheuser's experiments, is about one twelfth the weight of the wood; of spirituous extract, one eighth.

IN the warmer climates, particularly on the coasts of Africa, there exudes, from a larger species of juniper, a resinous juice, which concretes into semipellucid pale yellowish tears or glebes, resembling mastich, but larger; the *sandaracha* of the Arabians, and *gummi juniperinum* of the shops called by some, from the use to which it has been principally applied, *vernix*. This resin has a light agreeable smell, and no considerable taste: it dissolves in rectified spirit, and in oils both expressed and distilled, but gives out little or nothing to watery liquors, and thus discovers that it is nearly a pure resin. It

is supposed to be similar in quality, as in appearance, to mastich; and has been sometimes given internally, against hemorrhagies, old fluxes, and ulcerations; but principally employed externally in corroborant, nervine, traumatic applications. Among us, it is scarcely ever made use of for any medicinal purposes; other resinous substances, more common in the shops, being apparently superiour to it.

K A L I.

KALI majus cochleato semine C. B. Salsola quibusdam. Salsola Soda Linn. SNAIL SEEDED GLASSWORT OR SALTWORT: a plant with spreading, reddish, pretty thick branches; oblong, narrow, pointed, fleshy leaves like those of the houseleeks; and imperfect flowers in the bosoms of the leaves, followed each by one seed spirally curled and inclosed in the cup. It is annual, and grows wild on the sea coasts in the southern parts of Europe, particularly of the Mediterranean.

THIS herb is very juicy, in taste bitterish and remarkably saline. The expressed juice, and infusions or decoctions of the leaves, are said to be powerfully aperient and diuretic, and in this intention have by some been greatly recommended in hydropic cases: half a dram of the juice is reckoned a sufficient dose. But the kali is principally regarded, on account of its yielding copiously, when burnt, the fixt alkaline salt called *soda* or *soude*: an impure *soda* is prepared from it about Montpellier, where the plant is said to be cultivated for this use in the salt marshes; and a purer kind at Alicant in Spain the *barilla Pharm. Lond.* from a somewhat

a somewhat different species of kali (*a*). The salt called *kelp*, prepared among ourselves from different marine plants, contains an alkali of the same kind, but more impure.

The soda is much milder in taste than the common vegetable alkalies, and is in several other respects also very considerably different from them, being of the same nature with the mineral alkali or basis of sea salt (see *Natron*). It promises to be an useful article of the materia medica, and has for some time past been received in practice in this country, as it has long been among the French, both by itself, and combined with tartar into the neutral salt called *sal rupellense*. *The Edinburgh college have received a purified salt of this kind, under the title of *sal alcalinus fixus fossilis purificatus*; and the London, under that of *natron præparatum*.

K E R M E S.

GRANUM TINCTORIUM & *coccus baphica quibusdam*. KERMES: round reddish-brown grains, about the size of peas: found in Spain, Italy, and the southern parts of France, adhering to the branches of the scarlet oak. These grains appear, when fresh, full of minute reddish ova or animalcules, of which they are the nidus, and which in long keeping change to a brownish red powdery substance. They are cured by sprinkling with vinegar before exsiccation: this prevents the exclusion of the ova, and kills such of the animals as are already hatched; which would otherwise become

(*a*) *Kali hispanicum supinum annuum sedi foliis brevibus*, *Mem. de l'acad. des scienc. de Paris, pour l'ann. 1717.*
 & *Pharm. Paris. p. lxiv. Salsola sativa Linn.*

winged insects, and leave the grain an empty husk.

Confectio
alkermes.

FRESH KERMES yield upon expression a red juice, of a light pleasant smell, and a bitterish, subastringent, somewhat pungent taste: this juice, or a syrup made from it, are brought from the south of France, and sometimes made use of as mild restringents and corroborants. An elegant cordial confection, for these intentions, is prepared in the shops, by dissolving, in the heat of a water bath, six ounces of fine sugar in six ounces by measure of damask rose water, then adding three pounds of the juice of kermes warmed and strained, and after the whole has grown cold, mixing in half a scruple of oil of cinnamon: this confection is taken from a scruple to a dram or more; either by itself, or in juleps, with which it mingles uniformly without injuring their transparency. The dried grains, if they have not been too long kept, give out, both to water, and to rectified spirit, the same deep red colour, and nearly the same kind of smell and taste, with those of the expressed juice. The watery tinctures lose nearly all their smell in evaporation: the spirituous retain nearly the whole of their smell as well as of their taste. The inspissated extracts are considerably bitter, astringent, and of a kind of mild balsamic pungency: the spirituous is stronger and in somewhat smaller quantity than the watery, but the difference in strength is more considerable than that of the quantity, spirit seeming to extract the active matter more completely than water.

KINO.

K I N O.

GUMMI rubrum astringens gambiense D. Fothergill in *med. obs. Lond.* vol. i. 1757. *Kino*, *Pharm. Lond. & Edinb.* Red astringent gum from Gambia; supposed to exude from incisions made in the trunks of certain trees, called *pau de sangue*, growing in the inland parts of Africa.

It is very friable, so as to be crumbled in pieces by the hands; of an opaque dark reddish or almost black colour in the mass, and when reduced to powder, of a deep brick red: small particles of it, viewed with a magnifying glass, appear of a semitransparent red like bits of garnet. In chewing, it first crumbles, then sticks together a little, and in a short time seems wholly to dissolve, impressing a very considerable astringency accompanied with a slight sweetishness. It has no smell.

To oils it gives little or no tincture. On a red-hot iron, it glows for a long time like a bit of burning charcoal, without shewing any disposition to melt: it yields, during a little while, a slight dull flame hovering about the surface, and leaves at length a large proportion of greyish ashes.

Both rectified spirit and water dissolve, each, about two thirds of it, the spirit somewhat more than the water. Both solutions, when made with the same quantities of the two menstrua, as twenty or thirty times the weight of the powdered gum, appear of the same deep bright red colour, the spirituous rather deepest: with solution of chalybeate vitriol, they both produce inky mixtures, from which the black matter speedily concretes and settles to the bottom, leaving

leaving the liquors colourless (*a*). The watery solution suffers no apparent change from the addition of alkalies fixt or volatile; but acids render it turbid, and occasion a copious precipitation.

The part, which water leaves undissolved, seems as dark-coloured as the gum at first: it gives the same deep red tincture to spirit, and this tincture strikes the same black with solution of vitriol. The part which spirit leaves undissolved is much paler than the original gum, gives no tincture to water, and produces no change with the vitriolic solution.

It appears therefore that both the colouring and astringent matter are more completely taken up by spirit than by water; though water extracts readily enough a great share of both.

ONLY a little quantity of this drug has hitherto been brought over. Dr. Fothergill, the first person, as far as I can find, who gave notice of it to the public, and who favoured me with the specimens on which the above experiments were made, informs us, that he had the first intimation of it from a physician, who had met with good effects from it in obstinate chronical diarrhœæ; and that a parcel was afterwards shewn to him, which had been received from a Guinea ship, and taken for a

(*a*) The black matter in these kinds of mixtures appears to consist of the iron of the vitriol, disengaged from its acid solvent, and combined with the vegetable astringent substance; the acid serving only as a necessary intermedium for procuring this union. The above black precipitates, after repeated ablutions with water, retained their blackness; and the clear liquors from which they had settled, being examined with alkaline salt on the principles to be mentioned hereafter under the article *sales alkali*, seemed to contain as much acid as the quantity of vitriol employed in them.

fine

fine kind of dragons blood, which it pretty much resembles in appearance, though in quality essentially different. He observes, that from the trials which have been made, and from its sensible qualities, it promises to be an article worth inquiring after, and to become in time a valuable addition to the materia medica. In disorders from laxity and acrimony, it may, doubtless, be of great advantage; nor do I recollect any other drug, that is so much of a gummy nature, and at the same time so astringent. Terra japonica comes the nearest to it, but is manifestly less astringent. The terra japonica differs likewise, in its watery solutions suffering no considerable separation of their parts from the addition of acids; and in the black matter, which they produce with vitriol, being little disposed to concrete and precipitate. Whether the cause, on which these kinds of diversities depend, be sufficient to influence also their medicinal powers, our knowledge, both in the chemical composition of bodies, and in the operation of medicines, is as yet too imperfect to permit us to judge. *The London and Edinburgh colleges have now received this gum as an officinal, and the latter have directed a tincture, in which two ounces of it are dissolved in a pound and a half of proof spirit.

Tinctura e
Kino Ph. Ed.

LABDANUM.

LADANUM Pharm. Lond. LABDANUM: a resinous juice, exuding upon the leaves of a small shrub, *cistus ladanifera cretica flore purpureo Tourn.* *Cistus creticus Linn.* which grows plentifully in Candy and some of the other islands of the Archipelago, and bears the winters of our own climate. The juice is said to be collected,

lected, by lightly brushing the shrub, in the summer heats, with a kind of rake having several straps or thongs of leather fixed to it instead of teeth (*a*): the unctuous juice adheres to the thongs, and is afterwards scraped off with knives. The shrub is said to be very plentiful also in Spain (*b*), but it does not appear that any labdanum is brought from thence.

Two sorts of labdanum are met with in the shops. The best, which is very rare, is in dark-coloured black masses, of the consistence of a soft plaster, growing still softer on being handled: the other is in long rolls coiled up, much harder than the preceding, and not so dark. The first has commonly a small, and the last a very large admixture of fine sand, which, in the labdanum examined by the French academy, amounted to three fourths of the mass. It is scarcely indeed to be collected pure, independently of designed abuses; the dust, blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice.

LABDANUM has been sometimes exhibited as a resinous corroborant and restraining, but principally employed in external applications and perfumes: the soft kind makes an useful ingredient in the cephalic and stomachic plasters of the shops. This sort has an agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker, and the common means of purifying these kinds of substances, though they

(*a*) Belon, (*Bellonius*) *observations des choses memorables trouvées en Grece*, Éc. l. i. c. vii.

(*b*) Clusius, *Rariorum stirpium per Hispanias observatarum historia*, l. i. c. v.

separate the sandy matter mixed with it, render it weaker still. Rectified spirit of wine dissolves nearly the whole of the pure labdanum into a gold-coloured liquor: on inspissating the filtered solution, the finer part of the labdanum rises with the spirit, and the remaining resin proves both weaker and less agreeable than the juice at first. On infusing the labdanum in water, it impregnates the liquor considerably with its smell and taste: in distillation with water, there comes over a fragrant essential oil; and there remains in the still a brittle almost insipid resin, with a pale coloured liquor, which, inspissated, yields a weakly bitterish extract. The specific flavour of this juice seems to be sooner dissipated by heat than that of almost any of the other officinal resins or gummy resins.

L A C.

LAC; *lac asininum*, *caprinum*, *muliebre*, *ovillum*, *vaccinum*. MILK: asses, goats, human, sheeps, and cows milk: a fluid prepared and secreted in the bodies of animals, but not completely elaborated into an animal nature. On a chemical analysis, it yields the same general principles with substances of the vegetable kingdom.

MILK is a mild nutritious balsamic fluid; when taken freely, an excellent obtunder of acrid and deleterious substances, and of overdoses of the stronger cathartics and emetics; one of the best restoratives in emaciated habits; a palliative, whilst its use is continued for the only aliment, in gouty cases not inveterate, and in some rheumatic pains; the medicine principally depended on in hectic and consumptions; prejudicial

prejudicial in acute diseases, bilious fluxes and dysenteries, swellings of the præcordia, and obstructions of the abdominal viscera.

It sometimes happens, that when the body stands most in need of this medicinal nutriment, the intestines are too slippery to retain it. In such cases it may be advantageously boiled with gentle astringents, as granate peel, balauftines, red roses; about an equal quantity of water being added, by a little at a time as the milk boils up, so as that all the water may be wasted in the boiling (*a*).

It may be presumed that milk thickens in a sound stomach, before its digestion, nearly in the same manner as it is thickened by the runnet or infusion of the stomach of a calf; and that, where the gastric juices are too inert to produce this change, or so acid as to produce it in too great a degree and to separate a firm curd from the serous part; the milk will be difficult of digestion. Debilities of the stomach are endeavoured to be corrected by the medication above-mentioned, or by the interposition of proper stomachics; acidities by the absorbent earths. The absorbent earths, however, are in this intention commonly insufficient, unless assisted by stomachics; for as they absorb only the acid already generated, and have no power of remedying the weakness or indisposition which tends to produce more, they afford only a temporary and palliative relief: and indeed it may be questioned, whether they are capable of so far destroying the force, even of the acid they are mixed with, as to prevent its curdling milk in the stomach.

(*a*) Mead, *monita & præcepta medica*, p. 49.

Milk is curdled by all acids; by most, perhaps by all, of the combinations of acids with earthy and metallic bodies; by alkaline salts both fixt and volatile; by some vegetables that have no acidity or alkaline quality, as mustard seed; and by strong vinous spirits. The concentrated acids produce a strong curd immediately on mixture: most of the other substances scarcely have their full effect without a boiling heat. The coagulum made by acids falls to the bottom of the serum: that made with alkalies swims on the surface, forming, especially if the alkali is of the volatile kind, a thick coriaceous skin. The serum, with alkalies, proves of a greenish hue: that made with the other substances is nearly of the same appearance with the whey which separates spontaneously.

The perfect neutral salts, or those compounded of an acid and an alkali, produce no coagulation, either with or without heat: some of them, particularly nitre and sal ammoniac, make the milk less coagulable, and, if added to the boiling mixture when already curdled by vegetable acids, render nearly the whole fluid again (*a*). Sugar retards the spontaneous coagulation, and impedes likewise the separation of the cream from milk, and of the butyraceous part from cream. Lime-water and animal gall redissolve the coagula.

MILK, distilled with a gentle warmth, gives over a colourless and tasteless liquor, which seems to be mere water, but is found to differ from the simple element in growing sour upon keeping. The residuum is a grumous, unctu-

(*a*) Willis, *Pharmaceutice rationalis*, pars i. sect. iv. cap. i. § 8.

ous, yellowish or brownish mass; which, on being boiled in water, partially dissolves. This solution contains the sweet substance of the milk, freed from the grosser unctuous caseous matter; and proves an elegant whey, more agreeable in taste, and which keeps better, than those prepared in the common manner. These sorts of liquors are very useful, cooling, diluent, aperients and detergents; in hypochondriacal complaints, impurities of the humours, acute diseases, &c. They promote the natural excretions in general, and remarkably increase the action of the purgative sweets, casia and manna. The saline matter of these liquors may be obtained in a pure solid crystalline state, by clarifying the whey with whites of eggs, and, after due evaporation, setting it to shoot, in the same manner as other saline solutions.

Saccharum
lactis *Ph.*
Paris.

Thus milk is resolved into a watery fluid; a gross substance indissoluble in water, which appears to contain the directly nutritive part; and a sweet aperient salt. The milks of different animals differ remarkably in the proportions of these ingredients, and in the quality of the salt.

Breast milk and asses milk are very nearly alike: twelve ounces leave on evaporation, according to Hoffman's experiments, eight drams of solid matter, of which boiling water dissolves six drams: the solution, inspissated or crystallized, yields a salt of a rich honey-like or saccharine sweetness. The same quantity of cows milk leaves thirteen drams of solid matter, from which water extracts only about a dram and a half: the salt obtained from this solution is much less sweet, when purified is almost insipid, dissolves very difficultly, and seems to have little claim to the pectoral and antiphthysical virtues

tues vulgarly ascribed to it. All the other milks that have been examined are of an intermediate nature between the two first and the last : goats milk approaches more to that of the afs than sheeps milk does, though both of them come nearer to that of the cow than of the afs.

There are considerable differences in the milk of one and the same animal according to its different aliment. Dioscorides relates, that the milk of goats, which fed on the scammony plant and sparges, proved cathartic ; and instances are given, in the *Acta Hafniensia*, of bitter milk from the animal having eaten wormwood. It is a common observation, that cathartics, spirituous liquors, &c. taken by a nurse, affect the child ; that the milk of animals, feeding on green herbs, is more dilute than when they are fed on dry ones ; and that many of the common plants, which are eaten by cattle, give a particular taste to their milk. Hoffman is of opinion, that, on this principle, milk may be usefully impregnated with the virtues of different medicinal substances.

L A C C A.

LAC, STICK-LAC, improperly called GUM-LAC : a concrete brittle substance, of a dark red colour ; brought from the East Indies incrustated on pieces of sticks ; internally divided into several cells ; said to be the resinous juice of certain trees, collected by winged red insects of the ant kind, impregnated with the tinging matter of the insects, and by them deposited either on the branches of the trees, or on sticks fastened in the earth for that purpose. In the

cells are often observed small red bodies, which appear to be the young insects (*a*).

* A curious account by Mr. Kerr of the insect producing this gum, is contained in the *Philos. Transf.* vol. lxxi. part ii. From this it appears, that these insects are inhabitants of four trees; the *Ficus religiosa* Linn. the *Ficus Indica* Linn. the *Plaso Hort. Malabar.* and the *Rhamnus Fajuba* Linn. The lac is however rarely found upon this last, and of an inferiour quality. The two species of *Ficus* yield a milky juice when wounded, which instantly coagulates into a viscid substance. The *Plaso* tree by incision gives out a red gum very similar to the lac. Hence the insect seems to have little trouble in animalizing the juices of these trees so as to make its cell, which is the stick-lac. It is found in very great quantities on the uncultivated mountains on both sides the Ganges; and is of great use to the natives in various works of art, as varnish, painting, dying, &c.

THE tinging red animal matter of the stick-lac dissolves both in water and in rectified spirit, and appears to be of the same general nature with that of cochineal; like which it is made dull by alkalies, and brighter by acids, and turned to a scarlet by solution of tin. If the lac be broken in small pieces, or grains, and infused in warm water, till it ceases to give any tincture to the liquor; the remainder appears of a transparent yellowish or brownish colour, and, on raising the heat so as to make the water boil, melts and rises to the surface. The grains, or the plates formed from them by liquefaction,

Seed lac of
the shops.

Shell lac of
the shops.

(*a*) See the *Memoires de l'acad. roy. des sciences de Paris.* pour l'ann. 1714.

thus robbed of great part of the animal tincture, seem to be of an intermediate nature between that of wax and resins, or to partake of the nature of both: they crumble on chewing, and do not soften or stick together again: laid on a red-hot iron, they instantly catch fire, and quickly burn off, with a strong and not disagreeable smell: distilled, they yield, like wax, an acid spirit and a butyraceous oil: alkaline lixivia, and volatile alkaline spirits, dissolve them into a purplish liquor: they dissolve also, by the assistance of heat, in rectified spirit of wine, and communicate to it a yellowish or brownish red colour, an agreeable smell, and a bitterish, subastringent, not unpleasant taste. The lac in substance, whether entire, or freed from so much of its colouring matter as boiling water is capable of extracting, has no manifest taste or smell.

A spirituous tincture of stick-lac has been sometimes given as a mild restraining and corroborant in female weaknesses, and in rheumatic and scorbutic disorders. But the principal medicinal use of this concrete is as a topical corroborant and antiseptic, in laxities and scorbutic bleedings and exulcerations of the gums: some employ for this purpose a tincture of the lac in alum water; others, a tincture made in vinous spirits impregnated with the pungent antiscorbutics.

LACTUCA.

LETTUCE: a plant with slender but firm stalks, which yield, as do the leaves, a milky juice on being wounded: the flower consists of a number of flat flosculi set in a small scaly cup, followed by short flat seeds, which are pointed at both ends and winged with down.

1. *LACTUCA sativa* C. B. & Linn. Garden lettuce: with oblong, broad, rounded, uncut leaves; and numerous flowers standing on long pedicles in the form of an umbel. It is annual, and raised at different times of the year in culinary gardens.

THE young leaves of the several species or varieties of garden lettuce are emollient, cooling, in some small degree laxative and aperient, easy of digestion, but of little nourishment; salubrious in hot, bilious, indispositions; less proper in cold phlegmatic temperaments. In some cases, they tend to procure sleep; not as being possessed of any strictly hypnotic power; but by virtue of their refrigerating and demulcent quality. When the plant is grown up, it proves considerably bitter, though less so than most of the others of the lactescent kind, to which it is similar in its general virtues.

The seeds, which in the common lettuce are of a grey or ash colour, in the cabbage lettuce black, unite with water, by trituration, into an emulsion or milky liquor, which has nothing of the aperient bitterness of the milky juice of the leaves, and is nearly similar to the emulsions made with almonds. The lettuce emulsions have been supposed to be more refrigerant than those of the almond, and hence have sometimes been preferred in heat of urine and other disorders from acrimony or irritation.

2. *LACTUCA SILVESTRIS Medicorum. Lactuca silvestris* & *Scariola Pharm. Paris. Lactuca silvestris costa spinosa* C. B. *Lactuca Scariola* Linn. Wild lettuce: with the leaves cut almost to the rib into indented triangular segments; and the stalks and the ribs prickly. It is biennial,

biennial, grows wild in hedges, and flowers in June.

This species is considerably bitterer than the garden lettuces, and more aperient and laxative. It is nearly similar, in virtue as in taste, to endive unblanched.

3. LACTUCA GRAVEOLENS: *lactuca silvestris odore viroso* C. B. *Lactuca virosa* Linn. Strong scented lettuce, by some erroneously supposed to be the wild lettuce of medical writers: with the lower leaves entire, the upper jagged, the stalks and leaves prickly. It is biennial, found in hedges and by the sides of ditches, and flowers in June.

This species differs greatly in quality from the two preceding, though reckoned by botanists to be only a variety of the second. It smells strongly of opium, and appears to partake, in no small degree, of the virtues (*a*) of that narcotic drug. The opiate power of the lettuce, like that of the poppy-heads, resides in its milky juice, but whether the milk of the lettuce is of equal safety, or its virtue precisely of the same kind, with that of the poppy, is not known.

* Dr. Collin of Vienna has written a tract recommending the use of this plant in the cure of dropsies. The preparation he employs, is an extract from the expressed juice, first sufficiently clarified, and evaporated by a very gentle heat. He begins with small doses; but in dropsies of long standing, originating from visceral obstructions, he rises to the quantity of from one to three drams in twenty-four hours. He has constantly found it a mild re-

(*a*) Ray, *Historia plantarum*, i. 222. Boerhaave, *Hist. bot. Lugd. Bat.* p. 127.

medy, agreeing perfectly with the stomach. It usually kept the body open, but without exciting a purging. It seldom failed of proving powerfully diuretic, and at the same time mildly diaphoretic. The patient's thirst is said to have been totally extinguished by its use; but at the same time we are told that they were allowed to drink freely of diluting liquors during the course. Dr. Collin asserts, that out of twenty-four dropfical cases, all but one were cured by the use of this medicine; a degree of success that certainly entitles it to the further notice of the faculty.

LAMIUM.

LAMIUM ALBUM Linn. *Lamium album non fœtens folio oblongo C. B. Galeopsis & archangelica, & urtica mortua sive alba quibusdam.*

WHITE ARCHANGEL or DEAD NETTLE: a plant with square stalks; oblong indented acuminate leaves, like those of the stinging nettle, set in pairs at the joints; and clusters, in the bosoms of the leaves, of white labiated flowers, whose upper lip is entire, arched, and hairy, the lower lip cloven. It is perennial, common in hedges and about the borders of fields, and found in flower from April to near the end of summer.

INFUSIONS of this plant, drank as tea, are said to be beneficial in uterine hemorrhagies and the fluor albus: the flowers are supposed to be more efficacious than the leaves, and hence those only are directed by the college of London. The sensible qualities, either of the one or the other, afford little foundation to expect from them any considerable virtues. The flowers have only a slight mucilaginous sweetishness, without any remarkable smell or flavour: the

the leaves have a weak not unpleasant smell, and a small degree of roughness, which may entitle them to a place among the milder corroborants.

LAMPSANA.

LAMPSANA, *Lapsana*, *Napium*, *Papillaris herba*. *Soncho affinis lapsana domestica* C. B. *Lapsana communis* Linn. DOCK CRESSSES, NIPPLEWORT: a roughish plant; bearing small yellow flosculous flowers, set in form of an umbel on the top of the stalk, followed by little crooked naked seeds: the lower leaves are deeply cut, towards the pedicle, into generally two or four opposite sections; the upper are oblong, narrow, undivided, and have no pedicles. It is annual, grows wild by road sides, and flowers greatest part of the summer.

THIS is one of the bitter lactescent plants, nearly similar in virtue to dandelion, endive, cichory, and the others of that class. It has been employed chiefly for external purposes, against wounds and ulcerations, particularly of the nipples, whence its names *nipplewort* and *papillaris*.

LAPATHUM.

DOCK: a perennial plant bearing numerous imperfect flowers set in double cups: the outermost cup consists of three small green leaves; the inner of three larger reddish ones, which become a covering to a glossy triangular seed.

I. OXYLAPATHUM. *Lapathum acutum folio plano* C. B. *Rumex acutus* Linn. Sharp-pointed wild dock: with long acuminate leaves, not curled

curled about the edges, growing gradually narrower from the bottom to the point; and the feed-covers indented and marked with little tubercles. The roots are of a brownish colour on the outside, and of a yellowish within, which grows deeper in drying.

THE roots of the sharp-pointed dock have a bitterish astringent taste; and no remarkable smell: the roots of the other common wild docks are nearly of the same quality, equally discover their astringent matter both to the taste and by striking an inky blackness with solution of chalybeate vitriol, and have been often substituted in our markets to those of the sharp-pointed kind; which last are generally, and, so far as can be judged from their taste, justly, accounted the most efficacious. They are supposed to have an aperient and laxative, as well as an astringent and corroborating virtue; approaching in this respect to rhubarb, but differing widely in degree, their stypticity being greater, and their purgative quality, if really they have any purgative quality at all, far less. They stand recommended in habitual costiveness, obstructions of the viscera, scorbutic and cutaneous maladies: in which last intention, fomentations, cataplasms, or unguents of the roots, have been commonly joined to their internal use: in many cases, the external application alone is said to be sufficient. Their active matter is taken up both by water and rectified spirit, and, on inspissating the tinctures, remains in the extracts; both the watery and spirituous extracts are considerably bitter and very austere. A decoction of half an ounce or an ounce of the fresh roots, or of a dram or two of

of the dry roots, is commonly directed for a dose.

2. HYDROLAPATHUM *five Herba britannica Pharm. Edinb. Lapaibum aquaticum folio cubitali C. B. Rumex aquaticus Linn.* Great wild water-dock: with very large leaves, two or three feet long; the seed-covers not indented. The roots are externally blackish, internally white with a faint reddish tinge, which, in drying, changes in some parts to a yellowish: the internal part of the fresh root, exposed to the air, or of the dry root moistened, soon changes superficially to a deep yellow or brown.

THE roots of the water-dock strike a black colour with solution of chalybeate vitriol, like those of the preceding species, but have a much stronger and more acerb taste; which is diffused equally, so far as can be judged, through the whole substance of the root. They give out their active matter both to water and rectified spirit, and tinge both menstrua of a pale yellowish or reddish brown colour, though in chewing they render the saliva only milky.

The *herba britannica* of the ancients, celebrated as an antiscorbutic, and of which the knowledge was long lost, was proved by Muntingius, towards the end of last century, to be no other than this great water-dock. Muntingius endeavours to prove also, that its name *britannica* was not derived from that of our island, but from Teutonic words expressing its power of fastening loose teeth, or of curing the disease which makes them loose. Later experience has shewn, that it is a medicine of very considerable efficacy, both externally in lotions against putrid spongy gums and ulcerations,

rations, and as an internal antiscorbutic: Boerhaave assures us, that in these cases he has known many instances of its happy effects. It is supposed to be of service also in cutaneous defecations different from the true scurvy, in rheumatic pains, and in chronical disorders proceeding from obstructions of the viscera. It has been chiefly used in medicated wines and small ales, with the addition generally of some spicy materials, and sometimes of other antiscorbutic plants, as scurvygrafs, buckbean, horse-radish, &c.

3. RHABARBARUM MONACHORUM *Pharm. Paris. Lapatium hortense latifolium C. B. Hippolapatium; Patientia. Rumex Patientia Linn.* Monks rhubarb, garden patience: with large, broad, acuminate leaves; reddish, branched stalks; the leaves that cover the seeds unindented, and a tubercle on one of them: the root is of a yellow colour, with red veins, approaching in appearance to rhubarb.

THIS root is supposed to possess the virtues of rhubarb, in an inferiour degree. It is obviously more astringent than rhubarb: but comes very far short of it in purgative virtue, though given, as usually directed, in double its dose; nauseating the stomach, without producing any considerable evacuation. It communicates a deep yellow tincture both to water and spirit.

LAVENDULA.

LAVENDER: a shrubby plant, with its leaves set in pairs, the stalks square when young, and round when grown woody; producing, on the

the tops of the branches, naked spikes of blue, sometimes white, labiated flowers, of which the upper lip is erect and cloven, the lower divided into three roundish segments.

1. LAVENDULA Pharm. Lond. & Edinb. *Lavendula angustifolia* C. B. *Pseudonardus quæ lavendula vulgo* J. B. *Lavendula minor sive spica* Ger. & Park. *Lavendula Spica* Linn. Lavender: with oblong, very narrow, somewhat hoary, undivided leaves; a native of dry gravelly soils in the southern parts of Europe, common in our gardens, and flowering in July.

THE flowers of lavender have a fragrant smell, to most people agreeable, and a bitterish, warm, somewhat pungent taste: the leaves are weaker and less grateful. They are often employed as a perfume; and medicinally, as mild stimulants and corroborants, in vertigoes, palsies, tremors, and other debilities of the nervous system, both internally and externally.

The flowers are sometimes taken in the form of conserve; into which they are reduced, by beating them, while fresh, with thrice their weight of double refined sugar. Their fragrance is less injured by beating or bruising them than most of the other odoriferous flowers, but is nevertheless considerably diminished: the flavour of the leaves is of a much less destructible kind.

Water extracts by infusion nearly all the virtue both of the leaves and flowers. In distillation with water, the leaves yield a very small portion of essential oil; the flowers a much larger, amounting, in their most perfect state, when they are ready to fall off spontaneously and the seeds begin to shew themselves, to about one ounce from sixty. The oil is of a bright yellowish

Ol. essentielle flor. lavend. *Ph. Lond. & Ed.* lowish colour, a very pungent taste, and possesses, if carefully distilled, the fragrance of the lavender in perfection: it is given internally from one drop to five, and employed in external applications for stimulating paralytic limbs and for destroying cutaneous insects. The decoction, remaining after the distillation of the oil, is disagreeably bitterish and somewhat saline.

Rectified spirit extracts the virtue of lavender more completely than water. The spirit elevates also in distillation a considerable part of the odorous matter of the leaves, and greatest part of that of the flowers; leaving in the inspissated extracts, a moderate pungency and bitterishness with very little smell. A spirit prepared by pouring a gallon of proof spirit on a pound and a half of the fresh-gathered flowers, and drawing off five pints by the heat of a water bath; or by

Spiritus lavend. Ph. Lond.

—simpl. Ph. Ed.

Tinct. lavend. comp. Ph. Lond.

Spirit. lavend. comp. Ph. Ed.

adding eight pounds of rectified spirit to two of the flowers, and drawing off seven pounds, is richly impregnated with the fragrance of the flowers. More compounded spirits of this kind, in which other aromatics are joined to the lavender, have been distinguished by the name of English or palsy drops: the college of London directs three pints of the simple spirit of lavender, and one pint of spirit of rosemary, to be digested on half an ounce of cinnamon, half an ounce of nutmegs, and one ounce of red saunders, as a colouring ingredient: the college of Edinburgh, to the same quantity of both spirits, orders one ounce of cinnamon, two drams of cloves, half an ounce of nutmegs, and three drams of red saunders. These preparations are taken internally, on sugar or in any convenient vehicle, from ten to an hundred drops, and used externally in embrocations, &c.

2. *LAVENDULA LATIFOLIA* C. B. *Lavendula major seu spica* Pharm. Paris. *Pseudonardus quæ vulgo spica* J. B. *Lavendula major five vulgaris* Park. Broad lavender: with longer, broader, and hoarier leaves, less numerous on the stalks and branches; and much larger spikes, though smaller flowers; common in the southern parts of Europe, but rare among us. The name spike is applied by foreign writers to this species, by some of ours to the first. Linnæus makes this only a variety of the former.

THE broad-leaved lavender is stronger both in smell and taste than the narrow, and yields in distillation almost thrice as much essential oil, but the flavour both of the oil and of the plant itself, is much less grateful: the oil is likewise of a much darker colour, inclining to green. Watery and spirituous extracts, made from the two sorts of lavender, are very nearly alike; the difference seeming to reside only in the volatile parts.

LAUROCERASUS.

LAUROCERASUS Pharm. Paris. *Cerasus folio laurino* C. B. *Prunus Lauro-cerasus* Linn.

LAUREL, CHERRY-BAY: an evergreen tree or shrub, with large, thick, oblong, glossy leaves, pointed at both ends, and slightly indented: towards the tops of the branches come forth pentapetalous flowers, in five-leaved cups, followed by clusters of berries, like cherries or damsons. It is cultivated in gardens, flowers in May, and ripens its fruit in August or September.

THE leaves of the laurocerasus have a bitter taste, accompanied with a flavour resembling
that

that of the kernels of certain fruits, as those of black cherries, apricots, bitter almonds, &c. Like those kernels, they communicate an agreeable flavour both to watery and spirituous liquors, by distillation and by infusion; and, like them also, they appear from some late trials to be poisonous. A distilled water, strongly impregnated with their flavour, given in the quantity of four ounces to a large mastiff dog, occasioned in a few minutes terrible convulsions, and within an hour put an end to his life: dogs have been killed also, in a few minutes, by smaller quantities, of the distilled water, of an infusion of the leaves in water, and of their expressed juice, taken into the stomach, or injected by the anus; and there are some instances of liquors flavoured with the distilled water being poisonous to human subjects. The dissections of dogs killed by this poison have shewn no other morbid appearances, or alterations, than such as may be reasonably supposed the immediate effect of the convulsions: when the distilled water, or the leaves in substance, were given in such small quantities as not to kill, and continued for some time, the pulse became quicker, and the blood more fluid, and of a more florid red colour (*a*). It is said that infusions of the leaves (made probably very weak) are commonly used in Holland in disorders of the lungs (*b*).

The kernel of the fruit is of the same nature with the leaves. The pulpy part discovers no ill quality to the palate, is coveted by birds, and appears to be innocent.

(*a*) See Dr. Langrish's *experiments on brutes*, and No. 418 and 420 of the *philosophical transactions*.

(*b*) Linnæi *Amœnitat. academic.* iv. 40. i. 409.

L A U R U S.

LAURUS Pharm. Lond. & Edinb. Laurus vulgaris C. B. Laurus nobilis Linn. BAY: an evergreen tree or shrub, with oblong, stiff, smooth leaves, pointed at both ends, pale yellowish, monopetalous flowers, divided into four sections; and oblong dry berries, containing, under a thin black skin, a horny shell, within which are lodged two dark brownish seeds joined together. It is a native of the southern parts of Europe, and not uncommon in our gardens; it flowers in April and May, and ripens its berries in September. The shops have been commonly supplied with the berries from the Streights.

THE leaves of the bay have a light agreeable smell, and a weak aromatic roughish taste: in distillation with water they yield a small quantity of a very fragrant essential oil: with rectified spirit they afford a moderately warm pungent extract. The berries are stronger both in smell and taste than the leaves, and yield a larger quantity of essential oil: they discover likewise a degree of unctuousity in the mouth, give out to the press an almost insipid fluid oil, and on being boiled in water a thicker butyraceous one, of a yellowish green colour, impregnated with the flavour of the berry.

Oleum expressum bac-
carum lauri
Ph. Ed.

The leaves and berries of the bay are accounted stomachic, carminative, and uterine: in these intentions, infusions of the leaves are sometimes drank as tea; and the essential oil of the berries given, on sugar or dissolved by means of mucilages or in spirit of wine, from one to five or six drops. The principal use of

these simples in the present practice is external: they are made ingredients in carminative glysters, warm cataplasms, and uterine baths; and the butyraceous oil of the berries serve as a basis for some nervine liniments, and mercurial and sulphureous unguents.

* Bergius relates that he has very frequently seen protracted intermittents cured by a mixture of two scruples of powder of bay berries and six grains of capsicum seeds, divided into three doses, one given at the first accession of the rigor, another, the next day at the same hour, and the third on the succeeding day. *Mat. Med.* i. 144.

LAZULI LAPIS.

LAPIS CÆRULEUS; *Lapis cyanus*; *Ceruleum nativum*. *LAPIS LAZULI*: a compact ponderous fossil; less hard than flint; of a deep blue colour, variegated commonly with gold or silver coloured points or veins; retaining its colour in a moderately strong fire, in a very strong one calcining to a brown, and at length melting into a dusky coloured glass with bluish clouds; losing its colour, and in great part dissolving, by digestion in mineral acids; said to be found in the mines of gold, silver, and copper, in the eastern countries and in some parts of Germany (a).

THIS stone, levigated into an impalpable powder, and freed from the grosser parts by washing with water, has been given in doses of half a dram and a dram, and said to operate strongly by stool and vomit. Some have re-

(a) See Cronstedt's *mineral system*, and Marggraf's *chemical works*.

commended

commended it in epilepsies and intermitting fevers: Dolæus tells us, that in this last disorder, the above doses, taken on the approach of a fit, with two or three spoonfuls of brandy, were with him a singular secret. The ancients supposed, that it evacuates chiefly what they called melancholic humours or adust black bile, probably, as Geoffroy suspects, on account of its tinging the feces black; a property, from which it may rather be presumed that the mineral participates of iron. The constringing power, which is likewise ascribed to it, depends perhaps on this ingredient; but neither its real medical qualities, nor its chemical composition, are as yet known. Its ferrugineous impregnation is apparent, from its yielding yellow martial flowers on sublimation with sal ammoniac, and from solutions of it in mineral acids affording a blue precipitate with the tincture of Prussian blue described under the article *ferrum*. It has been generally supposed to participate pretty largely of copper; but pure lapis lazuli gives no mark of copper; and those, who speak of experiments discovering that metal in it (*a*), have probably taken for lapis lazuli some other blue stones, as the lapis armenus, which plainly contains copper, and which some celebrated naturalists have ranked as a species of the lazuli. The lapis armenus may be readily distinguished, by its being less hard than the lazuli, soon losing its blue colour in moderate fire, and raising an effervescence with acids, its basis seeming to be a calcareous earth.

LENTISCUS.

LENTISCUS vulgaris C. B. *Lentiscus verus*
ex insula chio cortice & foliis fuscis Commel. *Pis-*

(*a*) Hoffman, *in notis ad Poterium*, p. 628.

tachia Lentiscus Linn. LENTISK or MASTICH TREE: an evergreen tree or shrub, with soft flexible branches hanging downwards, and small stiff leaves, pointed at both ends, set in pairs on a furrowed rib, which terminates in a soft prickle: some trees produce reddish imperfect flowers, in the bosoms of the leaves; others, clusters of black firm berries including a whitish kernel. It is a native of the southern parts of Europe, and bears the ordinary winters of our own climate: large plantations of it are cultivated in the island of Chio, on account of the resinous juice, called mastich, obtained from incisions made in the trunk. The wood is sometimes brought to us from Marseilles, in thick knotty pieces, covered with a brownish bark, internally of a whitish or pale yellowish colour.

THIS wood is accounted a mild balsamic restringent: infusions and decoctions of it are greatly commended, in the German ephemerides, against catarrhs, nausææ, weakness of the stomach, and in general as a corroborant and an alterative or sweetener(*a*). It may indeed be presumed, from its sensible qualities, to possess virtues of this kind, though in no very high degree. Its smell and taste are aromatic and resinous, but very weak: the small tough sprigs are stronger than the larger pieces, and the bark than the wood. It impregnates water with a red colour, and a light agreeable smell: to rectified spirit it gives a bright yellow tincture, and scarce any smell. On gently distilling off the menstrua from the filtered liquors, the remaining extracts prove resinous, subastringent,

(*a*) Wenck, *Acta nat. curios.* dec. iii. ann. ix & x. p. 254.
and

and slightly pungent: the watery extract discovers more of the flavour of the wood, and is in taste rather stronger, though much larger in quantity, than the spirituous; the spirit covering or suppressing the smell, and not taking up enough of the gummy or mucilaginous matter to render the resin dissoluble in the mouth. According to Cartheuser's experiments, the watery extract amounts to one eighth the weight of the wood, the spirituous to one twentieth or one sixteenth.

LEPIDIUM.

LEPIDIUM: a plant with undivided leaves, and small tetrapetalous white flowers on the tops of the stalks and branches, followed by little short heart-shaped sharp-pointed pods, which are divided longitudinally into two cells full of minute seeds.

1. *LEPIDIUM latifolium* C. B. & Linn. *Piperitis*. *Raphanus sylvestris* Belgis & Gallis.

DITTANDER, PEPPERWORT, POOR-MANS-PEPPER: with oblong, broad, acuminate, serrated leaves. It is perennial, and found wild in some parts of England by the sides of rivers and in other moist shady places.

2. *IBERIS, seu Cardamantica*: *Iberis latior folio* C. B. *Lepidium gramineo folio sive iberis* Tourn. *Lepidium Iberis* Linn. *Sciatica creffes*: with long narrow leaves, the lower on long pedicles and serrated; the upper entire, without pedicles. It is annual; a native of the southern parts of Europe; and raised in our gardens, as the preceding, for culinary use.

THESE herbs, when fresh, have a quick penetrating pungent taste; which is in great part
E 3 dissipated

dissipated or destroyed by exsiccation, retained in the expressed juice, extracted by water and by rectified spirit, and elevated by both menstrua in distillation or evaporation. They are recommended as antiseptics, stomachics, attenuants, and aperients; and appear to be of the same general nature with the *cochleariæ*, *nasturtium*, and other acrid antiscorbutics. The second sort has been supposed particularly serviceable, externally, against the sciatica; whence its common English name.

LEVISTICUM.

LIGUSTICUM seu *Levisticum*, Pharm. Edinb. *Ligusticum vulgare* C. B. *Angelica montana perennis paludarii folio* Tourn. *Ligusticum Levisticum* Linn. **LOVAGE**: a tall umbelliferous plant, with large leaves divided and subdivided into sections like those of smallage: the umbels stand on short pedicles, with several little leaves at the origin of each of the primary ones, and a few at the ramifications; the seeds are of a pale brown colour, oblong, plano-convex, marked with five longitudinal ridges: the root thick, fleshy, juicy, branched, of a dark brownish colour on the outside, and a whitish or pale yellowish within. It is a native of the southern parts of Europe, and raised with us in gardens: it is perennial, flowers in June, and ripens its seeds in August.

ALL the parts of this plant are of the aromatic kind; of a strong flavour, somewhat like that of angelica, but less agreeable; supposed particularly useful in female disorders. The leaves, which have been generally made choice of in this intention, have the most unpleasant smell,

smell, and suffer no great loss of it in keeping for some months; their taste is moderately warm, and acrid, and very durable in the mouth and throat. The root, whose smell is nearly of the same kind with that of the leaves, though more approaching to gratefulness, discovers to the taste a considerable sweetness joined to its mild aromatic warmth; an extract made from it by water retains little more than the sweet matter; the flavour exhaling in the inspissation, and impregnating the distilled fluid, from which, if the quantity of the root subjected to the operation be large, a small portion of essential oil separates: an extract made by rectified spirit retains the aromatic part as well as the sweet, and proves moderately warm, but much less so than the extract of angelica: towards the end of the inspissation of the spirituous tincture, a thin unctuous matter appears upon the surface, in taste highly aromatic, and which seems to be the part that gives activity to the rest of the mass. The seeds of the plant have little of the sweetness of the roots, but are rather of more warmth and pungency, and of a more agreeable flavour.

LICHEN.

LIVERWORT: a kind of imperfect vegetable production, consisting of spreading leaves, of a leathery crustaceous matter. A sort of flowers both male and female have been discovered in it, the latter producing innumerable seeds, like meal.

LICHEN terrestris cinereus Raii. Lichen caninus Linn. Ash-coloured ground liverwort: consisting of roundish pretty thick leaves, divided

about the edges into obtuse segments, flat above, of a reticular texture underneath, fastened to the earth by small fibres; when in perfection, of an ash grey colour; by age turning darker coloured or reddish. It grows on commons and open heaths, spreads quickly on the ground, and is to be met with at all times of the year, but is supposed to be in its greatest vigour about the end of autumn.

THIS herb is said to be a warm diuretic. It is particularly celebrated as a preservative against the terrible consequences of the bite of a mad dog: an account of the remarkable efficacy, in this intention, of a powder composed of the dry leaves and black pepper, was communicated to the royal society by Mr. Dampier, and published in No. 237 of the Philosophical Transactions. This powder was afterwards inserted, in the year 1721, into the London pharmacopœia, at the desire of Dr. Mead, who had large experience of its good effects, and who declares, that he had never known it to fail, where it had been used, with the assistance of cold bathing, before the hydrophobia began. He directs a dram and a half of the powder to be taken in the morning fasting, in half a pint of cows milk warm, for four mornings successively: previously to these four doses, the patient is to be bled nine or ten ounces; and after them, to be dipt in cold water every morning fasting for a month, and then dipt thrice a week for a fortnight longer (*a*). The powder was originally composed of equal parts of the lichen and pepper: but this quantity of

(*a*) *Mechanical account of poisons, essay iii.*

pepper rendering the medicine too hot, only one part was afterwards used to two of the lichen. It is now expunged.

If cold bathing, bleeding, black pepper, and lichen, conjointly, be really of sufficient efficacy against the poison of the mad dog, it will not perhaps follow that any share of this efficacy belongs to the lichen: and indeed greater stress has been laid in general on the cold bath, than on this or the other parts of the prescription. The lichen does not promise to have any valuable medicinal power: to the organs of taste or smell it discovers no activity: taken by itself, in double the quantity above prescribed, it did not appear to have any sensible operation. Digested in rectified spirit, it tinged the menstruum of a deep yellowish green colour: on distilling off the spirit from the filtered tincture, the remaining grumous extract had very little taste, and amounted only to twenty-six grains from two ounces, or about one thirty-seventh of the weight of the lichen. A decoction of the herb in water was brownish, and of a faint smell, somewhat like that of mushrooms: the extract, obtained by inspissating it, weighed one eighth of the lichen, and had some taste, but so little, that it is hard to say of what kind.

* *LICHEN ISLANDICUS* Linn. *Lichen Pharm. Edinb. Lichen terrestris, foliis Eryngii, Buxb. Cent. II. Lichenoides rigidum, Eryngii folia referens, Raii & Dillen.* Eryngo-leaved, or eatable Iceland, liverwort. This species of lichen consists of nearly erect leaves, stiff when dry, but soft and pliant when moist, irregularly divided into broad distant segments, smooth, and ciliated at the margins. It grows in the mountainous

mountainous parts of this country, and in various other parts of Europe.

The Iceland lichen infused in water gives a bitterish liquor, which is reddened by a mixture of martial vitriol. A decoction of it is very thick and viscid; and on cooling concretes into a strong gelly. An ounce of the lichen boiled for a quarter of an hour in a pound of water, and afterwards strained, yielded seven ounces of a mucilage as thick as that procured by the solution of one part of gum-arabic in three of water.

The inhabitants of Iceland make great use of this lichen both as food and as physic. When fresh, according to Borrichius (*a*), it is employed as a purgative; but Olafsen (*b*) denies that it has any more than a very gently opening quality. It is usually dried and ground into a meal, with which they make pottage and other preparations, adding either water or milk, and find it an agreeable and very nutritive article of food. It is best first to steep it for a sufficient time in water, in order to extract the bitterness.

The prepared lichen has been much used of late, particularly at Vienna, as a remedy for consumptive disorders. The celebrated Scopoli (*c*) has published some cases of its successful exhibition in the phthisis; and other practitioners (*d*) have confirmed his account. It is used boiled in milk to a kind of pottage, of which the patient's diet is chiefly to consist. It is said to be antiseptic, easy of digestion, and

(*a*) Bartholini *Act. med. Hafn.* 1671.

(*b*) *Journey to Iceland.*

(*c*) *Annus 2. historico-natural.* p. 114.

(*d*) Bergius, *mat. med.* 858.

remarkably

remarkably nourishing. It is also recommended in other cases, where the stomach is so weak that common aliments are rejected. The Edinburgh college have received this lichen into their catalogue of simples.

LIGNUM ALOES.

LIGNUM ALOES, Xyloaloes, & Agallochum, Pharm. Paris. Lignum Calambac. AGALLOCHUM, CALAMBAC, or ALOES WOOD: a wood brought from China, and the inner parts of Tartary, in small pieces, compact and ponderous, of a yellowish or rusty brown colour, with black or purplish veins, sometimes purple with ash-coloured veins, and sometimes all over blackish. Of its origin, we have no very satisfactory account: most of the writers, to whom we are indebted for information about the productions of those countries, report, that it is the internal part of certain trees; that a large tree affords only a very small quantity of this valuable part; and that there are several different sorts of it, of which the best is never brought to us, being sold in China itself for twice or thrice its weight of silver.

THE best sort of agallochum wood brought into Europe, has a bitterish resinous taste, and a light aromatic smell. Set on fire, it seems to melt like wax, and emits, during the burning, an agreeable fragrance, which continues till the wood is wholly consumed. It is this fragrance in burning which makes the wood precious in the eastern countries for fumigations, and which affords the surest criterion of its genuineness and goodness. As this wood is apparently very resinous, rectified spirit takes
up

up more from it than watery menſtrua: according to Cartheuſer's experiments, an ounce yields with ſpirit three drams of extract, and with water only two. The watery decoction and extract are moderately bitter and ſubacid. The ſpirituous make leſs impreſſion on the organs of taſte, being leſs diſſoluble in the mouth, or leſs miſcible with the ſaliva: the pure reſin, obtained by precipitation with water from the ſomewhat inſpiſſated ſpirituous tincture, as directed by the faculty of Paris, is ſtill weaker in taſte. Hoffman obſerves, that in diſtillation with water, it yields an eſſential oil, of a whitish colour, of a thick conſiſtence, of great fragrance, but in ſmall quantity, not exceeding half an ounce from one hundred and ſixty ounces of the wood: this oil, in which the more valuable parts of the agallochum are concentrated, he recommends, diſſolved in ſpirit of wine, as one of the beſt cordials and corroborants, in weakneſſes of the ſtomach and depreſſions of ſtrength (a).

In our ſhops, we rarely meet with any agallochum that answers the above characters. In its place have been ſubſtituted woods of an inferior kind, probably the *aspalathus*, *lignum aquilæ*, and *calambour* of authors; which are ſaid to be woods of the nature of agallochum, but, when in their greateſt perfection, far weaker.

LIGNUM CAMPECHENSE.

LIGNUM CAMPECHENSE *Pbarm. Lond.*
 & *Edinb.* *Lignum campeſcanum* & *lignum indi-*

(a) *Obſerv. phyſico-chym. lib. i. obſ. 4. Not. ad Poterium, p. 487. De medicament. balsamic. § 15.*

cum Mont. exot. Lignum campechianum, species quædam brasili Sloan. Lignum sappan quibusdam.
 CAMPEACHY WOOD or LOGWOOD: the wood of a prickly pod-bearing tree (*Hæmatoxylum Campechianum* Linn.) a native of Campeachy, in the bay of Honduras; from whence the wood is brought over in large compact hard logs of a red colour.

THIS wood, imported from America as a dying drug, has of late been introduced into medicine, and found to be a very useful restringent and corroborant, in diarrhœas, dysenteries, and other disorders from a laxity of the solids. It has a sweetish subastringent taste, and no remarkable smell: extracts made from it, by water and spirit, have a great degree of sweetness, mixed with a mild grateful astringency. It gives a deep purplish red tincture both to watery and spirituous menstrua * (a); and frequently tinges the stools, and sometimes the urine, of the same colour: of this the patient ought to be apprised, that he may not be alarmed by judging the colour of the discharge to be owing to blood.

Watery menstrua readily extract part of the virtue of this wood, but are very difficultly made to take up the whole. To promote the extraction, the wood should previously be reduced into fine powder, which is to be strongly boiled in the water, in the proportion, for example, of a pound to a gallon, till half the

* (a) Pure rain water acquires only a deep orange or mahogany colour from logwood; and rectified spirit a fine yellowish red. The purple hue seems to be communicated by some extraneous saline matter, as the selenitic or aluminous salts in hard spring water. A very small quantity of fixed alkali will also give it still more perceptibly.

Extract. lign.
campechens.
Pb. Lond.

Pb. Ed.

liquor is wasted: the powder will still give a considerable impregnation to the same quantity of fresh water, and this repeatedly for four or five times or oftener: the extract obtained by inspissating the decoctions, of a dark blackish colour in the mass, tinges water of a fine red, like that of the liquors before inspissation, but does not totally dissolve: it is given in doses of from ten grains to a scruple and upwards. Rectified spirit takes up more from the logwood than watery menstrua. Some digest the powdered wood in four times its weight of spirit, and afterwards boil it in water: the matters taken up by the two menstrua are then united into one extract, by inspissating the watery decoction to the consistence of honey, and then gradually stirring in the inspissated spirituous tincture.

LIGNUM RHODIUM.

RHODIUM or **ROSEWOOD**: the wood or root of a tree of which we have no certain account; brought from the Canary islands, in long crooked pieces, full of knots, externally of a whitish colour, internally of a deep yellow, with a reddish cast. The largest, smoothest, straightest, heaviest, and deepest coloured pieces should be chosen; and the small, thin, pale, light ones rejected.

THIS wood has a slightly bitterish, somewhat pungent, balsamic taste, and a fragrant smell, especially when scraped or rubbed, resembling that of roses. Digested in rectified spirit, it gives out pretty readily the whole of its active matter, and tinges the menstruum of a reddish yellow colour: on committing to distillation the
filtered

filtered tincture, the spirit brings over little or nothing of its flavour; the fine smell, as well as the balsamic pungency, of the rhodium, remaining nearly entire in the inspissated extract, which proves tenacious and adhesive like the turpentine. Infused in water, it gives out likewise great part of its smell and taste, together with a bright yellow colour: in evaporation, the water carries off the specific flavour of the wood, leaving in the extract only a slight pungency and bitterishness. Distilled with water, it gives over, somewhat difficultly and slowly, a highly odoriferous essential oil, at first of a gold colour, by age turning reddish, amounting, if the rhodium is of a good kind, to about one ounce from fifty: the distilled water is likewise agreeably impregnated with the fragrance of the rhodium, and resembles that of damask roses.

The essential oil is used as a perfume, for scenting pomatums, &c. and in this light only the rhodium wood is generally regarded. It promises, however, to be applicable to more important purposes, and bids fair to prove a valuable cordial and corroborant.

LILIUM.

LILIUM ALBUM Pharm. Edinb. *Lilium album flore erecto & vulgare* C. B. *Lilium candidum* Linn. WHITE LILY: a plant with a single straight round stalk, clothed with oblong, acuminate, thick, smooth, pale green, ribbed leaves, which have no pedicles; bearing on the top several elegant, naked, white, upright, hexapetalous, bell shaped flowers; which open successively, and are followed each by an oblong triangular capsule, divided into three cells full
of

of brownish seeds: the root is a single bulb, composed of fleshy scales, with several fibres at the bottom. It is perennial, a native of Syria and Palestine, common in our gardens, and flowers in June.

THE flowers of the white lily have a pleasant sweet smell, and a slightly mucilaginous taste. Their odorous matter is of a very volatile kind, being totally dissipated in drying, and totally carried off in evaporation by rectified spirit as well as water: both menstrua become agreeably impregnated with it by infusion or distillation, but no essential oil has been obtained, though many pounds of the flowers were submitted to the operation at once. The principal use of these flowers is for flavouring expressed oils; which, by insolation with fresh parcels of them continued about three days each time, are supposed to receive from them, along with their smell, an anodyne and nervine virtue. The distilled water has been sometimes employed as a cosmetic.

Oleum lili-
orum, fusi-
um, &c.

The roots also have been used chiefly for external purposes; as an ingredient in emollient and suppurating cataplasms: they abound with a strong mucilage, and do not seem to have much active matter besides. Gerard indeed relates, that several persons were cured of dropsies, by the constant use, for a month or six weeks, of bread made of barley-meal with the juice of white lily roots: but there are examples of similar cures being obtained by the use of common dry bread; and probably in one case, as well as in the other, abstinence from liquids was the remedy.

LILIUM CONVALLIUM.

LILIUM CONVALLIUM album C. B. Convallaria, Maianthemum. Convallaria maialis Linn. LILY OF THE VALLEY, MAY LILY: a plant with two or three oblong, acuminate, ribbed leaves; in the bosoms of which arises a naked stalk bearing a number of small, naked, white, drooping, bell-shaped, monopetalous flowers, cut about the edges into six segments, and followed by red berries: the roots are long, slender, and white. It is perennial, grows wild in woods and shady places, and flowers in May.

THE flowers of this plant have a fragrant delightful smell, and a penetrating bitterish taste; both which they readily impart to watery and to spirituous menstrua. Their odorous matter, like that of the white lily, is very volatile; being totally dissipated in exsiccation, and elevated in distillation both by water and rectified spirit: there is no appearance of essential oil in either distillation; nor does the distilled spirit turn milky on the admixture of water, as those spirits do, which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixed matter, which remains entire both in the watery and spirituous extracts, and which, in this concentrated state, approaches, as Cartheuser observes, to hepatic aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected, in nervous and catarrhus disorders; but probably their fixed parts also have no small, perhaps the greatest, share in their efficacy. The

flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly sternutatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives; and seem to partake of the purgative virtue, as well as of the bitterness, of aloes.

The roots have nothing of the fine smell which is admired in the flowers, but discover to the taste, a greater degree of penetrating bitterness. The bitter matter appears to be of the same kind in these as in the flowers; being equally extracted by water and spirit; remaining entire behind upon inspissating the tinctures or infusions; acting as a sternutatory when snuffed up the nose, and as a laxative or purgative when taken internally.

The leaves have the same kind of bitterness, in a lower degree, mixed with a considerable roughness, and a slight sweetishness.

LIMACES.

LIMACES terrestres sive Cochlææ terrestres.
THE SNAIL: an animal, lodged in a short thick turbinated shell, whose aperture is closed in the winter with a kind of cement. The large ash-coloured snail is said to be the species intended for medicinal use; but the smaller, dark-coloured, spotted, striped sort, more common in gardens, is taken indiscriminately, and appears to be not at all different in quality from the other.

THIS animal abounds with a viscid slimy juice, which it readily gives out, by boiling, to milk or water, so as to render them thick
and

and glutinous. The decoctions in milk are apparently very nutritious and demulcent, and stand recommended in a thin acrimonious state of the humours, in consumptive cases, and emaciations.

LIMONES.

LIMON Pharm. Lond. Limonia mala Pharm. Edinb. LEMONS: the fruit of the *malus limonia fructu acido Pharm. Lond. malus limonia acida C. B. Citrus Limon Linn.* a tree resembling the orange; from which it differs chiefly in the leaves having no appendages at the bottom; and in the fruit having a nipple-like production at the end: it is a native of Asia, and cultivated in the warmer parts of Europe, from whence we are supplied with the fruit. There are many varieties of this tree in regard to the fruit: by Linnæus, the several citrons, as well as lemons, are reckoned varieties of one species, which is distinguished from those of the orange kind, only by the pedicles of the leaves being naked. The terms citron and lemon have been often confounded together; what is commonly called citron by the French (*a*) and Germans (*b*) being our lemon, and their lemon our citron.

THE yellow rind of lemons is a grateful aromatic, of common use in stomachic tinctures and infusions, and for rendering other medicines acceptable to the palate and stomach: its flavour is one of those which is best adapted for

(*a*) *Codex medicamentarius facultatis Parisiensis*, p. xxxviii. & lxx.

(*b*) Hoffman, *Dissert. de citriis, Opera omnia, supplement.* ii. par. i. p. 720.

Ol. stillat.
cort. limon.
Ph. Ed.

Essentia li-
monum *Ph.*
Lond.

accompanying medicines of the bitter kind. It is less hot than orange peel, and yields in distillation a less quantity of essential oil: the oil is extremely light, almost colourless, in smell nearly as agreeable as the fresh peel, and frequently employed as a perfume: it is generally brought to us from the southern parts of Europe, under the name of *essence* of lemons. The flavour of the lemon peel is more perishable in keeping than that of orange peel, yet does not rise so easily in distillation with spirit of wine: for a spirituous extract, prepared from the rind of lemons, retains the aromatic taste and smell of the peel in a much greater degree than an extract prepared in the same manner from that of oranges. After digestion in the spirit, lemon peel proves tough, that of oranges crisp.

The juice of lemons differs from that of oranges only in being more acid. Six drams of it saturate about half a dram of fixt alkaline salt: this mixture, with the addition of a small quantity of some grateful aromatic water or tincture, as simple cinnamon water, is given in cases of nausea and reachings, and generally abates, in a little time, the severe vomitings that happen in fevers, when most other liquors and medicines are thrown up as soon as taken: it is used also as a saline aperient in icterical, hydropical, inflammatory and other disorders.

Syrup. e suc-
co limonum
† *Ph. Lond.*
‡ *Ph. Ed.*

Succus spif-
sat. limon.
Ph. Lond.

A syrup made by dissolving fifty ounces of fine sugar in a quart † or two pounds and a half ‡ of the depurated juice, is mixed occasionally with draughts and juleps as a mild antiphlogistic, and sometimes used in gargarisms for inflammations of the mouth and tonsils. The London college also direct the inspissated juice to be kept.

LINARIA.

LINARIA.

LINARIA vulgaris lutea flore majore C. B. *Osyris, linaria, five urinaria* Lobel. *Antirrbinum linaria* Linn. TOADFLAX: a plant with smooth round bluish stalks, and numerous, oblong, narrow, pointed leaves; greatly resembling the *esula minor* or pine spurge, so as scarcely to be otherwise distinguishable, before flowering, than by its wanting the milky juice with which the *esula* abounds: on the tops of the stalks and branches appear spikes of yellow, irregular, monopetalous, gaping flowers, with a long tail behind, followed by roundish bicapsular seed-vessels: it is perennial, grows wild about the sides of dry fields, and flowers in June and July.

THE leaves of this herb have a bitterish somewhat saline taste: and when rubbed betwixt the fingers, yield a faint smell, resembling that of elder. Taken internally, they are said to be powerfully resolvent, diuretic, and purgative: their principal use, however, has been external, in unguents and cataplasms, for painful swellings of the hemorrhoidal vessels; against which they have been said to be particularly effectual.

LINGUA CERVINA.

SCOLOPENDRIUM seu lingua cervina Pharm. Edinb. *Lingua cervina officinarum* C. B. *Phyllitis* Gerard. *Asplenium Scolopendrium* Linn. HARTS-TONGUE: a plant with long, uncut, narrow bright green leaves, set on long hairy pedicles, and nipt at the bottom: it has no

stalks or manifest flowers; the seeds are a fine dust, lying in large, rough, brown, transverse streaks on the backs of the leaves. It is perennial, and found green at all times of the year, in moist, shady, stony places.

THE leaves of harts-tongue stand recommended as aperients and corroborants, in obstructions of the hypochondriacal viscera, laxities of the intestines, and some disorders of the breast: they have been chiefly used in apozems and infusions, along with maidenhair, spleenwort, and other plants of the same kind, with which they appear to agree in virtue. To the taste they are slightly roughish and sweetish: with solution of chalybeate vitriol, they strike a blackish colour. When fresh, they yield, on being rubbed or bruised, a faint unpleasant smell, which in drying is in great part dissipated.

LINI SEMEN.

LINI SEMEN Pharm. Lond. & Edinb. Lini sativi C. B. Lini usitatissimi Linn. LINSEED: reddish-brown, glossy, slippery, flat, pointed nearly oval seeds, of the common flax; an annual herb, cultivated in fields, on account of the mechanic uses of its tough filamentous rind.

THESE seeds have an unctuous, mucilaginous, sweetish taste, and no remarkable smell. On expression, they yield a large quantity of oil; which, when carefully drawn, without the application of heat, has no particular taste or flavour, though in some properties it differs considerably from most of the other oils of this kind; not congealing in winter; not forming a solid soap

Oleum expressum feminum lini
Ph. Ed.

Oleum e sem. lini
Ph. Lond.

soap with fixt alkaline salts (*a*); acting more powerfully, as a menstruum, on sulphureous bodies, than any other expressed oil that has been tried. The seeds, boiled in water, yield a large proportion of a strong flavourless mucilage: to rectified spirit they give out little or nothing.

Infusions of linseed, like other mucilaginous liquors, are used as emollients, incrassants, and obtunders of acrimony, in heat of urine, stranguries, thin defluxions on the lungs, and other like disorders: a spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by inspissating the infusions, or decoctions, is an excellent addition for reducing disgustful powders into the form of an electuary; occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class; and has been particularly recommended in coughs, spitting of blood, colics, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally, in emollient and maturating cataplasms. In some places, these seeds, in times of scarcity, have supplied the place of grain, but appeared to be an unwholesome, as well as an unpalatable food: Tragus relates, that those who fed upon them in Zealand, had the hypochondres in a short time distended, and the face and other parts swelled; and that not a few died of these complaints.

(*a*) Geoffroy, *Memoires de l'acad. roy. des sciences de Paris, pour l'ann. 1741.*

LINUM CATHARTICUM.

LINUM CATHARTICUM Linn. *Linum pratense floribus exiguis* C. B. *Chamælinum*.

PURGING FLAX OR MILL-MOUNTAIN: a small plant, with little oblong smooth leaves, having one vein or rib running along the middle, joined in pairs close to the stalks, which are round, slender, reddish, divided towards the upper part into fine branches, bearing on the tops white pentapetalous uncut flowers, followed each, as in the common flax, by a roundish, ribbed, acuminate capsule, containing ten flattish slippery seeds in as many cells. It is annual, and grows wild on chalky hills, and in dry pasture grounds.

THIS herb is said to be an effectual and safe cathartic: an infusion of an handful of the fresh leaves in whey or white wine, or a dram of the leaves in substance with a little cream of tartar and aniseeds, are directed for a dose. Linnæus recommends an infusion of two drams of the dry leaves as a mild laxative. Their taste is bitterish and disagreeable.

LIQUIDAMBRA.

AMBRA LIQUIDA Pharm. Argent. LIQUIDAMBER: a resinous juice, of a yellow colour inclining to red, at first about the consistence of turpentine, by age hardening into a solid brittle resin; obtained from the tree that yields liquid storax, *styrax aceris folio Raii*, *Liquidambar styraciflua* Linn. growing in Virginia, Mexico, and other parts of America, and bearing the colds of our own climate.

THIS

THIS juice has a moderately pungent, warm, balsamic taste; and a very fragrant smell, not unlike that of storax calamita heightened with a little ambergris. It was formerly in common use as a perfume, and might probably be applied to valuable medicinal purposes, but it is not at present much regarded, different artificial compositions having been often substituted to it in the shops.

LITHOSPERMUM.

LITHOSPERMUM MAJUS *erectum* C. B. *Milium solis*. *Lithospermum officinale* Linn. GROMWELL: a rough plant, with stiff branched stalks, oblong acuminate leaves set alternately without pedicles; and whitish monopetalous flowers, scarcely longer than the cup, divided into five obtuse sections, followed by little roundish, hard, pearl-like seeds inclosed in the cup. It is perennial, grows wild in dry fields and by road-sides, and flowers in May and June.

THE seeds of gromwell have been accounted notably diuretic; and recommended for cleansing the kidneys and urinary passages from viscid mucous matters, and promoting the expulsion of gravel. Their virtues do not appear to be very considerable; they have no smell, and their taste is little other than farinaceous. They have long been discarded from practice.

* LOBELIA.

LOBELIA Pharm. Edinb. *Rapunculus galeatus virginianus* flore majore violaceo Morison. *Lobelia siphilitica* Linn. BLUE CARDINAL-FLOWER: an herbaceous perennial plant, with an erect

erect stalk three or four feet high, and ovate-lanceolate subferrated leaves, bearing long spikes of labiated, irregular, blue flowers, each with five stamina having connate antheræ, succeeded by a bilocular capsule, containing many small seeds. The whole plant has a milky juice, and something of a rank smell. It grows in moist places in Virginia, and bears the winters of our climate.

The root of this plant consists of white fibres, a line in thickness, and about two inches in length. It resembles tobacco in its taste, which dwells long on the tongue, and is apt to excite vomiting. It was long a famous secret among the North American Indians for the cure of the venereal disease. The secret was purchased by Sir William Johnson, and has been made public in the writings of Bartram, Kalm, and others.

The dose and mode of administering this medicine are not exactly defined, but the following directions are given as the most accurate. A decoction is made of a handful of the roots in three measures of water. Of this, half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effect becomes too violent, when the medicine is for a time to be intermitted, and then renewed, till a perfect cure is effected. One dose daily is sufficient during the latter part of the treatment; and the regimen during the whole process is to be equally strict with that observed in a course of mercurial salivation. From the third day, the ulcers, are to be well washed twice daily with the decoction; and it is said that when they are very deep and foul, the Indians sprinkle them with powder of the internal bark of the spruce-tree.

By

By this method we are assured that inveterate venereal complaints are cured without the aid of mercury; and the Edinburgh college seem to give credit to the efficacy of the lobelia, by receiving it into their latest catalogue of simples.

L U J U L A.

LUJULA Pharm. Lond. Trifolium acetosum vulgare C. B. Oxys alba Gerard. Alleluja, oxytriphyllum, & panis cuculi quorundam. Oxalis Acetosella Linn. WOOD SORREL: a plant, with the leaves and flowers issuing on separate pedicles from the root: the leaves are broad, shaped somewhat like a heart, and stand three together: the flowers are solitary, whitish, monopetalous, divided deeply into five segments, followed by angular capsules, which burst on being touched, and shed numerous small brownish seeds. It is perennial, grows wild in woods, and flowers in April.

THE leaves of the wood sorrel are useful saline antiseptics and antiphlogistics; similar, both in taste and in medicinal virtue, to those of the *acetosæ* or common sorrels, but somewhat more acid, and rather more grateful both to the palate and stomach. Beaten with thrice their weight of fine sugar, they form a grateful subacid conserve. Their expressed juice, depurated, is a very agreeable acid: duly inspissated, and set to shoot, it yields a crystalline acid salt of the same nature with that of the sorrels: the saline matter seems to amount to nearly one hundredth part of the weight of the fresh leaves.

Conserva lujulæ Pb. Lond.

LUMBRICUS.

LUMBRICUS TERRESTRIS. *Vermes terrestres.* EARTH WORMS: These insects are supposed to have a diuretic and an antispasmodic virtue. The faculty of Paris directs them to be prepared for medicinal use, by washing and drying them with a moderate heat. Moistened with wine, or vinous spirits, to prevent their putrefying, and set in a cellar, they are almost wholly resolved in a few days into a slimy liquor, which is said, when mixed with alkaline salts, to yield crystals of nitre.

LUPULUS.

LUPULUS Pharm. Paris. *Lupulus mas & femina C. B.* *Lupulus salicetarius Ger.* *Humulus Lupulus Linn.* HOP: a rough plant, with very long, angular, climbing hollow stalks, and broad serrated leaves, cut generally into three or five sharp-pointed sections, and set in pairs at the joints: on the tops grow loose scaly heads, with small flat seeds among them. It is found wild in hedges and at the bottoms of hills, in England and other parts of Europe, but commonly cultivated in large plantations. It is perennial, and ripens in August or September its leafy heads, which are cured by drying with a gentle heat on kilns made for that purpose.

Hops have a very bitter taste, less ungrateful than most of the other strong bitters, accompanied with some degree of warmth and aromatic flavour. They give out their virtue by maceration without heat, both to rectified and
proof

proof spirit; and, by warm infusion, to water: to cold water they impart little, though macerated in it for many hours. The extracts obtained both by watery and spirituous menstua, particularly by the latter, are very elegant balsamic bitters, and promise to be applicable to valuable purposes in medicine; though the hop is at present scarcely regarded as a medicinal article, and scarcely otherwise used than for the preserving of malt liquors; which by the superaddition of this balsamic, aperient, diuretic bitter, become less mucilaginous, more detergent, more disposed to pass off by urine, and in general more salubrious.

LYCOPERDON.

LYCOPERDON sive Crepitus lupi. Fungus rotundus orbicularis C. B. Bovista officinarum Dill. Lycoperdon Bovista Linn. PUFFBALL: a round or egg-shaped whitish fungus, with a very short or scarcely any pedicle, growing in dry pasture grounds; when young, covered with tubercles on the outside, and pulpy within; by age becoming smooth without, and changing internally into a very fine, light, brownish dust.

THE dried fungous matter and the dust of lycoperdon have been long used among the common people, particularly in Germany, for restraining the bleeding of wounds, and immoderate hemorrhoidal fluxes, and drying up running ulcers. In some late trials, the dust has been found to produce the same effect, in stopping hemorrhages after amputation, as the celebrated agaric of the oak.

MACIS.

MACIS.

MACIS Pharm. Lond. Macis officinarum C. B.

MACE: a pretty thick, tough, unctuous membrane, reticular or variously chapt, of a lively reddish yellow colour approaching to that of saffron, enveloping the shell of the fruit whose kernel is the nutmeg. The mace, when fresh, is of a blood-red colour, and acquires its yellow hue in drying: it is dried in the sun, upon hurdles fixed above one another, and then, as is said, sprinkled with sea-water, to prevent its crumbling in carriage.

MACE has a pleasant aromatic smell, and a warm, bitterish, moderately pungent taste. It is in common use as a grateful spice; and appears to be, in its general qualities, nearly similar to the nutmeg, both as the subject of medicine and of pharmacy. The principal difference consists in the mace being much warmer, more bitterish, less unctuous, and sitting easier on weak stomachs; in its yielding by expression a more fluid oil, and in distillation with water a more subtle volatile one. What is called in the shops expressed oil of mace is prepared, not from this spice, but from the nutmeg.

MAGNESIA.

MAGNESIA ALBA Pharm. Lond. & Edinb.

MAGNESIA: a fine white earth; soluble readily in all acids, the vitriolic as well as the others, into a bitter purgative liquor.

THIS earth has not hitherto been found naturally pure or in a separate state: it was for several

veral years a celebrated secret in the hands of some particular persons abroad, till the preparation was made public by Lancisi in the year 1717(*a*), and afterwards by Hoffman in 1722(*b*). It was then extracted from the mother-lye, or the liquor which remains after the crystallization, of rough nitre; either by precipitation with a solution of fixt alkaline salt; or by evaporating the liquor, and calcining the dry residuum, so as to dissipate the acids by which the earth had been made dissoluble.

The magnesia, in this mother-lye, appears to have proceeded from the vegetable ashes, which are either made ingredients in the compositions from which nitre is obtained, or else added in the elixation of the nitre: for the ashes of different woods, burnt to perfect whiteness, and freed from their alkaline salt, were found to be, in part, of the same nature with the true magnesia(*c*). But as quicklime also, in most of the German, French, and other European nitre-works, is commonly employed in large quantity, the earth obtained from the mother-lyes of those works is rather a calcareous earth than magnesia. What is now brought from abroad, under the name of magnesia, gives plain proofs of its calcareous nature, by its burning into quicklime, and forming a selenites with the vitriolic acid.

(*a*) *Annot. in Mercati metallothec. vatican. Arm. ii. cap. x. p. 50.*

(*b*) *Observationes Physico-chymicæ, lib. ii. obs. 2.*

(*c*) Of vegetable ashes, moderately or strongly calcined, only a part was found to dissolve in acids, and this part appeared to be perfect magnesia. It is probable that the remainder might be reduced to the same state by repeating the calcination.

The true magnesia is obtained in great purity, from a filtered solution of *sal catharticus amarus*, by adding a filtered solution of any alkaline salt. * This, by its superiour affinity with the vitriolic acid of the *sal catharticus*, precipitates its earthy basis, which is the magnesia. The method of conducting the process is thus directed in the last Edinburgh dispensatory. Dissolve separately equal weights of *sal catharticus*, and any pure fixed alkaline salt, in double their weight of water. Strain, and then mix them, and immediately add eight times the quantity of hot water. Let the liquor boil a while over the fire, and at the same time agitate it. Then let it stand till the heat be abated; and strain it through a linen cloth, on which the magnesia will be left. This is to be washed by affusions of pure water till it become perfectly tasteless. The London pharmacopœia directs two pounds of each of the salts to be dissolved separately in ten pints of water, and the liquors strained and mixed. The mixture is now to be boiled a little, and then strained through linen as in the former process.

* A method of preparing magnesia in the most perfect and convenient manner, was published by Mr. Henry in vol. ii. of the *Medical Transactions*. The same writer, likewise, in a publication of *Experiments and Observations* on various subjects, recommends the *calcination* of magnesia, as rendering it a fitter medicine in certain cases. Magnesia is found by experiment to contain above half its weight of fixed air. The evolution of this in the stomach may increase flatulency, and cause uneasiness in weak bowels. By strong calcination the air is expelled from magnesia, while its purgative virtue remains unimpaired; nor does it acquire any
of

of the acrimony or causticity of lime. The London and Edinburgh colleges have now received this preparation, under the title of *magnesia usta*.

The magnesia is recommended by Hoffman as an useful antacid, a safe and inoffensive laxative in doses of a dram or two, and a diaphoretic and diuretic, when given in small doses, as fifteen or twenty grains. Since this time, it has had a considerable place in the practice of foreign physicians, and has of late come into some esteem among us, particularly in heart-burns, and for preventing or removing the many disorders which children are thrown into from a redundancy of acid humours in the first passages. It is preferred, on account of its laxative quality, to the testaceous and other absorbent earths, which, unless gentle purgatives are given occasionally to carry them off, are apt to lodge in the body, and occasion a costiveness very detrimental to infants. It must be observed, however, that it is not the magnesia itself which proves laxative, but the saline compound resulting from its coalition with acids; if there are no acid juices in the stomach to dissolve it, it has no sensible operation, and in such cases it may be rendered purgative by drinking any kind of acidulous liquors after it. All the other known soluble earths yield with acids, not purgative, but more or less astringent compounds.

It may be proper to observe, that the name magnesia has been principally applied to a substance of a very different kind; a native mineral, found in iron mines, and in the lead mines of Mendip hills, in Somersetshire, usually of a dark grey colour, sometimes bright and striated like antimony, sometimes dull, with only a few small striæ; remarkable for communicating, to

Magnesia,
Manganese,
vitriariorum
& *minerologorum*.

a large proportion of glass in fusion, a purplish or red tinge, which disappears on a continuance of the fire, at the same time destroying the effect of many other colouring matters, and rendering foul or coloured glass clear: supposed to be an ore of iron, and recommended medicinally, when calcined by a strong fire, as an astringent; but yielding no iron, or marks of iron, on any of the common trials by which that metal is distinguished in ores; and in its nature and composition as yet little known. Mr. Pott relates, that on being calcined with sulphur, and afterwards elixated with water, it yielded a large quantity of a white crystalline salt, of a bitterish astringent taste, followed by a kind of sweetness; and that the salt, after strong calcination, tasted like burnt alum, but more acid (*a*); from whence it may be presumed, that this mineral consists in great part of an earth analogous to that of alum, which, in combination with acids, makes one of the strongest styptics.

MAJORANA.

MAJORANA Pharm. Lond. & Edinb. *Majorana vulgaris* C. B. *Origanum Majorana* Linn. SWEET MARJORAM: a low plant, with slender, square, branched, woody stalks; and little, oval, somewhat downy leaves, set in pairs: on the tops grow scaly heads of small whitish labiated flowers, whose upper lip is erect and cloven, the lower divided into three segments. It is sown annually in gardens, for culinary as well as medicinal uses: the seeds, which rarely come to perfection in this country, are procured from the south of France, where the plant is said to be indigenous.

(*a*) *Miscellanea Berolinensia*, tom. vi.

THE

THE leaves and tops of marjoram have a pleasant smell, and a moderately warm aromatic bitterish taste. Infusions of them in water, in colour brownish, smell pretty strongly, and taste weakly and unpleasantly of the herb: the blackish green tinctures, made in rectified spirit, have less smell, but a stronger and more agreeable taste. In distillation with water, an essential oil is obtained, amounting, as Hoffman observes, to about one ounce from sixty-four of the leaves slightly dried; when carefully drawn, of a pale yellow colour; by age, or too hasty fire in the distillation, contracting a reddish hue; of a very hot penetrating taste, and in smell not near so agreeable as the marjoram itself: the remaining decoction, thus divested of the volatile aromatic matter, is weakly, but unpleasantly bitterish and austere. Great part of the aromatic matter of the herb rises also in the inspissation of the spirituous tincture, and impregnates the distilled spirit: the remaining extract is stronger in taste than that made with water, its quantity being less, but has not much of the warmth or flavour of the marjoram.

This plant has been chiefly recommended in disorders of the head and nerves, in uterine obstructions and mucous discharges proceeding from what is called a cold cause (that is, from a laxity and debility of the solids, and a sluggish state of the juices) and in the humoural asthmas and catarrhs of old people. The powder of the leaves, their distilled water, and essential oil properly diluted, are agreeable errhines, and accounted particularly useful in puitous obstructions of the nostrils, and disorders of the olfactory organs.

MALABATHRUM.

TAMALAPATRA Folium indum. INDIAN LEAF: the leaf of the *cinamomum* *sive canella malabarica* & *javanensis* C. B. *Laurus Cassia Linn.* or *casia-lignea* tree, brought from the East Indies. It is of a firm texture; of an oblong oval figure, pointed at both ends; smooth and glossy on one side, which is the upper, and less so on the lower; of a yellowish green colour on the former, and a pale brownish on the latter; furnished with three ribs, running its whole length, very protuberant on the lower side, and two smaller ones which bound the edges.

THESE leaves have a remarkable affinity, in one respect, with the *casia* or bark of the tree, both the leaves themselves and their pedicles being, like it, extremely mucilaginous: chewed, they render the saliva slimy and glutinous: infused in water, they give out a large proportion of a strong tenacious mucilage. But of the aromatic flavour, which is strong in the bark, the leaves, as brought to us, have very little: they scarcely discover any warmth or pungency to the taste, and have little or no smell unless well rubbed, when they yield an agreeable, though weak, spicy odour. They are no otherwise made use of than as an ingredient in mithridate and theriaca; and are, when in their greatest perfection, far inferior to the mace which our college directs as a succedaneum to them.

MALVA.

MALVA.

MALVA Pharm. Lond. & Edinb. Malva sylvestris folio sinuato C. B. Malva sylvestris Linn.

COMMON MALLOW: a plant with firm branched stalks, and roundish, notched leaves, set alternately on long pedicles: in their bosoms come forth bell-shaped monopetalous flowers, deeply divided into five heart-shaped sections, of a pale purplish or whitish colour variegated with deeper streaks, followed by a number of capsules set in form of a flat disk, and containing each a kidney-shaped seed: the root is long, slender, and whitish. It is perennial, common in uncultivated grounds, and found in flower throughout the summer.

THE leaves and flowers of the mallow are in taste mucilaginous, and of no remarkable smell. The leaves were formerly of some esteem, as an emollient or laxative dietetic article, in dry constipated habits in the warmer climates: at present, infusions or decoctions of the leaves and flowers, and a conserve made by beating the fresh flowers with thrice their weight of fine sugar, are sometimes directed in dysuries, heat and sharpness of urine, and other like complaints; but the principal use of the herb is in emollient glysters, cataplasms, and fomentations. The roots have been recommended in disorders of the breast, and though now disregarded, may perhaps deserve some notice: they have a soft sweet taste, without any particular flavour, approaching in some degree to that of liquorice: an extract made from them by rectified spirit of wine is of great sweetness.

M A N N A.

MANNA Pharm. Lond. & Edinb. Manna seu Ros calabrinus Pharm. Paris. MANNA: a sweet juice obtained from certain ash trees (*a*) in the southern parts of Europe, particularly in Calabria and Sicily, exuding from the leaves, branches, or trunk of the tree, and either naturally concreted, or exsiccated and purified by art.

* There are three ways in which manna is collected in Calabria. From the middle of June to the end of July, a very clear liquor exudes spontaneously from the trunk and branches of the tree, which by the sun's heat concretes into whitish masses, which are scraped off the next morning with wooden knives, and dried in the sun. This is called *Manna in the tear*. At the beginning of August, when this ceases to flow, the peasants make incisions in the bark, whence a juice flows, which concretes in larger masses and of a redder colour. This is the *fat* or *common Manna*. Besides these sorts, a third is procured by receiving the spontaneous exudations in June and July on straws or chips of wood fastened to the tree. This is the *cannulated* or *flaky Manna*, and is accounted the finest of the three.

Juices of the same nature are collected, in the eastern countries, from other trees and shrubs (*b*): and similar exudations are sometimes found on different kinds of trees in Europe, as particularly on the larch in the Brian-

(*a*) *Fraxinus rotundiore folio*; & *Fraxinus humilior minore & tenuiore folio* C. B. *Fraxinus Ornus* Linn.

(*b*) *Vide Clusii exotic. lib. i. p. 164. Rauwolf itin. p. 74. Teixeira hist. Pers. p. 29.*

çonois

gonois in Dauphiny. How far the manna ^{Manna bri-}juices of different vegetables differ from one ^{giantica.} another, is not well known: but thus much is certain, that one and the same tree affords mannas very considerably different, in their colour, in their taste, and in their disposition to assume a solid concrete form; that is, in their purity, or the greater or less admixture of oily or resinous matter.

The best sort of the officinal or Calabrian manna is in oblong pieces or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferiour kinds are moist, unctuous, and brown. Both sorts are said to be sometimes counterfeited by compositions of sugar, honey, and purgative materials; compositions of this kind, in a solid or dry form, may be distinguished by their weight, compactness, and untransparency: both the dry and moist compositions may be distinguished by their taste, which is sensibly different from that of true manna, and with greater certainty by their habitude to menstrua.

THIS juice liquefies in a moist air, dissolves readily in water, and, by the assistance of heat, in rectified spirit also; the impurities only being left by both menstrua. On inspissating the watery solution, the manna is recovered of a much darker colour than at first. From the saturated spirituous solution, great part of it separates as the liquor cools, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness: the liquor, remaining after the separation of this pure sweet part of the manna, leaves, on being inspissated, an unctuous, dark coloured, disagreeable matter, in greater or less

quantity according as the manna made use of was less or more pure.

Manna, in doses of an ounce and upwards, proves a gentle laxative: it operates in general with great mildness, so as to be safely given in inflammatory or acute distempers, where the stimulating purgatives have no place. It is particularly proper in stomachic coughs, or those which have their origin in the stomach; the manna, by its sweetness and unctuousity, contributing to obtund as well as to evacuate the offending humours: in this intention it is sometimes made into a linctus or lohoch, with equal quantities of oil of almonds and of syrup of violets. In some constitutions, however, it acts unkindly, especially if given in considerable quantity, occasioning flatulencies, gripes, and distensions of the belly; inconveniences which may be generally obviated by a small addition of some grateful aromatic. It does not produce the full effect of a cathartic, unless taken in large doses, as two ounces or more, and hence is rarely employed in this intention by itself: it may be commodiously dissolved in the purging mineral waters, or acuated with the cathartic salts, or other purgatives: its efficacy is said to be peculiarly promoted by *casia fistularis*, a mixture of the two purging more than both of them separately. See *Casia*.

MARGARITÆ.

PERLÆ. Uniones. PEARLS: small calculeous concretions, of a bright semitransparent whiteness, found on the inside of the shell of the *concha margaritifera* or mother-of-pearl fish, as also of certain oysters and other shell-fishes. The finest pearls are brought from the East and West

West Indies: the oriental, which are most esteemed, have a more shining silver-like hue than the occidental, which last are generally somewhat milky: an inferiour sort is sometimes met with in the shell-fishes of our own seas, particularly on the coasts of Scotland. The coarse rough pearls, and the very small ones which are unfit for ornamental uses, called *rag pearl* and *seed pearl*, are those generally employed in medicine.

It is said, that counterfeit pearls are often brought from China, made of pellets of clay coated with the white matter of oyster-shells. The clay may be distinguished by its acquiring an additional hardness in the fire, and resisting acids; whereas the true pearls calcine in the fire, and become quicklime, and readily dissolve in acids; the vitriolic excepted, which precipitates them when previously dissolved by other acids.

These properties of the pearl, shew that it is an earth of the same kind with crabs-claws, oyster-shells, and the other calcareous animal absorbents. It has no other virtues than those of the other substances of this class, and does not possess those virtues in any greater degree than the common testacea.

MARRUBIUM.

MARRUBIUM Pharm. Edinb. Marrubium album Pharm. Lond. & C. B. Marrubium vulgare Linn. WHITE HOREHOUND: a hoary plant, with square stalks, and roundish wrinkled indented leaves, set in pairs on long pedicles; in the bosoms of which come forth thick clusters of whitish labiated flowers, in striated cups, whose divisions terminate in sharp points or prickles.

prickles. It is perennial, grows wild in uncultivated grounds, and flowers in June.

THE leaves of horehound have a moderately strong smell, of the aromatic kind, but not agreeable, which by drying is improved, and in keeping for some months is in great part dissipated: their taste is very bitter, penetrating, diffusive, and durable in the mouth. From these qualities, and their sensible operation, when taken in any considerable doses, of loosening the body, it may be presumed that this herb is a medicine of some efficacy, and has no ill claim to the corroborant and aperient virtues, for which it is recommended, in humoural asthmas, and in menstrual suppressions, cachexies, and other chronical disorders proceeding from a viscosity of the fluids and obstructions of the viscera: a dram of the dry leaves in powder, or two or three ounces of the expressed juice, or an infusion of half a handful or a handful of the fresh leaves, are commonly directed for a dose. The dry herb gives out its virtue both to watery and spirituous menstrua, tinging the former of a brownish, the latter of a green colour: on inspissating the watery infusion, the smell of the horehound wholly exhales, and the remaining extract proves a strong and almost flavourless bitter: rectified spirit carries off likewise greatest part of the flavour of the herb, leaving an extract in less quantity than that obtained by water, and of a more penetrating bitterness.

* The juices of horehound and plantain mixed are a remedy of great repute in America against the bite of the rattle-snake. They are administered by spoonfuls at short intervals; while at the same time the wounded part is covered with
a cataplasm

a cataplasm of the same herbs bruised. The good effects are said to be speedy, and the recovery of the patient complete and certain.

M A R U M.

MARUM SYRIACUM Pharm. Lond. Majorana syriaca vel cretica C. B. Marum cortusi J. B. Chamædrys maritima incana frutescens foliis lanceolatis Tourn. Origanum Syriacum Linn. MARUM, SYRIAN HERB-MASTICH: a low shrubby plant, with small oval leaves, pointed at each end, set in pairs, without pedicels, of a dilute green colour above, and hoary underneath: in their bosoms appear solitary, purple, labiated flowers, wanting the upper lip; the lower lip is divided into five segments, the middlemost of which is larger than the rest, and hollowed like a spoon: each flower is followed by four roundish seeds inclosed in the cup. It is said to be a native of Syria, and of one of the Hieres islands, on the coast of Provence: in our climate it does not well bear severe winters without shelter.

THE leaves of marum have a bitterish, aromatic, very pungent taste; and when rubbed a little, yield a quick piercing smell, which provokes sneezing. They have been chiefly made use of as an ingredient in sternutatory powders, though, from their sensible qualities, they promise to be applicable to more important purposes, and to have no ill title to the stimulating, attenuating, deobstruent, antiseptic virtues ascribed to them by Wedelius in a dissertation on this plant: they seem particularly well adapted as an ingredient in the volatile oily aromatic spirits with which their agreeable pungency in a great degree coincides.

The

The marum loses but little of its pungency on being dried, and in this respect it differs remarkably from many other acrid herbs, as those called antiscorbutic. It gives out its active matter partially to water, and completely to rectified spirit: the watery infusions, in colour yellow, though pretty strongly impregnated with the smell of the marum, have only a weak taste: the spirituous tinctures, in colour yellowish-green, are strongly impregnated with the taste, but have the smell in great measure covered by the menstruum. Distilled with water, it yields a highly pungent, subtile, volatile essential oil, similar to that of scurvygrass, but stronger, and of a less perishable pungency: the remaining decoction is little other than bitterish. Rectified spirit carries off likewise, in the inspissation of the spirituous tincture, a considerable share of the smell and pungency of the marum, but leaves much the greatest part concentrated in the extract; which, on being tasted, fills the mouth with a durable, penetrating, glowing warmth.

MARUM VULGARE.

SAMPSUCUS five *marum mastichen redolens*
C. B. Thymbra hispanica majoranæ folio Tourn.
Clinopodium quibusdam, mastichina gallorum J. B.
Thymus mastichina Linn. COMMON HERB-
 MASTICH: a low shrubby plant, with small oblong leaves, pointed at both ends, set in pairs, without pedicles: at the tops of the branches stand woolly heads, containing small white labiated flowers, whose upper lip is erect and cloven, the lower divided into three segments: each flower is followed by four seeds inclosed in the cup. It grows spontaneously on dry

dry gravelly grounds in Spain, and in the like soils it bears the ordinary winters of our own climate.

THIS plant is employed chiefly, like the foregoing, as an errhine. It is considerably pungent, though far less so than the *marum syriacum*; and of a strong agreeable smell, somewhat resembling that of mastic.

MASTICHE.

MASTICHE Pharm. Lond. & Edinb. MASTICH: concrete resin, obtained in the island Chio from the lentisk tree; brought over in small yellowish transparent brittle grains or tears. From transverse incisions made in the bark of the tree, about the beginning of August, the resin exudes in drops, which running down, and concreting on the ground, are thence swept up (a). The tree is raised also in several parts of Europe; but no resin has been observed to issue from it in these climates: nor do all the trees of this species, in the island Chio itself, afford this commodity.

THIS resin has a light agreeable smell, especially when rubbed or heated: in chewing, it first crumbles, soon after sticks together, and becomes soft and white like wax, without impressing any considerable taste. It totally dissolves, except the earthy impurities, which are commonly in no great quantity, in rectified spirit of wine, and then discovers a degree of warmth and bitterness, and a stronger smell than that of the resin in substance: the colour

(a) Tournefort, *Voyages to the Levant*, vol. i. p. 287.

of the solution is a pale yellow. Boiled in water, it impregnates the liquor with its smell, but gives out little or nothing of its substance; distilled with water, it yields a small proportion of a limpid essential oil, in smell very fragrant, and in taste moderately pungent. Rectified spirit brings over also, in distillation, the more volatile odorous matter of the mastich.

Mastich is recommended, in doses of from half a scruple to half a dram, as a mild corroborant and restringent, in old coughs, hemoptyses, diarrhœas, weakness of the stomach, &c. It is given either in substance, divided by other materials; or dissolved in spirit and mixed with syrups: or dissolved in water into an emulsion by the intervention of gum-arabic or almonds: the decoctions of it in water, which some have directed, have little or nothing of the virtue of the mastich. It is said that this resin is commonly employed as a masticatory, in Chio and among the Turkish women, for sweetening the breath, and strengthening the gums and teeth; and that when thus used, by procuring a copious excretion of saliva, it proves serviceable in catarrhus disorders.

MATRICARIA.

MATRICARIA vulgaris seu sativa C. B.
Febrifuga Dorsten. Matricaria Parthenium Linn.

FEVERFEW: a plant with firm branched stalks, and roughish leaves, each of which is composed of two or three pairs of indented oval segments set on a middle rib, with an odd one at the end, cut into three lobes: the flowers stand on the tops in the form of an umbel, consisting, each, of a number of short white petals, set round a yellow disk, which is followed by small striated

riated seeds. It is biennial, or of longer duration; grows wild in hedges and uncultivated places, and flowers in June.

THE leaves and flowers of feverfew have a strong, not agreeable smell, and a moderately bitter taste; both which they communicate, by warm infusion, to water and to rectified spirit. The watery infusions, inspissated, leave an extract of considerable bitterness, and which discovers also a saline matter, both to the taste, and in a more sensible manner, by throwing up to the surface small crystalline efflorescences in keeping: the peculiar flavour of the matricaria exhales in the evaporation, and impregnates the distilled water: on distilling large quantities of the herb, a yellowish strong-scented essential oil is found floating on the surface of the water. Rectified spirit carries off but little of the flavour of this plant in evaporation or distillation: the spirituous extract is far stronger in taste than that made with water, and more agreeable in smell than the herb itself. The quantity of spirituous extract, according to Cartheuser's experiments, is only about one sixth the weight of the dry leaves, whereas the watery extract amounts to near one half.

This herb is recommended as a warm, aperient, carminative bitter; and supposed to be particularly serviceable in female disorders. It appears, from the above analysis, to be a medicine of no inconsiderable virtue, in some degree similar to camomile.

MECHOACANNA.

BRYONIA MECHOACANNA alba C. B.
Convolvulus americanus mechoacan dictus Raii.
Jalappa

Jalappa alba. *Rhabarbarum album quibusdam.*
 MECHOACAN: the root of an American convolvulus, (*Convolvulus Mechoacanna* Linn.) brought chiefly from a province in Mexico of the same name, in thin transverse slices, like jalap, but larger and whiter.

THIS root was first introduced, about the year 1524, and continued in esteem for a considerable time, as a mild cathartic, of very little taste or smell, not liable to offend the stomach, of slow operation, but effectual and safe: by degrees, it gave place to jalap, which has now, among us, almost wholly superseded its use. It seems to differ from jalap only in being weaker: the resins obtained from the two roots appear to be of the same qualities, but mechoacan scarcely yields one sixth part so much as jalap does, and hence requires to be given in much larger doses to produce the same effects. The dose of the mechoacan in substance is from one dram to two or more.

M E L.

MEL Pharm. Lond. HONEY: a sweet vegetable juice: collected by the bee from the flowers of different plants, and deposited in the cells of the combs; from which it is extracted, either by spontaneous percolation through a sieve in a warm place, or by expression. That which runs spontaneously is purer than the expressed; a quantity of the waxy and other impurities being forced out along with it by the pressure, especially when the combs are previously heated. The best sort of honey is of a thick consistence, a whitish colour, an agreeable smell, and a very pleasant taste: both the
 colour

colour and flavour are said to differ in some degree according to the plants which the bees collect it from.

HONEY, exposed to a gentle heat, as that of a water bath, becomes thin, and throws up to the surface its waxy impurities, together with the meal or flower sometimes fraudulently mingled with it, which may thus be separated by despumation, so as to leave the honey pure. On continuing the heat, there rises a considerable quantity of aqueous fluid, impregnated with the fine smell of the honey: the inspissated residuum, like the honey at first, dissolves both in water and in rectified spirit, and promotes the union of oily and resinous substances with watery liquors. By treating the inspissated mass with moist clay, as practised by the sugar-bakers for purifying sugar from its unctuous treacly matter, the unctuous parts of honey may in like manner be separated, and its pure sweet matter obtained in the form of a solid, saline, white concrete.

This juice is an useful sweet, for medicinal as well as domestic purposes; more aperient and detergent than the simpler sweet prepared from the sugar cane; particularly serviceable for promoting expectoration in disorders of the breast, and as an ingredient in cooling and detergent gargarisms. For these, and other similar intentions, it is sometimes mixed with vinegar, in the proportion of about two pounds to a pint, and the mixture boiled down to the consistence of a syrup; sometimes impregnated with the virtues of different vegetables, by boiling it in like manner with their juices or infusions, till the watery parts of the juice or infusion have exhaled and left the active matter

Oxymel simpliciter
Ph. Lond.

incorporated with the honey. It excellently covers the taste of purging salts and waters. The boiling of honey, though it dissipates great part of its odorous matter, and thus proves in some cases injurious to it, is in some cases also of advantage: there are particular constitutions with which honey remarkably disagrees, and in which even very small quantities occasion gripes, purging, and great disorder: by boiling, it loses of that quality by which it produces these effects.

* The Edinburgh college seem at present of opinion that honey has no qualities which render it in any case preferable to sugar; since they have entirely expunged it, and all preparations in which it entered, from their last pharmacopœia (a).

MELILOTUS.

MELILOTUS officinarum germaniæ C. B. Lotus silvestris. Trifolium odoratum. Trifolium Melilotus officinalis Linn. MELILOT: a plant with smooth oval striated leaves, standing three together, on slender pedicles; and round, striated, branched stalks, terminated by long spikes of papilionaceous flowers drooping downwards, which are followed by short thick wrinkled pods, containing, each, one or two roundish seeds. It is annual or biennial, and found in flower, in hedges and corn fields, greatest part of the summer.

MELILOT has been said to be resolvent, emollient, anodyne, and to participate of the virtues of camomile. In its sensible qualities, it differs

(a) It is preserved, perhaps from inattention, in the *Electuarium Thebaicum Pharm. Edinb.*

very

very materially from that plant: its taste is unpleasant, subacid, subsaline, but not bitter: when fresh, it has scarcely any smell; in drying, it acquires a pretty strong one, of the aromatic kind, but not agreeable. Linnæus observes, in the third volume of the *Amœnitates Academicæ*, that distilled water of melilot, of little smell itself, remarkably heightens the fragrance of other substances. The principal use of this plant has been in glysters, fomentations, and other external applications: it formerly gave name to one of the officinal plasters; which received from the melilot a green colour and an unpleasant smell, without any addition to its efficacy.

MELISSA.

MELISSA Pharm. Lond. & Edinb. Melissa hortensis C. B. Melyssophyllum, mellifolium, mel-litis, citrago, citraria, cedronella, apiastrum. Melissa officinalis Linn. BALM: a plant with square stalks; and oblong, pointed, dark green, somewhat hairy leaves, set in pairs; in the bosoms of which come forth pale reddish labiated flowers, standing several together on one pedicle, with the upper lip roundish, erect, and cloven, and the lower divided into three segments. It is perennial; a native of mountainous places in the southern parts of Europe; and flowers in our gardens in June.

THIS plant, formerly celebrated for cephalic, cordial, stomachic, uterine, and other virtues, is now justly ranked among the milder corroborants. It has a pleasant smell, somewhat of the lemon kind, and a weak aromatic taste; of both which it loses a considerable part on being dried;

a slight roughishness, which the fresh herb is accompanied with, becoming at the same time more sensible. Infusions of the leaves in water, in colour greenish or reddish brown according to the degree of saturation, smell agreeably of the herb, but discover no great taste, though, on being inspissated, they leave a considerable quantity of bitterish and somewhat austere extract: the infusions are sometimes drank as tea in chronic disorders proceeding from debility and relaxation, and sometimes acidulated with lemon juice for a diluent in acute diseases. On distilling the fresh herb with water, it impregnates the first runnings pretty strongly with its grateful flavour: when large quantities are subjected to the operation at once, there separates, and rises to the surface of the aqueous fluid, a small portion of essential oil, in colour yellowish, of a very fragrant smell, apparently of great medicinal activity, commended by Hoffman as an excellent corroborant of the nervous system. Tinctures of the newly-dried leaves made in rectified spirit, in colour blackish green, discover less of the balm smell than the watery infusions, but have its taste in a greater degree: inspissated, they leave an extract in somewhat less quantity than that obtained by water, in taste stronger, and which retains a considerable share of the specific smell and flavour of the balm, but is less agreeable than the herb in substance.

MENTHA.

MINT: a perennial herb; with square stalks; serrated leaves set in pairs; and spikes of monopetalous flowers, each of which is cut into four sections, and followed by four seeds inclosed in the cup.

I. MENTHA

I. MENTHA SATIVA *Pharm. Lond. & Edinb.*
Mentha angustifolia spicata C. B. *Mentha viridis*
Linn. Mint, hartmint, spearmint: with oblong,
 narrow, pointed leaves, joined close to the stalk;
 and small purplish flowers standing in long
 spikes on the tops. It is a native of the warmer
 climates, common in our gardens, and flowers
 in June and July.

THIS herb has a strong agreeable aromatic
 smell, and a bitterish, roughish, moderately
 warm taste. It is in general used as a restraining
 stomachic and carminative: in vomitings and
 weakness of the stomach, there are, perhaps,
 few simples of equal efficacy. Some report that
 it prevents the coagulation of milk, and hence
 recommend it to be used along with milk diets,
 and even in cataplasms and fomentations for re-
 solving coagulated milk in the breasts: upon
 experiment, the curd of milk, digested in a
 strong infusion of mint, could not be perceived
 to be any otherwise affected than by common
 water, but milk, in which mint leaves were set
 to macerate, did not coagulate near so soon as
 an equal quantity of the same milk kept by it-
 self.

The leaves are sometimes taken in substance,
 beaten with thrice their weight of fine sugar
 into a conserve. Moderately bruised, they yield
 upon expression about two thirds their weight
 of a turbid, brown-coloured, somewhat mucil-
 aginous juice; which is commonly supposed
 to retain the full virtues of the mint, but which,
 though participating of the bitterness and sub-
 astringency of the herb, is found to have little
 or nothing of the peculiar aromatic flavour in
 which the principal virtue of this plant resides.
 The leaves lose in drying about three fourths

of their weight, without suffering much loss of their smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired in keeping.

Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour: if the maceration be long continued, the grosser parts of the mint are extracted, and the liquor proves less grateful: on boiling the mint in water till the aromatic matter is dissipated, the remaining dark-brown liquor is found nearly similar to the recent juice; unpleasant, bitterish, subastringent, and mucilaginous. By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water:† the distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds‡ than from the dry plant, though the latter is frequently made use of as being procurable at all times of the year. Along with the aqueous fluid, an essential oil distils, of a pale yellowish colour, changing by age to a reddish, and at length to a dark red, in quantity near an ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself.

Dry mint, digested in rectified spirit, either in the cold, or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by day-light of a fine dark green, by candle-light of a bright red colour: a tincture extracted from the remaining mint by fresh spirit appears in both lights green:

the

*Aq. menthæ
fativ. Ph.*

Lond. †

Ph. Ed. ‡

*Ol. menthæ
fativ. essen-
tiale Ph.*

Lond. & Ed.

the colour of both tinctures changes, in keeping, to a brown. On gently inspissating the filtered tinctures, little or nothing of their flavour rises with the spirit: the remaining extract possesses the concentrated virtues of about ten times its weight of the dry herb; and differs from the products obtained by distillation with water, in this, that the bitterness and subastringency of the mint, which are there separated from the aromatic part, are here united with it.

Proof spirit extracts the smell and taste of mint, but not its green colour. The tincture is brown, like the watery infusions; and, like them also, it becomes ungrateful, if the digestion is long continued. On gentle distillation, the more spirituous portion, which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the officinal spirituous water, prepared by drawing off a gallon of proof spirit from a pound and a half of the dried leaves, proves strongly impregnated with the mint. *Spiritus menthæ sativæ
Ph. Lond.*

After mint has been repeatedly infused in water, rectified spirit still extracts from it a green tincture, and a sensible flavour of mint: on the other hand, such as has been first digested in spirit, gives out afterwards to water a brown colour, and a kind of nauseous mucilaginous taste very different from that which distinguishes mint. The spirituous tinctures mingle with watery liquors without precipitation or turbidness; but spirituous liquors impregnated with its pure volatile parts by distillation, turn milky on the admixture of water.

2. MENTHA AQUATICA *sive* *Mentastrum* Pharm. Paris. *Mentha aquatica sive sisymbrium* J. B. *Mentha rotundifolia palustris sive aquatica major* C. B. *Mentha aquatica* Linn. Water-mint: with somewhat oval leaves set on pedicles, and long stamina standing out from the flowers.

3. MENTASTRUM HIRSUTUM: *Auricularia officinarum* Dale: *Mentha palustris folio oblongo* C. B. Hairy water-mint: with long hairy leaves having no pedicles; and broad spikes of flowers.

BOTH these plants grow wild in moist meadows, marshes, and on the brinks of rivers, and flower towards the end of summer. They are less agreeable in smell than the spearmint, and in taste bitterer and more pungent: the second sort approaches in some degree to the flavour of pennyroyal. They yield a much smaller proportion of essential oil: from twenty pounds of the water-mint were obtained scarcely three drams. With regard to their virtues, they appear to partake of those of spearmint; to which they are obviously far inferior as stomachics. The hairy water-mint is supposed to be the *auricularia*, *planta zeylanica*, or earwort, celebrated by Marloe for the cure of deafness: though probably not more effectual against that complaint, than the other water-mint against nephritic ones, in which it is said to have been formerly an empirical secret (*a*).

4. MENTHA PIPERITIS Pharm. Lond. & Edinb. *Mentha spicis brevioribus & habitioribus, foliis*

(*a*) In the first volume of Linnæus's *Aménitætes Académicæ*, the *auricularia* is said to be not at all of the mint kind, but a stellated plant, akin to galium.

mentha

menthæ fusca, sapore fervido piperis Raii synopsis.
Mentha piperita Linn. Pepper-mint : with
 acuminate leaves on very short pedicles ; and
 the flowers set in short thick spikes or heads.
 It is a native of this kingdom ; and, so far as
 is known, of this kingdom only : it is much
 less common, however, than the other wild
 mints ; but having been of late received in
 general practice as a medicine, it is now raised
 plentifully in gardens, and does not appear,
 like many of the other plants that grow natu-
 rally in watery places, to lose any thing of its
 virtue with this change of soil.

THIS species has a more penetrating smell
 than any of the other mints ; and a much stronger
 and warmer taste, pungent and glowing like
 pepper, and sinking as it were into the tongue.
 It is a medicine of great importance in flatulent
 colics, hysteric depressions, and other like com-
 plaints ; exerting its activity as soon as taken
 into the stomach, and diffusing a glowing
 warmth through the whole system ; yet not
 liable to heat the constitution near so much as
 might be expected from the great warmth and
 pungency of its taste.

By maceration or infusion, it readily and
 strongly impregnates both water and spirit with its
 virtue ; tinging the former of a brownish colour,
 and the latter of a deeper green than the other
 mints. In distillation with water, it yields a
 considerable quantity of essential oil, of a pale
 greenish yellow colour, growing darker coloured
 by age, very light, subtile, possessing in a high
 degree the specific smell and penetrating pun-
 gency of the pepper-mint*(a) : the decoction

*Ol. essentielle
 menthæ pi-
 peritidis Ph.
 Lond. & Ed.*

*(a) Some particles of a true camphor were procured
 from dried pepper-mint by cohobation. *Gaubii Adversar.*

remaining

remaining after the separation of this active principle, is only bitterish and subastringent, like those of the other mints. Rectified spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract; the quantity of which amounts to about one fourth of the dried leaves. A simple and a spirituous distilled water, drawn in the same proportions as those of spearmint, and the essential oil, are kept in the shops.

Aq. menthæ
piperit. *Ph.*
Lond. & Ed.
Aq. menthæ
piperit. spi-
rituosa *Ph.*

Ed.

Spir. menthæ
piper. *Ph.*
Lond.

MERCURIALIS.

HERB-MERCURY : a plant with oblong; acuminate, indented leaves, standing in pairs : in their bosoms come forth, either spikes of imperfect flowers, set in three-leaved cups, falling off without any seeds ; or little rough balls, joined two together, including each a single seed.

I. *MERCURIALIS testiculata sive mas, & mercurialis spicata sive femina dioscoridis & plinii C. B. Mercurialis annua Linn.* French mercury : with smooth glossy leaves, and branched stalks. The flowering plants, called female, and those which produce seeds, called male, are both annual, and grow wild together in shady uncultivated grounds.

The leaves of this plant have no remarkable smell, and very little taste : when freed by exsiccation from the aqueous moisture, with which they abound, their prevailing principle appears to be of the mucilaginous kind, with a small admixture of saline matter. They are ranked among the emollient oleraceous herbs, and said
to

to gently loosen the belly: their principal use has been in glysters.

2. CYNOCRAMBE: *Mercurialis montana testiculata* & *spicata* C. B. *Mercurialis perennis* Linn. Dogs mercury, male and female: with rough leaves and unbranched stalks. It is perennial, and grows wild in woods and hedges.

This species has been said by some to be similar in quality to the foregoing, and to be more acceptable to the palate as an oleraceous herb: it has lately however been found to be possessed of noxious qualities, acting as a virulent narcotic. An instance is related in N^o. 203 of the Philosophical Transactions, of its ill effects on a family, who eat at supper the herb boiled and fried: the children, who were most affected by it, vomited, purged, and fell fast asleep: two slept about twenty-four hours, then vomited and purged again, and recovered: the other could not be waked for four days, and then opened her eyes and expired.

M E U M.

MEUM ATHAMANTICUM. *Meum foliis anethi* C. B. *Meu* & *athamanta* & *radix ursina* quibusdam. *Æthusa Meum* Linn. SPIGNEL, BAULDMONY: an umbelliferous plant, with bushy leaves divided into slender segments, like those of fennel, but finer; producing large, oblong, striated seeds, flat on one side, and convex on the other: the root is long, variously branched, with generally a number of hairs or filaments at top, which are the remains of the stalks of former years, of a brownish colour on the outside, pale or whitish within, when dried of a fungous texture. It is perennial, grows wild

wild in meadows in some of the mountainous parts of England, and flowers in June.

THE root of spignel, recommended as a carminative, stomachic, and for attenuating viscid humours, appears to be nearly of the same nature with that of lovage; differing, in its smell being rather more agreeable, somewhat like that of parsneps, but stronger, and in its taste being less sweet and more warm or acrid. The difference betwixt the two roots is most considerable in the extracts made from them by water; the extract of spignel root being unpleasantly bitterish, with little or nothing of the sweetness of that of lovage roots. The spirituous extract of spignel, more aromatic than that of the lovage, is moderately warm, bitterish, and pungent.

MILLEFOLIUM.

MILLEFOLIUM Pharm. Edinb. Millefolium vulgare album, & millefolium purpureum C. B. Achillea, Myriophyllum, Chiliophyllum, Militaris herba, Stratiotes, Carpentaria, Lumbus veneris, & Supercilium veneris. Achillæa Millefolium Linn. MILFOIL or YARROW; a plant with rough stiff leaves, divided into small segments, set in pairs along a middle rib like feathers: the little flowers stand thick together in form of an umbel on the top of the stiff stalk, and consist each of several whitish or pale purplish petals set round a kind of loose disk of the same colour, followed by small crooked seeds. It is perennial, grows plentifully by the sides of fields and on sandy commons, and is found in flower greatest part of the summer.

THE.

THE leaves and flowers of milfoil are greatly recommended by some of the German physicians (*a*) as mild corroborants, vulneraries, and antispasmodics, in diarrhœas, hemorrhagies, hypochondriacal and other disorders. They promise, by their sensible qualities, to be of no inconsiderable activity. They have an agreeable though weak aromatic smell, and a bitterish, roughish, somewhat pungent taste. The leaves are chiefly directed for medicinal use, as having the greatest bitterishness and austerity: the flowers have the strongest and most subtile smell, are remarkably acrid, and promise to be of most efficacy, if the plant has really any such efficacy as an anodyne or antispasmodic. Dr. Grew observes, that the young roots have a glowing warm taste, approaching to that of contrayerva, and thinks they might in some measure supply its place; but adds, that they lose much of their virtue in being dried (*b*), from whence it may be presumed that their active matter is of another kind.

The virtue of the leaves and flowers is extracted both by watery and spirituous menstrua: the astringency most perfectly by the former, their aromatic warmth and pungency by the latter, and both of them equally by a mixture of the two. The flowers, distilled with water, yield a penetrating essential oil, possessing the flavour of the milfoil in perfection, though rather less agreeable than the flowers themselves, in consistence somewhat thick and tenacious, in colour remarkably variable, sometimes of a

(*a*) Stahl, *Dissert. de therapeia passionis hypochondriacæ*. Hoffman, *De præstantia remed. domest.* § 18.

(*b*) *Idea of philos. hist. of plants*, § 29. *Of diversities of tastes*, chap. v. § 2.

greenish

greenish yellow, sometimes of a deep green, sometimes of a bluish green, and sometimes of a fine blue: these differences seem to depend in great measure on the soil in which the plant is produced; the flowers gathered from moist rich grounds yielding generally a blue oil; whereas those, which are collected from dry commons, afford only, so far as I have observed, a green one with a greater or less admixture of yellow: the decoction remaining after the separation of this volatile principle, leaves, on being inspissated, a dark brownish mass, ungratefully austere, bitterish, and somewhat saline. On inspissating the yellowish tincture made in rectified spirit, scarcely any thing of the flavour of milfoil exhales or distils with the menstruum: the remaining deep yellow extract is more agreeable in smell than the flowers themselves, of a moderately warm penetrating taste, somewhat like that of camphor, but much milder, accompanied with a slight bitterishness and subastringency.

MILLEPEDÆ.

MILLEPEDÆ Pharm. Lond. & Edinb. Centipedes & onisci quibusdam. Oniscus Asellus Linn. MILLEPEDES, WOOD-LICE: an oblong insect, with fourteen feet, and its body composed of fourteen rings, rolling itself up into a round ball on being touched; found in cellars, and under stones and logs of wood in cold moist places; rarely met with in the warmer climates. Two sorts are commonly used indiscriminately; one large, of a dusky bluish-black or livid colour; the other smaller, flatter, thinner, of a pale brownish grey, and differing also from the former in the last division of the body being not annular,

annular, but pointed, and in the tail being forked. The first species is said to be the true officinal sort, though some have preferred the second: but there does not seem to be any material difference between them in quality.

MILLEPEDES have a faint disagreeable smell, and a somewhat brackish, sweetish, unpleasant taste. They are celebrated as resolvents, aperients, and diuretics; in jaundices, asthmas, scrophulous and other disorders; but that their virtues are so great as they are generally supposed to be, may be justly questioned, at least when given in the customary doses. I have known two hundred taken every day for some time together, without producing any remarkable effect; in large doses, indeed, it is probable that their activity may be considerable; as they are said to have sometimes produced an universal heat and thirst with a pain in the region of the pubes (*a*), and sometimes a scalding of urine (*b*).

These insects may be commodiously swallowed entire, as they spontaneously contract themselves, on being touched, in the form of a pill. In the shops they are commonly reduced into a Millepedæ powder; for which purpose they are prepared, ^{præparatæ} by inclosing them in a thin canvas cloth, and ^{Ph. Lond. & Ed.} suspending them over hot spirit of wine in a close vessel, till they are killed by the steam and rendered friable. Of the extraction of their active matter by menstrua, no direct experiments have been made: it is rather by expression, than on the principle of extraction or dissolution, that

(*a*) Frid. Hoffman, *De mat. med. regn. animal. cap.* 18. *Opera omnia, suppl.* ii. *par.* iii. *p.* 157.

(*b*) Fuller, *Pharmacopœia extemporanea, sub Express. milleped. simp.*

their virtues are commonly endeavoured to be obtained in a liquid form; though some liquors are generally added previously to the expression, partly to improve their virtue for particular intentions, partly to preserve the animal juice from corruption, and partly to render it more completely separable. The college of Edinburgh directs two ounces of live millepedes to be slightly bruised, and digested for a night in a pint of rhenish wine, after which the liquor is to be pressed out through a strainer.

Vinum millepedatum *Pb.*
Ed.

MOLDAVICA.

MOLDAVICA seu *Melissa turcica*: an *Melissa americana trifolia* odore gravi Tourn. inst.? *Camphorosma Morison. hist. ox.*? *Dracocephalum canariense* Linn. TURKEY or rather CANARY BALM, commonly called BALM-OF-GILEAD: a plant with square stalks, and acuminate leaves, slightly and obtusely indented, set generally three on one pedicle: of each three, the end one is largest, and the other two are nipt at the bottom on the upper side, or do not reach so far down their middle ribs on that side as on the other: the pedicles stand in pairs at the joints, with similar sets of smaller leaves in their bosoms. On the tops come forth thick spikes, or heads, of pretty large, reddish, labiated flowers; whereof both the upper and lower lip are cut into two parts, and the cup into five. It is perennial, a native of the Canary islands, and scarcely bears the winters of our climate without shelter.

THIS or some of the other species of the Turkey balm, of which there are several, is greatly commended by Hoffman, for strengthening the tone of the stomach, and the nervous system:

system: in this country, it has not yet been, though it seems to have a good claim to be, received among the medicinal plants: infusions of it may be drank as tea, and are very grateful. The leaves and flowery tops have a fragrant smell, somewhat resembling that of balm, but far stronger, and approaching to that of the fine balsam from which the plant received its name. Their taste is likewise agreeable, but so covered with the aromatic flavour, that its particular species is not easily determined: when the herb is infused in water, and the aromatic part dissipated by inspissating the filtered infusion, the remaining extract impresses on the palate a moderately strong, though only momentary, pungency and bitterness. In distillation with water, it yields a fragrant essential oil.

Ol. syræ
Germanis qui-
busdam.

MOSCHUS.

MOSCHUS Pharm. Lond. & Edinb. Musk: an odoriferous, grumous substance: found in a little bag, situated near the umbilical region of an oriental quadruped, which is said by some to bear the greatest resemblance to the goat, by others to the stag kind. The best musk is brought from Tonquin in China, an inferior sort from Agria and Bengal, and a still worse from Russia.

Fine musk comes over in round thin bladders, generally about the size of pigeons eggs, covered with short brown hairs, well filled, and without any aperture or any appearance of their having been opened. The musk itself is dry, with a kind of unctuousity; of a dark reddish brown or rusty blackish colour; in small round grains, with very few hard black clots; perfectly free from any sandy or other visible foreign matter.

VOL. II.

I

Chewed,

Chewed, and rubbed with a knife on paper, it looks bright, yellowish, smooth and free from grittiness. Laid on a red-hot iron, it catches flame, and burns almost intirely away, leaving only an exceeding small quantity of light greyish ashes: if any earthy substances have been mixed with the musk, the quantity of the residuum will discover them.

THIS concrete has a bitterish subacid taste; and a fragrant smell, agreeable at a distance, but so strong as to be disagreeable when smelt near to, unless weakened by a large admixture of other substances. A small quantity, macerated for a few days in rectified spirit of wine, imparts a deep colour, and a strong impregnation to the spirit: this tincture, of itself, discovers but little smell, the spirit covering or suppressing the smell; but on dilution it manifests the full fragrance of the musk, a drop or two communicating to a quart of wine or watery liquors a rich musky scent. The quantity of liquor which may thus be flavoured by a certain known proportion of musk, appears to be the best criterion of the genuineness and goodness of this commodity; a commodity, which is not only said to vary in goodness according to the season of its being taken from the animal (*a*), but which is oftentimes so artfully sophisticated, that the abuses cannot be discovered by any external characters, or by any other known means than the degree of its specific smell and taste, which the above experiment affords the most commodious method of measuring. The rectified spirit takes up completely the active matter of the musk; watery liquors extract it

(*a*) Strahlenberg, *Descript. Russ. Siber. &c.* p. 340.

only in part. The shops endeavour to procure an union of its virtues with water by the intervention of sugar and gum arabic: forty grains of musk and a dram of fine sugar are rubbed together, and then a dram of powdered gum arabic is added; to this are poured by degrees six ounces by measure of rose water. But the most elegant of all the liquid preparations of this drug, is the tincture in rectified spirit, which may be occasionally diluted with any watery liquors, like the other spirituous tinctures. This is directed in the Edinburgh pharmacopœia in the proportion of two drams of musk to a pound of spirit. By distillation, water becomes strongly impregnated with the scent of the musk, and seems to elevate all its odoriferous matter; while rectified spirit, on the contrary, brings over little or nothing of it:

Mistura moschata Ph. Lond.

Tinct. mosch. Ph. Ed.

Musk, a medicine of great esteem in the eastern countries, has lately come into general use among us also, in some nervous disorders: though liable, by its strong impression on the organs of smell, to offend and disorder hysterical persons and constitutions of great sensibility, yet, when taken internally, it is found to abate symptoms of that kind which its smell produces, and to be one of the principal medicines of the antispasmodic class. Dr. Wall relates, that two persons labouring under a subsultus tendinum, extreme anxiety, and want of sleep, occasioned by the bite of a mad dog, were perfectly relieved by two doses of musk of sixteen grains each: that convulsive hiccups, attended with the worst symptoms, were removed by a dose or two of ten grains: but in some cases, where this medicine could not, on account of strong convulsions, be administered by the mouth, it proved of service when injected as a glyster: that he

never met with any person, how averſe ſo ever to perfumes, but could take it in the form of a bolus without inconvenience: that under the quantity of ſix grains, he never found much effect from it, but that when given to ten grains and upwards, it produces a mild diaphoreſis, without heating or giving any uneaſineſs, but on the contrary, abating pain and raiſing the ſpirits; and that after the ſweat has begun, a reſreſhing ſleep generally ſucceeds^(a). This medicine is now received in general practice, in different convulſive diſorders; and its doſe has been increaſed, with advantage, to a ſcruple, and half a dram, every four or ſix hours. It has been tried alſo in ſome maniacal caſes; in which it ſeemed to procure a temporary relief.

M Q X A.

MOXA ſive lanugo artemiſiæ japonicæ Pharm. Pariſ. Moxa: a ſoft lanuginous ſubſtance, prepared in Japan, from the young leaves of a ſpecies of mugwort, by beating them, when thoroughly dried, and rubbing them betwixt the hands, till only the fine fibres are left. A like ſubſtance is ſaid, in the German ephemerides, to have been obtained, by treating the leaves of our common mugwort in the ſame manner.

Moxa is celebrated in the eaſtern countries, for preventing and curing many diſorders, by being burnt on the ſkin: a little cone of moxa, laid on the part previously moiſtened, and ſet on fire at top, burns down with a temperate glowing heat, and produces a dark coloured

(a) *Philoph. Tranſact.* No. 474.

ſpot,

spot, the exulceration of which is promoted by applying a little garlic, and the ulcer either healed up when the eschar separates, or kept running for a length of time, as different circumstances may require. A fungous substance, found in fissures of old birch trees, is said to be in common use among the Laplanders for the same purposes (*a*); and some have used cotton, impregnated with a solution of nitre, and afterwards dried, which answers the end as effectually as the moxa of the Japonese (*b*). It is obvious, that all these applications are no other than means of producing an exulceration of the skin, and its consequence a drain of humours.

MYROBALANI. *

MYROBALANI Pharm. Paris. MYROBALANS: dried fruits, of the plum kind, brought from the East Indies. Five sorts, produced by different trees, have been distinguished in the shops.

1. MYROBALANI BELLIRICÆ: *Myrobalani rotundæ belliricæ, arabibus belleregi, &c. C. B.* Belliric myrobalans: of a yellowish grey colour, and an irregularly roundish or oblong figure, about an inch in length, and three quarters of an inch thick.

2. MYROBALANI CITRINÆ: *Myrobalani teretes citrini bitem purgantes C. B.* Yellow myrobalans: somewhat longer than the preceding; with generally five large longitudinal ridges,

(*a*) Linnæus. *Flora lapponica*, p. 264.

(*b*) Hagendorn, *Cynostatologia*, p. 74.

and as many smaller between them; somewhat pointed at both ends.

3. MYROBALANI CHEBULÆ: *Myrobalani maximi angulosi pituitam purgantes, arabibus quebolia, &c. C. B.* Chébule myrobalans: resembling the yellow in figure and ridges, but larger, of a darker colour inclining to brown or blackish, and with a thicker pulp.

4. MYROBALANI EMBLICÆ, *arabibus embelgi, &c. C. B.* *Myrobalani emblicæ in segmentis nucleum habentes angulosæ* J. B. Emblic myrobalans: of a dark blackish grey colour, roundish, about half an inch thick, with six hexagonal faces opening from one another; the fruit of the *Phyllanthus Emblica* of Linnæus.

5. MYROBALANI INDICÆ: *Myrobalani nigre octangulares C. B. Myrobalani indicæ nigre sine nucleis* J. B. Indian or black myrobalans: of a deep black colour, oblong, octangular, differing from all the others, in having no stone, or only the rudiments of one; from whence they are supposed to have been gathered before maturity.

ALL the myrobalans have an unpleasant, bitterish, very austere taste; and strike an inky blackness with solution of chalybeate vitriol. They are said to have a gently purgative, as well as an astringent and corroborating virtue; and are directed to be given, in substance from half a dram to four drams, and in infusion or slight decoction from four to twelve drams. It is said also, that the fruit in substance acts barely as a styptic, without exerting its purgative quality; that this last is discovered only in the infusions

infusions (*a*), and that by boiling it is dissipated or destroyed (*b*). A difference of this kind, between the fruit and its infusions, might be easily conceived, if the astringency of the myrobalans was not extracted by watery liquors, but the contrary of this was found on trial to be true; the infusions, decoctions, and the decoctions inspissated to the consistence of an extract; being strongly styptic. In this country, they have long been entire strangers to practice, and are now discarded, by the colleges both of London and of Edinburgh, from their catalogue of officinals.

MYRRHA.

MYRRHA Pharm. Lond. & Edinb. MYRRH: a gummy-resinous concrete juice, of an oriental tree, of which we have no certain account. * Mr. Bruce informs us that it grows spontaneously in the eastern part of Arabia felix, and in that part of Abyssinia which the Greeks named Troglodytria; and that the Abyssinian myrrh, which is the least plentiful, is the best. The best kind is that which flows from deep incisions of the larger branches, hardening upon the tree. It continues to distil every year from the same wound; but the myrrh is of an inferior quality after the first, being mixed with foreign impurities, and the decayed juices of the tree. The worst is that which comes from near the root, or the old trunks (*c*). It comes over in glebes or drops, of various colours and magnitudes: the best sort is somewhat transparent,

(*a*) Geoffroy, *Traët. de materia medica*, tom. ii. p. 332.

(*b*) Benancius, *Declaratio fraudum & errorum apud pharmacopæos, à musco Bartholini*, p. 68.

(*c*) *Philos. Transf.* vol. lxx. p. 408.

friable, in some degree unctuous to the touch, of an uniform brownish or reddish yellow colour, often streaked internally with whitish semi-circular or irregular veins; of a moderately strong, not disagreeable smell; and a lightly pungent, very bitter taste, accompanied with an aromatic flavour, but not sufficient to prevent its being nauseous to the palate.

There are sometimes found among it hard shining pieces, of a pale yellowish colour, resembling gum-arabic, of no taste or smell: sometimes masses of bdellium, darker coloured, more opaque, internally softer than the myrrh, and differing from it both in smell and taste: sometimes an unctuous gummy-resin, of a moderately strong somewhat ungrateful smell, and a bitterish very durable taste, obviously different both from those of bdellium and myrrh: sometimes likewise, as Cartheuser observes, hard compact dark coloured tears, less unctuous than myrrh, of an offensive smell, and a most ungrateful bitterness, so as, when kept for some time in the mouth, to provoke reaching, though so resinous, that little of them is dissolved by the saliva. Great care is therefore requisite in the choice of this drug.

THIS bitter aromatic gummy-resin is a warm corroborant, deobstruent, and antiseptic. It is given from a few grains to a scruple and upwards, in uterine obstructions, cachexies, putrid fevers, &c. and often employed also as an external antiseptic and vulnerary. * In doses of half a dram, Dr. Cullen remarks that it heated the stomach, produced sweat, and agreed with the balsams in affecting the urinary passages. It has lately come more into use as a tonic in
hectical

hectical cases, and is said to prove less heating than most other medicines of that class.

Myrrh dissolves almost totally in boiling water, but as the liquor cools, a portion of resinous matter subsides. The strained solution is of a dark yellowish colour, somewhat turbid, smells and tastes strongly of the myrrh, and retains both its taste, and a considerable share of its scent, on being inspissated with a gentle heat to the consistence of an extract. By distillation with a boiling heat, the whole of its flavour arises, partly impregnating the distilled water, partly collected and concentrated in the form of an essential oil; which is in smell extremely fragrant, and rather more agreeable than the myrrh in substance, in taste remarkably mild, so ponderous as to sink in the aqueous fluid, whereas the oils of most, perhaps of all, of the other 'gummy-resins' swim: the quantity of oil, according to Hoffman's experiments, is about two drams from sixteen ounces, and when the myrrh is of a very good kind, near three drams.

Rectified spirit dissolves less of this concrete than water, but extracts more perfectly that part in which its bitterness, flavour, and virtues, reside: the resinous matter, which water leaves undissolved, is very bitter; but the gummy matter, which spirit leaves undissolved, is insipid, the spirituous solution containing all the active parts of the myrrh. Tinctures of Tinct. myrrh. myrrh, made by digesting three ounces of the † Pb. Ed. concrete in two pounds and a half of rectified † † Pb. Lond. spirit, with half a pint of rectified, are kept in the shops, and given sometimes internally from fifteen drops to a tea-spoonful, but oftener used among us externally for cleansing ulcers and promoting the

the exfoliation of carious bones : both tinctures are of a reddish yellow colour. In distillation, rectified spirit brings over little or nothing of the flavour of the myrrh : the extract, obtained by inspissating the tincture, is a fragrant, bitter, very tenacious resin, amounting to one third or more of the weight of the myrrh employed.

MYRTUS.

MYRTUS communis italica C. B. *Myrtus communis* Linn. MYRTLE : an evergreen shrub ; with oblong leaves, pointed at both ends ; in the bosoms of which spring solitary white pentapetalous flowers, followed by black oblong umbilicated berries full of white crooked seeds. It is a native of the southern parts of Europe, from whence the shops have been usually supplied with the berries, called *myrtilli*, which rarely come to perfection in our climate ; nor does the shrub bear our severe winters without shelter.

THE berries of the myrtle, recommended in alvine and uterine fluxes and other disorders from relaxation and debility, appear to be among the milder restringents or corroborants : they have a roughish not unpleasant taste, accompanied with a degree of sweetness and aromatic flavour. The leaves have likewise a manifest astringency, and yield, when rubbed, a pretty strong aromatic smell, agreeable to most people.

MYRTUS BRABANTICA.

MYRTHUS BRABANTICA Pharm. Paris.
Rhus myrtifolia belgica C. B. Gale, *frutex*
odoratus

odoratus septentrionalium, elæagnus Cordo, chamaelæagnus Dodonæo J. B. Myrica Gale Linn.

GAULE, SWEET WILLOW, DUTCH MYRTLE: a small shrub, much branched; with oblong, smooth, whitish green leaves, somewhat pointed or converging at each end; among which arise pedicles bearing flowery tufts, and separate pedicles bearing scaly cones which include the seeds, one little seed being lodged in each scale. It grows wild in waste watery places in several parts of England: in the isle of Ely it is said to be very plentiful. It flowers in May or June, ripens its seeds in August, and loses its leaves in winter.

THE leaves, flowers, and seeds of this plant, have a strong fragrant smell, and a bitter taste. They are said to be used among the common people, for destroying moths, and cutaneous insects, being accounted an enemy to insects of every kind; internally, in infusions, as a stomachic and vermifuge; and, as a substitute to hops, for preserving malt liquors, which they render more inebriating, and of consequence less salubrious (*a*): it is said that this quality is destroyed by boiling (*b*).

N A P U S.

NAVEW: a plant of the turnep kind, with oblong roots growing slenderer from the top to the extremity. Two sorts of it, ranked among the articles of the materia medica, are supposed by Linnæus to be only varieties, and are therefore joined into one species, under the name

(*a*) Ray, *Historia plantarum*, tom. ii. p. 1707.

(*b*) Linnæi, *Amæn. Academic.* iii. 96.

of *brassica (napus) radice caulescente fusiformi*. They are both biennial.

1. NAPUS, *dulcis officinarum*. *Napus sativa*
C. B. Garden or sweet navew, or French turnep: cultivated for the culinary use of its roots, which are warmer and more grateful than those of the common turnep, and are said to afford likewise, in their decoctions, a liquor beneficial in disorders of the breast. The seeds, in figure roundish and in colour reddish, are the part principally directed for medicinal purposes: they have a moderately pungent taste, somewhat approaching to that of mustard seed, of the virtues of which they appear to partake: with mustard seed they agree also in their pharmaceutical properties, their pungent matter being taken up completely by water, and only partially by rectified spirit, and being dissipated in the inspissation of the watery infusion, only an unpleasant bitterishness remaining in the extract. As the navew seeds, nearly similar in kind to those of mustard, are apparently much inferior in degree, the college of Edinburgh has discarded them, and that of London retains them only as an ingredient in theriaca.

2. BUNIAS *Pharm. Paris*. *Napus silvestris*
C. B. Wild navew, or rape: growing on dry banks and among corn: with leaves somewhat different from those of the preceding, being more like those of cabbages than of turneps; the root smaller, and of a stronger unpleasant taste; and the seeds also rather more pungent, on which account they are preferred by the faculty of Paris. The seeds of both kinds yield upon expression a large quantity of oil: the oil called rape-oil is extracted from the seeds of the wild

wild fort, which is cultivated in abundance, for that use, in some parts of England; the cake, remaining after the expression of the oil, retains, like that of mustard, the acrimony of the seeds.

NARDUS CELTICA.

NARDUS CELTICA *dioscoridis* C. B. *Spica celtica* & *saliunca* *quibusdam*. *Valeriana celtica* *Tourn.* & *Linn.* CELTIC NARD: a small species of valerian, with uncut, oblong, obtuse, somewhat oval leaves. It is a native of the Alps, from whence the shops have been generally supplied with the dried roots, consisting of a number of blackish fibres, with the lower parts of the stalks adhering; which last are covered with thin yellow scales, the remains of the withered leaves.

THIS root has been recommended as a stomachic, carminative, and diuretic: at present, it is scarcely otherwise made use of, in this country, than as an ingredient in mithridate and theriaca, though its sensible qualities promise some considerable medicinal powers. It has a moderately strong smell, of which it is extremely retentive (*a*), and a warm bitterish subacid taste, somewhat resembling those of common wild valerian: an extract made from it by rectified spirit has a strong penetrating taste, and retains in good measure the particular flavour, as well as the bitterness and pungency of the root.

(*a*) Linnæus observes that this plant, in a dry herbal, has retained its fragrance above a century. *Amœnitat. Academic. vol. iii. p. 71.*

NARDUS INDICA.

NARDUS INDICA quæ *spica*, *spica nardi*, & *spica indica officinarum* C. B. INDIAN NARD, or SPIKENARD: the bushy top of the root, or the remains of the withered stalks and ribs of the leaves, of an Indian grassy-leaved plant of which we have no particular description. The nard, as brought to us, is a congeries of small tough reddish brown fibres; cohering close together, but not interwoven, so as to form a bunch or spike about the size of a finger: sometimes two or three bunches issue from one head, and sometimes bits of leaves and stalks in substance are found among them.

THE Indian nard, now kept in the shops chiefly as an ingredient in the mithridate and theriaca, was formerly employed in the same intentions as the Celtic, and is said to be used among the orientals as a spice. It is moderately warm and pungent, accompanied with a flavour not disagreeable.

NASTURTIUM AQUATICUM.

NASTURTIUM AQUATICUM Pharm. Lond. & Edinb. *Nasturtium aquaticum supinum* C. B. *Sisymbrium aquaticum* Tourn. *Cressio quibusdam*. *Sisymbrium Nasturtium aquaticum* Linn. WATER CRESSES: a juicy plant, with brownish, oblong, obtuse leaves, set nearly in pairs, without pedicles, on a middle rib, which is terminated by an odd one larger and longer-pointed than the rest: the stalks are hollow, pretty thick, channelled, and crooked: on the tops grow tufts of small tetrapetalous white flowers, followed

followed by oblong pods, which bursting throw out a number of roundish seeds. It grows in rivulets and the clearer standing waters, and flowers in June: the leaves remain green all the winter, but are in greatest perfection in the spring.

THE leaves of the water cresses have a moderately pungent taste; and, when rubbed betwixt the fingers, emit a quick penetrating smell, like that of mustard seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrea, and accompanies the aqueous juice which issues copiously upon expression: it is very volatile, so as to arise, in great part, in distillation with rectified spirit as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat, to the consistence of an extract, either the expressed juice, or the watery, or spirituous tinctures: both the inspissated juice and the watery extract discover to the taste a saline impregnation, and in keeping throw up crystalline efflorescences to the surface. On distilling with water considerable quantities of the herb, a small proportion of a subtile, volatile, very pungent essential oil is obtained.

This herb is one of the milder acrid, aperient, antiscorbutics; of the same general virtues with the *cochlearia*, but considerably less pungent, and in great measure free from the peculiar flavour which accompanies that plant. Hoffman has a great opinion of it, and recommends it as of singular efficacy for strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours: for these purposes the herb may be used as a dietetic article, or the expressed juice
taken

taken in doses of from one to four ounces twice or thrice a day.

NASTURTIIUM HORTENSE.

NASTURTIIUM HORTENSE vulgatum
C. B. *Lepidium sativum* Linn. GARDEN CRESSES: a low plant, with variously cut winged leaves, bearing on the top of the round stalk and branches tufts of tetrapetalous white flowers, which are followed by roundish capsules, flattened on one side, full of reddish round seeds. It is annual, and raised in gardens.

THE garden cress is an useful dietetic herb in scorbutic habits, viscidities of the juices, obstructions of the viscera, and for promoting digestion; nearly of the same quality with water cress, but somewhat milder. The seeds are considerably more pungent than the leaves, and agree in their general qualities with those of mustard.

NATRON.

NATRON, Anatron, Soude blanche, Pharm. Paris. Nitrum antiquorum. Aphronitrum. Bau-rach. NATRON, or MINERAL FIXT ALKALINE SALT: This salt is contained in great abundance in the waters of the ocean, and makes the basis of the neutral salt so plentifully extracted from them for alimentary uses. It is likewise discoverable in sundry mineral springs, even of those which do not participate of sea salt. The celebrated Seltzer waters, in the archbishoprick of Treves, appear to be no other than a dilute solution of this salt mixed with a little earthy matter: twelve ounces of the water, according to Hoffman's

Hoffman's analysis, yield a scruple of the pure alkali. In some of the eastern countries it is found in considerable quantities on the surface of the earth, sometimes pure, but more commonly blended with various heterogeneous matters, from which it is extracted by means of water. I have been favoured by Dr. Heberden with a sample of this salt in a very pure state, which was taken up on the Pic of Teneriffe, and with which some parts of that mountain are covered. An account of this salt, as found fossil in a crystalline state, in the country of Tripoli, is contained in the *Phil. Trans.* vol. lxi. part ii. The alkali called *soda*, or *barilla*, prepared by incinerating the maritime plant *kali* or glasswort, contains a salt of the same kind. * This Barilla *Ph. Lond.* is received into the London catalogue of simples, and a purified salt is ordered to be prepared from it, by repeated solution in water, colature, Natron præpar. *Ph. Lond.* and crystallization.

The mineral alkali agrees in its general qualities with the common lixivial salts of vegetables. The differences which have been observed are, that it is milder and less acrid in taste: that it melts easier in the fire, and requires more water for its solution: that when dissolved in water it concretes, on evaporation, into crystalline masses: that when exposed to a moist air, though it grows somewhat moist on the surface, it does not run into a liquid form: that in a dry air, the crystals lose the water necessary for their crystalline form, and fall by degrees into a white powder: that the neutral salt, resulting from its coalition with the vitriolic acid, *sal glauberi*, is very easily dissoluble in water and fusible in the fire: that with the nitrous acid it forms cubical crystals, *nitrum cubicum*; with the marine, perfect sea salt; with

tartar, a salt which easily crystallizes, *sal ruppelense*. Made caustic by lime, it proves greatly inferior to the vegetable alkali in dissolving the urinary calculus (*a*).

This salt appears to possess the same general virtues with the vegetable alkalies; but as it does not liquefy in the air, it is better adapted for an ingredient in powders; and as it is less acrimonious, it may be presumed to be less disposed to stimulate the first passages: some of the chemists have taken great pains, in the preparation of the common alkalies, to preserve in them a part of the oil of the plant, so as to reduce them to such a degree of mildness, as this alkali, with much greater uniformity and certainty, possesses in its pure state.

NEPETA.

MENTHA CATARIA vulgaris, & major C. B. Cataria & Herba felis quibusdam. Nepeta Cataria Linn. NEP, or CATMINT, so called from its being often destroyed by cats: a hoary plant; with square stalks; heart-shaped, acuminate, serrated leaves, set in pairs on long pedicles; and whitish labiated flowers standing in spikes on the tops of the branches: the upper lip of the flower is divided into two, the lower into three sections. It is sometimes found wild in hedges and on dry banks, and flowers in June.

THE leaves of catmint have a moderately pungent aromatic taste, and a strong smell, not ill resembling that of a mixture of spearmint and pennyroyal; of the virtues of which herbs, in weak-

(a) *Med. Trans.* i. 124.

nesses of the stomach, and more particularly in uterine disorders, they appear also to participate. Their active matter is extracted both by water and rectified spirit, most perfectly by the latter: the watery tinctures are of a greenish yellow or brownish colour, the spirituous of a deep green. In distillation with water, they yield a yellowish essential oil, smelling strongly of the catmint, but rather less agreeable than the herb itself: the remaining decoction is ungratefully bitterish and subastringent. Rectified spirit elevates likewise a part of the smell and aromatic warmth, but leaves the greatest share behind concentrated in the extract, which proves more grateful than the leaves in substance, having more of the mint and less of the pennyroyal flavour.

NEPHRITICUM LIGNUM.

LIGNUM peregrinum aquam cæruleam reddens C. B. NEPHRITIC WOOD: an American wood, brought to us in large compact ponderous pieces, without knots: the outer part is of a whitish or pale yellowish colour, the medullary substance of a dark brownish or reddish. It is the product of the *Guilandina Moringa* of Linnæus. This wood, macerated in water for half an hour or an hour, imparts a deep tincture, appearing, when placed betwixt the eye and the light, of a golden colour, in other situations of a fine blue: a property in which it agrees with the bark of the ash tree; and differs from all other known woods. Pieces of a different kind of wood, are often mixed with it, which give only a yellow tincture to water.

NEPHRITIC WOOD has a slightly bitterish somewhat pungent taste; and in rasping or scraping

emits a faint smell of the aromatic kind. The blue watery tincture has neither smell nor taste : but a strong infusion, which appears not blue, but of a dark brownish colour, is manifestly bitter, and smells pretty agreeably ; inspissated, it leaves a blackish brown extract, in which the bitterness is more considerable, and accompanied with a slight astringency. A saturated tincture made in rectified spirit, is of a blackish red colour ; the extract, obtained by inspissating it, is a tenacious resin, larger in quantity and weaker in taste than the watery extract. According to Cartheuser, the spirituous extract amounts to about one fifth, the watery only to one twelfth the weight of the wood. Both menstrua seem to extract the whole of the active matter ; for if the wood remaining after the action of the one, be digested or boiled in the other, and the liquors inspissated, the extracts thus obtained have neither smell nor taste.

This wood stands greatly recommended in difficulties of urine, nephritic complaints, and all disorders of the kidneys and urinary passages ; and is said to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts : the blue aqueous tincture is directed to be used as common drink, and fresh water to be poured on the remaining wood so long as it communicates any bluness. For my own part, I have never known its being given medicinally, nor is it received in practice : Geoffroy says he has seen some instances of its being used without success ; and indeed, whatever may be the virtues of strong infusions or extracts of the wood, the exceedingly dilute blue tincture cannot be expected to have much efficacy.

NICOTIANA.

TOBACCO : a plant with alternate leaves, and monopetalous tubulous flowers divided into five sections : the flower is followed by an oval capsule, which opening longitudinally, sheds numerous small seeds.

I. NICOTIANA *Pharm. Lond. Nicotiana major latifolia. C. B. Nicotiana Tabacum Linn.* Tobacco : with large, sharp-pointed, pale green, soft leaves, about two feet in length, joined immediately to the stalk without pedicles. It was brought into Europe by M. Nicot, from the island Tobago in America, about the year 1560, and is now cultivated for medicinal use in our gardens. It is perennial, as is said, in America ; and annual with us.

THE leaves of tobacco have a strong disagreeable smell, and a very acrid burning taste. They give out their acrid matter both to water and spirit, most perfectly to the latter : the aqueous infusions are of a yellow or brown colour, the spirituous of a deep green. They yield nothing considerable in distillation with either menstruum : nevertheless their acrimony is greatly abated in the inspissation of the tinctures, the watery extract being less pungent than the leaves themselves, and the spirituous not much more so. The several sorts of tobacco brought from abroad, are stronger in taste than that of our own growth, and the extracts made from them much more fiery, but in less quantity.

Tobacco taken internally, even in a small dose, or decoctions of it used as a glyster, prove virulently cathartic and emetic, occasioning ex-

treme anxiety, vertigoes, stupors and disorders of the senses: some have nevertheless ventured upon it both as an evacuant, and in minuter quantities as an aperient and alterant, in epilepsies and other obstinate chronical disorders; a practice which, though in some cases it may have been successful, appears much too hazardous to be followed, particularly in the more irritable, hot, dry, bilious constitutions. By long boiling in water, its deleterious power is abated, and at length destroyed: an extract made by long coction is recommended by Stahl and other German physicians, as the most effectual and safe aperient, detergent, expectorant, diuretic, &c. but the medicine must necessarily be precarious and uncertain in strength, and has never come into use among us.

* In the year 1785, Dr. Fowler published "Medical Reports of the Effects of Tobacco principally with regard to its diuretic Quality in the Cure of Dropsies and Dysurries." In these he represents it as a safe and effectual remedy, properly administered, proving a pretty certain diuretic, and generally an anodyne. Its operation is commonly attended with vertigo; and frequently with nausea. It often acts, in a full dose, as a laxative. The mode of exhibition which he generally used, was a watery infusion of an ounce to a pint, given by drops, from six to a hundred, twice a day.

The smoke of tobacco, received by the anus, is said to be of singular efficacy in obstinate constipations of the belly. Hoffman observes, that horses have often been relieved by this remedy, but in human subjects it has been rarely tried; and says he has known some of the common people, who laboured under excruciating pains of the intestines, freed in an instant from all pain
by

by swallowing the smoke. * Both the decoction and the smoke have not unfrequently been injected in cases of incarcerated herniæ, and often with success. The smoke thus applied is recommended as one of the principal means for the revival of persons apparently dead from drowning or other sudden causes; but some suspect the narcotic powers of tobacco, as unfavourable in these cases.

Tobacco is sometimes employed externally in unguents and lotions, for cleansing foul ulcers, destroying cutaneous insects, and other like purposes: it appears to be destructive to almost all kinds of insects, to those produced on vegetables as well as on animals. Beaten into a mash with vinegar or brandy, it has sometimes proved a serviceable application for hard tumours of the hypochondres(*a*). Some caution however is requisite even in these external uses of tobacco, particularly in solutions of continuity: there are instances of its being thus transmitted into the blood, so as to produce virulent effects. Of the common uses of the leaves brought from America, prepared in different forms, both the advantages and inconveniences are too well known to require being mentioned here.

2. NICOTIANA MINOR *C. B. Priapeia quibusdam nicotiana minor J. B. Tobacco anglicum Park. Hyoscyamus luteus Ger. Nicotiana rustica Linn.* English tobacco: with short, somewhat oval leaves, set on pedicles. It is annual, originally a native of America, but now propagates itself plentifully in England and other parts of Europe.

(*a*) *Edinburgh medical essays*, vol. ii. art. 5.

THE leaves of this species are said by some to be of the same quality with those of henbane; by others, to be similar to the preceding, but weaker, which, in point of taste, they manifestly are. They have been sometimes substituted, in our markets, to the true tobacco; from which they are readily distinguishable by their smallness, their oval shape, and their being furnished with pedicles.

NITRUM.

NITRUM Pharm. Lond. & Edinb. NITRE, or SALTPETRE: a neutral salt, formed by the coalition of the common vegetable fixt alkaline salt with a peculiar acid: of a sharp penetrating cooling taste: soluble in eight times its weight of very cold water, in less than thrice its weight of water temperately warm, and, as is said, in one third its weight of boiling water: concreting from its saturated solutions, on evaporation of a part of the fluid or a gradual diminution of the heat that kept it dissolved, into colourless transparent crystals, which in figure are hexagonal prisms terminated by pyramids of the same number of sides: melting thin as water in a moderate heat: when heated to ignition, deflagrating, on the contact of any inflammable substance, with a bright flame and a considerable hissing noise; and leaving, after the detonation, its fixed alkaline salt, the acid being destroyed in the act of accension.

Nitrum
fixum.

The origin of nitre, or rather of the acid which makes the characteristic part of nitre, is unknown. Thus much only is known with certainty, that common waters, both atmospheric and subterraneous, often contain a little of this acid in combination with earthy or other bodies,

bodies, so as to yield, by crystallization, on supplying the vegetable fixt alkali, a perfect nitre : and that when animal and vegetable substances, mixed with porous absorbent earths, have lain exposed to the air till they are thoroughly rotted, they are found in like manner to contain a small portion of nitre or of nitrous acid, so as to give out a little nitre to water, either without addition, or on being supplied with the proper alkaline basis. On this foundation, some nitre is prepared in different parts of Europe : but the greatest quantities are the produce of the East Indies ; the means by which it is there so plentifully obtained, or whether it is a natural or artificial production, have not yet, so far as I can learn, been revealed.

Nitre, as brought into the shops, has generally a greater or less admixture of sea salt, from which it is purified, by dissolving it in boiling water, and, after duly evaporating the filtered solution, setting it in a cold place to crystallize. The more impure brown nitre requires repeated dissolution and crystallization : to promote the purification, it is commonly dissolved in lime-water, or the solution suffered to percolate through quicklime or a mixture of quicklime and wood ashes. It is observable that nitrous solutions differ from those of most other salts in contracting no pellicle in evaporation : if a solution of rough nitre, containing sea salt, be boiled down till a pellicle appears, or till a part of the salt begins to concrete and fall to the bottom, all that thus separates is said to be sea salt, boiling water keeping far less of this salt dissolved than it does of nitre : but if the liquor be now poured off, though it should still retain a quantity of the sea salt, only the nitre will

Nitrum puri-
ficatum *Pb.*
Lond.

will crystallize in cooling, sea salt continuing dissolved in nearly as little water when cold, as was sufficient to keep it dissolved when boiling.

This salt is one of the principal medicines of the antiphlogistic class; of general use in disorders accompanied with inflammatory symptoms whether chronical or acute, and as a corrector of the inflammation or irritation produced by stimulating drugs. Hoffman thinks it has an advantage above the refrigerants of the acid kind, in not being liable to coagulate the animal juices; solutions of it mingling with or dissolving recent thick blood, and in some degree preserving it from coagulation as well as corruption; at the same time changing its colour, when dark or blackish, to a crimson, an effect which it produces also, in a less degree, upon the fleshy parts of dead animals (*a*). It retards likewise the coagulation of milk, but seems, from Stahl's account, to increase the consistence of thin serous humours; for he observes, that when used in gargarisms for inflammations of the fauces in acute fevers, it thickens the salival fluid into a mucus, which keeps the parts moist for a considerable time, whereas, when nitre is not added, a dryness of the mouth presently ensues (*b*).

This medicine generally promotes urine, and often gives relief in stranguries and heat of urine whether simple or proceeding from a venereal

(*a*) Hoffman, *De salium mediorum virtute*, § 16. *De medicamentis selectioribus*, § 13. *De præstantissima nitri virtute*, § 5.—We cannot, however, conclude much, from these kinds of experiments, in regard to the medical powers of nitre, or its effects on the animal fluids, whilst under the laws of the vital œconomy.

(*b*) *De usu nitri medico*, *Mensis martius*, *Opusc.* p. 569.

taint. It sometimes loosens the belly, particularly in hot dispositions: in cold phlegmatic temperaments it rarely has this effect, though given in very large doses: the diarrhoeas of acute diseases, and fluxes in other circumstances from an acrimony of the bile or inflammation of the intestines, have been frequently restrained by it. In high fevers, it often promotes a diaphoresis or sweat; in malignant fevers, where the pulse is low and the strength greatly depressed, it impedes that salutary excretion and the eruption of the exanthemata; in consequence of its general power of diminishing inflammation and heat. It seems to be prejudicial in disorders of the lungs, though some (*a*) have ventured to prescribe it in hæmoptyses.

The usual dose of nitre, among us, is from two or three grains to a scruple; though in many cases it may be given with great safety, and to better advantage, in larger quantities. It has been said, that nitre loses, in being melted, half its weight of watery moisture, and recovers this weight again on being dissolved and crystallized (*b*); from whence it would follow, that one part of melted nitre is equivalent to two of the crystals: but there was probably some mistake in this experiment, for I have repeated it with different parcels of nitre, and never found the loss to be so much as one twentieth of its weight.

(*a*) Riverius, *Cent. i. obs.* 83. Stahl, *ubi supra*, & *Observ. chym. phys. med. curios.* p. 464. Tralles, *Virium terreis ascriptorum examen*, p. 246. Dickson, *Lond. med. obs.* iv. 106. This last writer ventures to assert, that he can depend upon an electuary of conserve of roses and nitre in the cure of an hæmoptoe almost equally with bark in an intermittent.

(*b*) Geoffroy, *Memoires de l'acad. des scienc. de Paris, pour l'ann.* 1717.

Nitre

Trochisci e
nitro *Pb.*
Lond.

Nitre may be commodiously taken in the form of troches. The London college direct one part of the purified salt to be ground with three parts of fine sugar, and one and a half of gum tragacanth in powder, and the mixture made up with water. In this and all other solid forms it is accompanied, however, with one inconvenience; being liable, especially when the dose is considerable, to occasion a pain or uneasiness at the stomach, which can be prevented only by plentiful dilution. A liquid form is therefore, in general, the most eligible, and may be easily rendered grateful by a proper addition of sugar.

Sal prunellæ.
Crystallus
mineralis.

The chemists have thought to improve the virtue of nitre, by deflagration with a small portion of sulphur: they melt the nitre, in a crucible, and gradually sprinkle on it one twenty-fourth its weight of flowers of sulphur: when the deflagration is over, they pour out the melted salt into clean, dry, warm brass moulds, so as to form it into little cakes. In this process, a part of the acid of the nitre, and the inflammable principle of the sulphur, detonating together, are both destroyed; while that part of the alkali of the nitre, which is thus forsaken by its acid, unites with the acid of the sulphur, which is the same with that of vitriol, into a new neutral salt, the same with vitriolated tartar; and the preparation is found to be no other than a mixture of unchanged nitre with a small portion of this vitriolated salt. If the nitre and sulphur be taken in equal quantities, the mixture injected by a little at a time into a red-hot crucible, and kept in till all detonation ceases, nearly the whole of the nitre will thus be changed; and the remaining salt, purified by solution in

Sal poly-
chrest. *Pb.*
Ed.

in water, proves almost wholly the same with vitriolated tartar.

The same salt is produced by pouring gradually on nitre the pure acid of vitriol or sulphur: this acid, uniting with the alkali, disengages the acid of the nitre, which begins to exhale, immediately on mixture, in yellow or red fumes, and may be collected by distillation in a glass retort with a moderate fire. Two parts of nitre to one of vitriolic acid, is a proper proportion for disengaging all the acid of the nitre; the remaining salt is nearly a pure vitriolated tartar. If three parts of nitre be used to one of the vitriolic acid, a part of the nitre remains unchanged: on dissolving the whole residuum in hot water, and setting the filtered solution to crystallize, the vitriolated salt shoots first, greatest part of the nitre continuing dissolved.

Acidum nitrosum vulgo spiritus nitri glaukeri *Ph. Ed.*
Acidum nitrosum *Ph. Lond.*

The nitrous spirit is obtained also by distillation in a strong fire with vitriol in substance; the vitriol parting, when strongly heated, with its own acid, which then acts upon the nitre and extricates its acid in the same manner as when the pure vitriolic acid is used. The spirit thus distilled, called aqua fortis, is more phlegmatic than the preceding, in proportion as the vitriol employed contains more phlegm than the oil of vitriol: it is likewise liable to an admixture of the vitriolic acid, more or less of which is generally forced over. The proportion usually directed is three parts of nitre, three of green vitriol uncalcined, and one and a half of the same vitriol calcined. The ingredients are well mixed together, the distillation performed in an earthen retort or an iron pot fitted with an earthen head and a receiver, and continued so long as any red vapours arise. *The colleges of London and Edinburgh have now discarded this

Aqua fortis.

Acidum nitrosum tenue
Pb. Ed.
 —dilutum
Pb. Lond.

this kind of preparation, and direct a weaker nitrous acid to be made by mixing equal parts of the strong acid and pure water.

The nitrous spirit, usually distilled from rough nitre, contains often an admixture of the marine acid as well as of the vitriolic. The first is discovered, and separated, by dropping in a little solution of silver, the latter by a solution of chalk or any other calcareous earth, made in the pure nitrous acid; the silver absorbing the marine acid, and the chalk the vitriolic, and forming with those acids, respectively, indissoluble concretes, which immediately render the liquor milky, and on standing settle to the bottom. The solutions are to be cautiously and slowly dropt in, so long only as they continue to produce a milkiness: in case of an excess in their quantity, if the spirit is required perfectly pure, it is to be rectified by redistillation.

By the property on which the above method of purification depends, the nitrous spirit may be readily distinguished from the other two mineral acids. By the red or yellowish red colour of its fumes; by its forming with one fourth its weight of sal ammoniac, or with sea salt or its acid, a menstruum that perfectly dissolves gold; by its deflagrating on the contact of any inflammable matter, when heated to ignition, whatever other body it be previously combined with; it may with certainty be distinguished both from those and from every other known species of acid.

This acid has been sometimes given as a diuretic, from two or three to fifty drops, diluted largely with water; but its principal use is in combination with other bodies.

Combined

Combined with vegetable fixt alkalies, it re-
 produces common nitre. With the mineral Nitrum cu-
 fixt alkali, or *soda*, it composes a species of bicum.
 nitre in some respects different from the com-
 mon, crystallizing not into a prismatic but a
 cubical figure; with volatile alkalies, a subtile
 pungent salt remarkable for its solubility in spirit Nitrum flam-
 of wine:*(a) of these two compounds, the mans, vola-
 medicinal qualities are little known, though they tile, five am-
 should seem to be well deserving of inquiry. moniacale.

*(a) NITRUM FLAMMANS, VOLATILE, AMMONIA-
 CALE. This salt dissolves readily in water, and becomes
 pappy or fluid in a moist air: by slow evaporation in gen-
 tle warmth it shoots into large crystals, much resembling
 those of common nitre. It dissolves in six times its weight
 or less, of rectified spirit of wine. In a heat equal to that
 of boiling water, it melts and looks like oil, without suffer-
 ing any loss of its substance; on increasing the heat a very
 little beyond that degree, it begins to exhale, and in a little
 time is wholly dissipated: the fumes, caught in proper ves-
 sels, condense not into a concrete salt, but a fluid spirit; in
 which, however perfect the neutralization was at first, the
 acid appears now to prevail. The salt thrown into a red-
 hot crucible, without addition of any inflammable matter,
 emits bright flames, without detonation or noise: the flashes
 continue to play on the surface till the whole quantity of the
 salt is dissipated.

This salt is in taste similar to common nitre, but some-
 what sharper or more penetrating. Taken in doses of from
 ten to twenty-five grains, it sensibly promotes urine; and
 if the patient is kept warm, perspiration or sweat: It is
 recommended by Kurella, preferably to the other neutral
 saline medicines, in inflammatory cases, in exanthematous
 fevers, and as an attenuant and resolvent in obstructions of
 the viscera. He gives it either in powder, mixed with
 absorbents neutralized by lemon juice, or dissolved in well
 dulcified spirits of vitriol or nitre, in which last form he
 finds it in some cases to answer best: from fifteen to twenty-
 five drops of the saturated solution are given for a dose in
 any agreeable warm liquor. He recommends it likewise
 externally against inflammations, erysipelases, and gouty
 pains, dissolved in spirit of wine, either by itself, or with
 the addition of camphor and opium. *M. S. of Dr. Lewis.*

The

The acid, in the most concentrated state in which it is commonly met with, saturates about five sixths its weight of vegetable fixt alkali (*a*).

Nitrum cal-
careum ve-
rum.

Solutions of calcareous earths in this acid are in taste bitterish and very pungent. They are difficultly made to assume a crystalline appearance; and when evaporated and exsiccated by heat, the dry salt deliquesces again in the air. This salt has not hitherto been employed medically, nor is it as yet much known. It is a common ingredient in waters, which when its quantity is considerable, it renders hard and indisposed to putrefy, apparently impeding putrefaction in a much greater degree than an equal quantity of sea salt. Alkaline salts, fixt or volatile, added to the solutions, precipitate the earthy basis; and uniting with the acid in its stead, compose therewith, according to the species of alkali employed, the common, cubical, or ammoniacal nitre mentioned in the preceding paragraph.

The nitrous spirit dissolves zinc, iron, copper, bismuth, lead, mercury, and silver, the most readily of all the acids: tin it dissolves imperfectly: regulus of antimony it only corrodes: see the respective metals.

The concentrated acid, combined with a due proportion of rectified spirit of wine, loses its acidity; the coalition of the two producing a new compound, of a gratefully pungent taste and colour, and which is given from a few drops to a tea-spoonful or more as mildly aperient, diuretic, antiphlogistic, in some degree anodyne and antispasmodic. On mixing the two spirits together, a great heat, ebullition, and noxious

(*a*) Homberg, *Memoires l'acad. roy. des scienc. de Paris, pour l'ann. 1699.*

red vapours arise: this conflict is less violent when, cautiously and by little and little, the acid spirit is added to the vinous, than when the vinous is added to the acid. It is prudent also to place the bottle containing the spirit of wine, in a vessel of cold water. One part of the strong acid spirit is commonly taken to three of the spirit of wine †, or half a pound to a quart †: the mixture, after standing for some time that the two liquors may in some degree unite, is set to distil with a gentle fire, by which the union is completed, and the very volatile dulcified spirit separated from the more fixt acid that remains undulcified. The distillation has been directed to be continued so long as the spirit that comes over raises no effervescence with fixt alkaline salts; it may be regulated more commodiously by performing the process in a water bath †, for all that rises in this heat will be found to be a pure dulcified spirit.

Spiritus ætheris nitrosi
† *Pb. Lond.*
Acidum nitri
vinosum vulgo spiritus
nitri dulcis
† *Pb. Ed.*

A subtile ethereal fluid, similar in its general qualities to that described under the head of vitriolic acid, is obtainable with the nitrous in a more compendious manner. If equal parts by measure of spirit of nitre and spirit of wine, of moderate strength, be mixed together, the bottle closely stoppt, and set in a cool place, a large proportion of ether rises to the surface in a few days: it may be purified from the adhering acid, by shaking it with water in which some fixt alkaline salt has been dissolved, and then drawing off the ether by distillation. The medicinal qualities of this subtile fluid are not as yet much known.

Nitrous ether.

NUMMULARIA.

NUMMULARIA Pharm. Paris. Nummularia major lutea C. B. Hirundinaria. Centimorbia. Lysimachia Nummularia Linn. MONEY-WORT: a low creeping plant, with square stalks, and smooth little roundish or heart-shaped leaves set in pairs at the joints upon short pedicles: in their bosoms appear yellow solitary monopetalous flowers, each divided into five oval segments, and followed by a small round capsule full of minute seeds. It is perennial, grows wild in moist pasture grounds, and flowers from May to near the end of summer.

THIS herb is accounted restraining, antiscorbutic, and vulnerary. Boerhaave looks upon it as similar to a mixture of scurvygrass with sorrel: it appears indeed to have some degree both of pungency and acidity, but it is far weaker than those herbs, or than any mixture of the two.

NUX MOSCHATA.

NUX MOSCHATA Pharm. Lond. & Edinb. Nux myristica fructu rotundo C. B. Nucifera. Myristica officinalis Linn. NUTMEG: the aromatic kernel of a large nut, produced by a tree said to resemble the pear tree, growing in the East Indies. The outer part of the fruit is a soft fleshy substance like that of the walnut, which spontaneously opens when ripe: under this lies a red membrane called mace, forming a kind of reticular covering, through the fissures of which is seen the hard woody shell that includes

includes the nutmeg. Two sorts of this kernel are distinguished: one of an oblong figure, called male; the other roundish, or of the shape of an olive, called female: this last is the officinal species, being preferred to the other on account of its stronger and more agreeable flavour, and its being, as is said, less subject to become carious. The nutmegs are cured, according to Rumphius, by dipping them in a somewhat thick mixture of lime and water, that they may be every where coated with the lime, which contributes to their preservation.

THE nutmeg is a moderately warm, grateful, unctuous spice; supposed to be particularly useful in weakness of appetite, and the nausea and vomitings accompanying pregnancy, and in fluxes; but liable, when taken too freely, to sit very uneasy on the stomach, and, as is said, to affect the head. Roasted with a gentle heat, till it becomes easily friable, it proves less subject to these inconveniences, and is supposed likewise to be more useful in fluxes.

Nutmegs, distilled with water, yield nearly one sixteenth (*a*) their weight of a limpid essential oil, very grateful, possessing the flavour of the spice in perfection, and which is said to have some degree of an antispasmodic or hypnotic (*b*) power: on the surface of the remaining decoction is found floating an unctuous concrete matter like tallow, of a white colour, nearly insipid, not easily corruptible, and hence recommended as a basis for odoriferous bal-

Ol. essent.
nucis mos-
chatæ Ph.
Lond.

(*a*) Hoffman, *Observationes physico-chymicæ*, lib. i. obs. 1.

(*b*) *Miscell. nat. curiosor. dec. iii. ann. ii. obs. 120.*
Hontius, *de medicina Indorum*, p. 20.

Spir. nucis
mosch. *Ph.*
Lond.
Aqua nucis
mosch. *Ph.*
Ed.

sams (*a*): the decoction, freed from this sebaceous matter, and inspissated, leaves a weakly bitter subastringent extract. Rectified spirit takes up, by maceration or digestion, the whole smell and taste of the nutmegs, and receives from them a deep bright yellow colour: the spirit, drawn off by distillation from the filtered tincture, is very slightly impregnated with their flavour; greatest part of the specific smell, as well as the aromatic warmth, bitterishness and subastringency of the spice remaining concentrated in the extract. The essential oil, and an agreeable cordial water, lightly flavoured with the volatile parts of the nutmeg by drawing off a gallon or nine pounds of proof spirit from two ounces of the spice, are kept in the shops. Both the oil, and the spirituous tincture and extracts, agree better with weak stomachs than the nutmegs in substance.

Nutmegs, heated, and strongly pressed, give out a fluid yellow oil, which concretes on growing cold into a sebaceous consistence. Rumphius informs us, that in the spice islands, when the nuts are broken, those kernels which appear damaged, carious, or unripe, are separated for this use, and that seventeen pounds and a quarter of such kernels yield only one pound of oil, whereas, when the nutmeg is in perfection, it is said to afford near one third its own weight.

Two kinds of sebaceous matter, said to be expressed from the nutmeg, are distinguished in the shops by the name of oil of mace: the

* (*a*) After a fluid essential oil had been procured from nutmegs by distillation, on repeating the process upon the residuum, an oil of a butyraceous consistence arose, which possessed the taste and odour of the nutmeg, and was perfectly soluble in alcohol. *Gaubii Adversar.*

best sort, brought from the East Indies in stone jars, is somewhat soft, of a yellow colour, and of a strong agreeable smell greatly resembling that of the nutmeg itself: the other comes from Holland in solid masses, generally flat and of a square figure, of a paler colour and much weaker smell. These oils are employed chiefly externally in stomach plasters, and in anodyne and nervine unguents and liniments. They appear to be a mixture of the gross sebaceous matter of the nutmeg with a little of the essential or aromatic oil; both which may be perfectly separated from one another by maceration or digestion in rectified spirit, or by distillation with water. The spirituous tincture, the distilled water, and the essential oil, are nearly similar to those drawn from the nutmeg itself, the pure white sebaceous substance being left behind.

Ol. nucis
mosch. ex-
pressum,
macis vulgæ
dictum Ph.
Lond. & Ed.

NUX PISTACIA.

PISTACHIO NUT: an oblong, pointed nut, about the size and shape of a filberd; including a kernel of a pale greenish colour, covered with a yellowish or reddish skin. It is the produce of a large tree, with winged leaves, resembling those of the ash, *pistacia peregrina fructu racemoso sive terebinthus indica theophrasti* C. B. *Pistachia vera* Linn. which grows spontaneously in the eastern countries, and bears the cold of our own.

PISTACHIO NUTS have a pleasant sweetish unctuous taste, resembling that of sweet almonds: their principal difference from which consists in their having rather a greater degree of sweetness, accompanied with a light grateful flavour,

flavour, and in being more oily, and hence somewhat more emollient, and perhaps more nutritious. They have been ranked among the principal analeptics, and greatly esteemed by some in certain weaknesses and emaciations. They are taken chiefly in substance, their greenish hue rendering them unsightly in the form of an emulsion. They are very liable to grow rancid in keeping.

NUX VOMICA.

NUX VOMICA Pharm. Paris. *Nux metella.* VOMIC NUT: a flat roundish seed or kernel, about an inch broad and near a quarter of an inch thick, with a prominence in the middle on both sides, of a grey colour, covered with a kind of woolly matter, internally hard and tough like horn. It is the produce of a large tree growing in the East Indies, called by Plukenet *cucurbitifera malabariensis, ænopliæ foliis rotundis, fructu orbiculari rubro cujus grana sunt nuces vomicæ officinarum*; by Linnæus, *Strychnos Nux Vomica*.

THIS seed discovers to the taste a considerable bitterness, but makes little or no impression on the organs of smell. It has been recommended in tertian and quartan fevers, in virulent gonorrhœas, and as an alexipharmac: Fallopius relates, that it was given with success in the plague; that in doses of from a scruple to half a dram, it procured a plentiful sweat; and that where this evacuation happened, the patient recovered(a). At present it is looked upon, and not without good foundation, as a deleterious drug; which, though like many

(a) *Tract. de tumoribus præternaturalibus, cap. 27.*

other deleterious substances, capable, in certain doses and in certain circumstances, of producing happy effects, has its salutary and pernicious operations so nearly and so indeterminably allied, that common prudence forbids its being ventured on. Hoffman tells us of a girl of ten years of age, to whom fifteen grains, given at twice, for the cure of an obstinate quartan, proved mortal (*a*). The principal symptoms it has been observed to produce, in human subjects and brutes (*b*), are, great anxieties, strong convulsions or epileptic fits, paralytic tremors and resolutions, a great increase of the motion of the heart and of respiration, and reachings and subversions of the stomach. Dissections of dogs killed by it have shewn no material injury of the grosser parts; from whence we may presume that it is the nervous system which it immediately offends. It is probable, that the active matter of this seed is of the same nature with that of bitter almonds, but more developed and in a more concentrated state.

* The nux vomica was lately used in Sweden in an epidemic dysentery, as it is said, with remarkably good effects. A scruple of the powder was given to adults once a day in barley water, proper evacuants having been premised. Bergius (*c*), however, asserts, that though the flux was suppressed for twelve hours by this medicine, it never failed to return. He also mentions a case in which the above dose caused convulsive stretchings and vertigo; and after the cure of the dysentery by other medicines, a pain in the stomach and epigastric region re-

(*a*) *Philosophia corp. human. morbosi*, P. ii. cap. viii. § 8.

(*b*) *Vide Wepfer, De cicuta aquatica*, cap. xiii. p. 194, & seq.

(*c*) *Mat. Med.* 145.

mained for a long time. In the isle of Ceylon the nux vomica is said to be used internally as a specific against the bite of a species of water snake.

THE wood or roots of the tree, or of other trees of the same genus, are sometimes brought from the East Indies under the name of *lignum colubrinum* (*Pharm. Paris.*) or snakewood, in pieces about the thickness of a man's arm, covered with a brownish or rusty coloured bark, internally of a yellowish colour with whitish streaks.

This wood, in rasping or scraping, emits a faint not disagreeable smell; and when chewed for some time discovers a very bitter taste. Cartheuser relates, that it gives a gold-coloured tincture both to water and spirit, and that the inspissated extracts are brownish; that the watery infusion has an agreeable smell like that of rhodium, the spirituous little or none; that the infusions and extracts made with both menstrua are very bitter; that the quantity of watery extract amounts to one sixth of the wood, and that of the spirituous to near one fourth; and that the wood remaining after the action of spirit, yields still, to water, a gold-coloured tincture, and one eighth its weight of a bitter subacid extract: from whence water appears to be the proper menstruum of its active matter.

The *lignum colubrinum* has been recommended, in small doses, not exceeding half a dram, as an anthelmintic, and in obstinate quartans, jaundices, cachexies, and other chronical disorders: it is said to operate most commonly by sweat, sometimes by stool, and sometimes by vomit. It appears however to be possessed of the same ill qualities with the nux vomica
itself,

itself, though in a lower degree, having in sundry instances been productive of convulsions, tremors, stupors, and disorders of the senses.

THE *faba indica Pharm. Paris. Faba sancti ignatii*, or *faba febrifuga*, is the produce of a tree of the same kind, growing in the East Indies and in the Philippine islands, called by Plukenet *cucurbitifera malabatbri foliis scandens, catalongay* & *contara philippinis orientalibus dicta, cujus nuclei pepitas de besayas aut catbalogan* & *fabæ sancti ignatii ab hispanis, igasur* & *mananaog insularis nuncupati*; by Linnæus, *Strychnos Ignatii*. The seeds of the gourd-like fruit, improperly called beans, are of a roundish figure, very irregular and uneven, about the size of a middling nutmeg, semitransparent, and of a hard horny texture.

These seeds have a very bitter taste, and no considerable smell: when fresh they are said to have somewhat of a musky scent. Neumann observes, that an extract made of them by rectified spirit impresses at first a very agreeable bitterness, somewhat like that of peach kernels, which going off leaves in the mouth a strong bitter; that an extract made with water is likewise bitter; that the watery extract is greenish and in quantity one half of the seeds, the spirituous yellowish and little more than one fifth; that the seeds remaining after the action of water scarcely gave out any thing to spirit, but that after spirit they yielded above one fourth of extract with water.

St. Ignatius's bean is said by father Camelli to be employed by the common people in the Philippine islands against all diseases. The effects attributed to it are similar to those of the two foregoing substances: he observes, that it
generally

generally vomits, sometimes purges, and almost always produces in the Europeans, though not in the Indians, spasmodic motions; that the dose in substance, as an emetic, is ten or twelve grains, to be taken an hour after eating; and that in smaller doses it sometimes promotes a plentiful sweat(*a*). Neumann says he has known intermitting fevers cured by drinking, on the approach of a paroxysm, an infusion of some grains of the seed made in carduus water (*b*); and I have been informed, that two grains were found to have as much effect as a full dose of bark. This seed, nevertheless, as it apparently partakes of the qualities of the two preceding articles, seems much too hazardous for general use.

NYMPHÆA.

WATER-LILY: an aquatic plant, with thick firm roundish leaves, furnished with two obtuse ears at the pedicle, floating on the surface of the water: the flowers, which stand on separate pedicles, are large, composed of several petals with numerous stamina in the middle, followed by single capsules full of blackish shining seeds: the root is long, thick, internally white and fungous.

1. *NYMPHÆA ALBA* *major* C. B. *Leuconymphæa*. *Nenuphar*. *Nymphæa alba* Linn. White water-lily: with white flowers set in four-leaved cups: the seed vessels round, and the roots externally brownish or blackish.

2. *NYMPHÆA LUTEA*: *Nymphæa major lutea* C. B. *Nymphæa lutea* Linn. Yellow water-

(*a*) *Philosophical trans.* numb. 250.

(*b*) *Chymia medica*, &c. i. 717. *Chemical works*, p. 347.
lily:

lily: with yellow flowers set in large five-leaved cups, the seed vessels shaped like a pear, and the roots externally greenish.

BOTH these plants are found in rivers and large lakes; the yellow is most common: they are perennial, and flower usually in June. The roots and flowers have been employed, both internally and externally, as demulcent, anti-inflammatory, and in some degree anodyne. Their virtues, however, do not appear to be very great, as they have no smell, at least when dried, and but little taste: extracts made from them both by water and spirit are weakly bitterish, subastringent, and subsaline. Lindestolpe informs us, that in some parts of Sweden, the roots, which are the strongest part, were in times of scarcity used as food, and did not prove unwholesome.

OCHRA.

OCHRA five *Minera ferri lutea vel rubra Pharm. Paris.* OCHRE: an argillaceous earth; less tenacious, when moistened, than the clays and the boles; impregnated with a calx of iron, and thereby tinged of a yellow or red colour. The dark red sort is called reddle or ruddle, *rubrica fabrilis* the yellow *sil*; *ochra plinio & latinis sil dicta Charleton.* Those which are naturally yellow become red by burning. Both kinds are dug in several parts of England.

THESE earths discover their argillaceous nature, by burning hard in the fire; and their ferrugineous impregnation, by digestion in aqua regis, which extracts the iron, leaving the earth nearly white. To the taste they seem somewhat astringent, in consequence, not of the metallic, but

but of the earthy part, for the iron is in such a state as not to be acted on by any fluid that exists in the bodies of animals: it may therefore be presumed, that they do not differ materially, in virtue, from the boles; except in being less viscid, and therefore of less efficacy for obtunding acrid humours: see *Bolus* and *Cimolia*. Among us they are rarely or never used medicinally under their own name; though sometimes applied in the shops to the counterfeiting of earths that are less common.

OCIMUM.

OCIMUM, Basilicum, Herba regia. BASIL: a plant, with square stalks; oval leaves set in pairs; and long spikes of labiated flowers, whose upper lip is divided into four parts, the lower entire: the cup also has two lips, one cut into four sections, the other into two.

1. *OCIMUM vulgatus C. B. Ocimum medium citratum Ger. Ocimum Basilicum Linn.* Common or citron basil: with most of the leaves indented, and the flower-cups edged with fine hairs.

2. *OCIMUM CARYOPHYLLATUM: Ocimum minimum C. B. & Linn.* Small or bush basil: with uncut leaves.

BOTH these plants are natives of the eastern countries, and sown annually in our gardens for culinary as well as medicinal uses. The seeds, which rarely come to perfection in this climate, especially those of the second sort, are brought from Italy and the south of France.

The

The leaves of basil are accounted mildly balsamic: infusions of them are sometimes drank as tea in catarrhus and uterine disorders, and the dry leaves in substance made an ingredient in cephalic and sternutatory powders. They are very juicy, of a weakly aromatic and very mucilaginous taste, and of a strong smell, which is somewhat disagreeable when the herbs are fresh, but is improved by drying: those of the first sort approach to the lemon scent, those of the second to that of cloves. Distilled with water, they yield a considerable quantity of essential oil, of a penetrating fragrance, commended by Hoffman as a nervine, similar, but greatly superiour, to oil of marjoram (*a*).

* OENANTHE.

THIS is the botanical name of a genus of plants of the umbelliferous class, of which there are three species natives of Great Britain. One of these only is known by its effects on the human body, the

OENANTHE *Chærephylli foliis* C. B. *Oenanthe crocata* Linn. Hemlock dropwort: this is a large umbelliferous plant, growing in ditches and other moist places; with pinnated leaves, resembling those of celery or chervil, and ribbed stalks. Its roots afford the easiest mark of distinction, which are white, thick, and short, and grow several together, forming a kind of bunch.

The hemlock dropwort has long been known as a most dangerous poison; the most virulent, perhaps, that this country produces. Its roots or leaves eaten by mistake, have frequently

(*a*) *Observationes physico-chymicæ, lib. i. obs. 4.*

proved fatal, occasioning violent sickness and vomiting, rigors, convulsions, delirium, and other terrible affections of the nervous system. The head has been said to be affected even by being in the same room with a quantity of the plant. Like so many other deleterious vegetables, it, however, is capable of being rendered a powerful remedy. A case is published by Dr. Pulteney in the *Philos. Transact.* vol. lxii. in which this plant, used by mistake instead of the water parsnep, proved remarkably efficacious in removing an inveterate scorbutic complaint, which had resisted a variety of other remedies. The dose first given was a common spoonful of the juice of the root, which at the first exhibition produced very alarming effects. This was afterwards reduced to three tea-spoonfuls; which quantity was persisted in a considerable time, and then changed for a tea of the leaves. The medicine never proved purgative, but was diuretic. It always occasioned a degree of vertigo; accompanied, when the juice itself was taken, with nausea and sickness.

If this experiment be imitated, it is obvious that the greatest degree of caution will be necessary.

O L E A.

OLEA fativa C. B. *Olea europæa* Linn.

OLIVE: an evergreen tree, with oblong, narrow, willow-like leaves, and monopetalous whitish flowers, cut into four sections, followed by clusters of oval black fruit, containing, under a fleshy pulp, a hard rough stone. It is a native of the southern parts of Europe, and bears the ordinary winters of our own climate.

THE fruit of this tree (*oliva*) has a bitter, austere, very disagreeable taste: pickled, as brought from abroad, it proves less ungrateful, and is supposed to promote appetite and digestion, and attenuate viscid phlegm in the first passages: the Lucca olives, which are smaller than the others, have the weakest taste; and the Spanish, or larger, the strongest: those brought from Provence, which are of a middling size, are in general most esteemed. But the principal consumption of olives is in the preparation of the common salad oil (*oleum olivarum Pharm. Lond. & Edinb.*) which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oil issues first by gentle pressure; and inferior sorts, on heating the residuum and pressing it more strongly. All these oils contain a portion of watery moisture; and of the mucilaginous substance of the fruit: to separate these, and thus prevent the oil from growing rancid, some sea salt is added, which not being dissoluble in the pure oil, imbibes the watery and mucilaginous parts; and sinks with them to the bottom. As this oil grows thick in a moderate degree of cold, a part of the salt, thrown up by shaking the vessel, is sometimes detained in it, so as to render the taste sensibly saline. In virtue, it does not differ materially from the other flavourless expressed oils: it is preferred to the others for dietetic uses, and in plasters and unguents, but is more rarely employed as an internal medicine.

OLIBANUM.

OLIBANUM Pharm. Lond. & Edinb. OLIBANUM: a gummy resin brought from Turkey and the East Indies, usually in drops or tears like

like those of mastich, but larger, of a pale yellowish colour, which by age becomes reddish. It is the product of a tree of the juniper kind growing in Arabia; the *juniperus lycia* of Linnaeus.

THIS gummy-resin has a moderately strong, not very agreeable smell, and a bitterish somewhat pungent taste: in chewing, it sticks to the teeth, becomes white, and renders the saliva milky. Laid on a red-hot iron, it readily catches flame, and burns with a strong, diffusive, not unpleasant smell: it is supposed to have been the incense used by the ancients in their religious ceremonies, though it is not the substance now known by that name in the shops. On trituration with water, greatest part of it dissolves into a milky liquor, which on standing deposits a portion of resinous matter, and being now gently inspissated, leaves a yellow extract, which retains greatest part of the smell as well as the taste of the olibanum; its odorous matter appearing to be of a less volatile kind than that of most other gummy-resins. Rectified spirit dissolves less than water, but takes up nearly all the active matter: the transparent yellowish solution, inspissated, yields a very tenacious resin, in which the active parts of the juice are so enveloped and locked up, that they are scarcely to be discovered, either by the smell or taste.

Olibanum is recommended in disorders of the head and breast, in hæmoptoës, and in alvine and uterine fluxes: the dose is from a scruple to a dram or more.

ONONIS.

ANONIS spinosa flore purpureo C. B. *Restæ bovis. Arestæ bovis. Remora aratri. Ononis spinosa*

rosa Linn. REST-HARROW: a plant with flexible branches terminating in sharp prickles; small oval indented leaves, standing generally three together, without pedicles; and purplish papilionaceous flowers, set in pairs, followed each by a short pod containing three unequal kidney-shaped seeds. It is perennial, grows wild in waste grounds and dry fields, and with its long tough spreading roots obstructs the plough or harrow.

THE roots of rest-harrow have a faint unpleasant smell, and a sweetish, bitterish, somewhat nauseous taste. Their active matter is confined to the cortical part; which has been sometimes given in powder, in doses of a dram, and made an ingredient in apozems or decoctions, as an aperient and diuretic. Its virtue is extracted both by water and spirit.

O P I U M.

OPIUM Pharm. Lond. & Edinb. OPIUM: a concrete gummy-resinous juice; somewhat soft and tenacious, especially when much handled or warmed; of a dark reddish brown colour in the mass, and when reduced into powder yellow. It is brought from Egypt, Persia, and some other parts of Asia, in flat cakes or irregular masses, from four to about sixteen ounces in weight, covered with leaves to prevent their sticking together.

It is extracted from the heads of white poppies (see *Papaver*) which in those countries are cultivated in fields for this use. Kæmpfer reports, that the heads, when almost ripe, are wounded with a five-edged instrument, by which as many parallel incisions are made at once from top to

bottom; that the juice which exudes is next day scraped off, and the other sides of the heads wounded in like manner; and that the juice is afterwards worked with a little water, till it acquires the consistence, tenacity, and brightness of the finest pitch. The best opium was formerly called Thebaic opium, from its being prepared about Thebes in Egypt: no distinction is now made in regard to the places of its production, though the epithet *thebaic* serves to distinguish some of its officinal preparations.

OPIMUM has a faint disagreeable smell, and a bitterish, somewhat hot, biting taste. Watery tinctures of it strike a black colour with chalybeate solutions, and thus seem to discover some astringency. Mixed with the serum of blood, they thicken and render it whitish; and on blood itself, newly drawn, they have nearly a like effect: Mr. Eller observes, that on examining with a microscope blood thickened by a vinous tincture of opium, the nature of its globules seemed to be destroyed. But neither from these, nor any of the other known sensible properties of this drug, can its surprising operation in the human body be deduced.

Taken in proper doses, it commonly procures sleep, and a temporary respite from pain, or the action of any stimulating power. The cause of the pain it in many cases confirms or augments; and in not a few, it fails even of giving palliating relief. The cases in which it is proper or improper will be best understood from a view of its general effects; which, so far as experience has hitherto discovered them, are the following.

It renders the solids, while the operation of the opium continues, less sensible of every kind of

of irritation, whether proceeding from an internal cause, or from acrimonious medicines, as cantharides, and the more active mercurials, of which it is the best corrector—It relaxes the nerves; abating or removing cramps or spasms, even those of the more violent kind; and increasing paralytic disorders and debilities of the nervous system—It incrassates thin serous humours in the fauces and adjacent parts; by which means, it proves frequently a speedy cure for simple catarrhs and tickling coughs; but in phthical and peripneumonic cases, dangerously obstructs expectoration, unless this effect be provided against by suitable additions, as ammoniacum and squills—It produces a fulness and distension of the whole habit; and thus exasperates inflammations both internal and external, and all plethoric symptoms—It promotes perspiration and sweat; but restrains all other evacuations, unless when they proceed from a relaxation and insensibility of the parts, as the colliquative diarrhœæ in the advanced stage of hectic fevers—It promotes labour-pains and delivery (*a*) more effectually than the medicines of the stimulating kind usually recommended for that purpose; partly perhaps by increasing plenitude, and partly by relaxing the solids or taking off spasmodic strictures—And indeed all the preceding effects are perhaps consequences of one general power, being nearly allied to those which natural sleep produces (*b*).

The operation of opium is generally accompanied with a slow but strong and full pulse, and a slight redness, heat and itching of the skin: it is followed by a weak and languid pulse;

(*a*) Mead, *Monita & præcept. med.* p. 253.

(*b*) See Young's *treatise on opium*.

lowness of the spirits, some difficulty of breathing or a sense of tightness about the breast, a slight giddiness of the head, dryness of the mouth and fauces, and some degree of nausea. Given on a full stomach, it commonly occasions a nausea from the beginning, which continues till the opium is rejected along with the contents of the stomach. Where the evacuation of acrid humours, accumulated in the first passages, is suppressed by it, great sickness and uneasiness are generally complained of, till the salutary discharge either takes place again spontaneously or is promoted by art.

An over dose occasions either immoderate mirth or stupidity, a redness of the face, swelling of the lips, relaxation of the joints, vertigo, deep sleep with turbulent dreams and startings, convulsions, and cold sweats. Geoffroy observes, that those who recover, are generally relieved by a diarrhoea, or by a profuse sweat, which is accompanied with a violent itching. The proper remedies, besides emetics, blisters, and bleeding, are acids and neutral mixtures: Dr. Mead says he has given, with extraordinary success, repeated doses of a mixture of salt of wormwood with lemon juice.

A long continued use of opium is productive of great relaxation and debility, sluggishness, heaviness, loss of appetite, dropsies, tremors, acrimony of the humours, frequent stimulus to urine, and propensity to venery. On leaving it off, after habitual use, an extreme lowness of the spirits, languor, and anxiety, succeed; which are relieved by having again recourse to opium, and in some measure by spirituous or vinous liquors.

With

With regard to the dose, one grain is generally a sufficient, and sometimes too large a one: maniacal persons, and those who labour under violent spasms, require oftentimes two, three, or more grains; though even in these cases, it is generally more advisable to repeat the dose at proper intervals, than to enlarge it. By frequent use, much greater quantities may be borne: the Turks, who habituate themselves to opium as a succedaneum to spirituous liquors, are said to take commonly a dram at a time, and Garcias says that he knew one who every day took ten drams.

OPIMUM appears to consist of about five parts in twelve of gummy matter, four of resinous matter, and three of earthy or other indissoluble impurities (*a*). From these last it has been purified, in the shops, by softening the opium with boiling water, in the proportion of a pint to a pound, into the consistence of a pulp, with care to prevent its burning; and whilst it remains quite hot, strongly pressing it from the feces through a linen cloth: the strained opium is then inspissated in a water-bath, or other gentle heat, to its original consistence. When thus softened with a small quantity of water, the gummy and resinous parts pass the strainer together; whereas, if dissolved by a larger quantity, they would separate from one another.

* A more perfect method of purification is now directed by the London college, which consists in dissolving one pound of opium in twelve pints of proof spirit, straining the solution, and then distilling the spirit from it, till it be reduced to a due consistence. This preparation is ordered

Opium purified. *Pb.*
Lond.

(*a*) Alston, *Edinburgh medical essays*, vol. v. art. 12.

to be kept in a soft form, for making pills, and a hard one, for powdering.

It has been disputed, whether it is in the gummy or in the resinous parts of opium, that its activity resides. From the experiments of Hoffman (*a*) and Neumann (*b*), it seems to be neither in the direct gum, nor in the direct resin, but in a certain subtile part of the resinous matter, somewhat analogous to essential oils, but of a much less volatile kind: they report, that on boiling the opium in water, there arises to the surface a frothy, viscid, unctuous, strong-scented substance, to the quantity of two or three drams from sixteen ounces: that this substance, in the dose of a few grains, has killed dogs that could bear above a dram of crude opium; that in distillation with water, though it does not rise itself, it gives over, at least in part, the active principle of which it is the matrix; impregnating the distilled liquor with its scent and its soporific power; as essential oils exhale their odoriferous principle in the air, without being dissipated themselves. What this subtile and highly active principle really is, in essential oils, in odorous vegetables that yield no oil, and in opium, is equally unknown.

Both water and rectified spirit extract, difficultly, by maceration or digestion, the active matter of opium, and receive from it a yellow or brownish tincture. The watery solution is found to contain great part of the resin along with the gum; and the spirituous, a smaller proportion of the gum along with the resin. Such part of the gum as is left by spirit, and such part of

(*a*) *Dis. de opii correctione genuina & usu*, Oper. supplement. ii. P. i. p. 645. *Not. ad Poterium*, p. 437.

(*b*) *Chymia medica*, vol. i. p. 996. *Chemical works*, p. 308.

the resin as is left by water, seem to be equally inert.

Tinctures of opium in water, wine, and proof spirit, have the same effects as the opium in substance ; with this difference, that they exert themselves sooner in the body, and are less disposed to leave a nausea on the stomach. Tinctures made in rectified spirit are said to act with greater power than the others : Geoffroy relates, from his own observation, that while the watery and vinous tinctures occasioned quiet sleep, the spirituous brought on a phrenzy for a time. It is said likewise, that alkaline salts diminish the soporific virtue of the opium ; that fixt alkalies render it diuretic, whilst volatile ones determine its action to the cutaneous pores ; and that acids almost entirely destroy its force.

The officinal tinctures of opium are made in wine or proof spirit. The college of London directs ten drams of strained opium, dried and powdered, to be macerated without heat for ten days in a pint of proof spirit ; the college of Edinburgh orders two ounces of crude opium to be digested for four days in a pound and a half of spirituous cinnamon water : a mixture of wine and proof spirit has been sometimes made choice of, in order to prevent in some measure an inconvenience which both of them separately, considered as officinals, are liable to, being apt to throw off in long standing a part of the opium, which in wine falls to the bottom, and forms a crust on the surface of spirit. Of the first of the above tinctures twenty drops, and of the latter twenty-five drops are reckoned to contain one grain of opium : * but as these quantities of the

Tinctur. opii
Ph. Lond.

Tinctura the-
baica vulgo
laudanum
liquidum *Ph.*
Ed.

menstrua

* (a) This calculation refers to the preceding editions of the dispensatories. The London college have apparently

menstrua do not easily dissolve all the active matter of so large a proportion of the opium, those doses are generally observed to have somewhat less effect than a grain of the drug in substance. As drops also, according to different circumstances, vary in quantity, though in number the same, it were to be wished that the shops were furnished with a solution of this drug, made in a quantity of menstruum large enough not only for the complete extraction of the active parts, but to admit of the dose being exactly determined by weight or measure.

In a solid form, independently of such materials as may be subservient to the other indications of cure, it is sometimes mixed with spumaceous or gummy substances which promote its dissolution in the stomach, and sometimes with resinous ones, which render its dissolution and operation more gradual and slow: to these is commonly superadded some aromatic ingredient, to prevent its occasioning a nausea.

* The London and Edinburgh colleges have now, however, preserved only a single form each of opiate pills, in which the promotion of its solubility seems the only subject considered. The former unites two drams of hard strained opium with one ounce of extract of liquorice.

*Pil. ex opio
Ph. Lond.*

*Pil. thebaicæ
vulgo pacificæ
Ph. Ed.*

The latter directs the combination of one part of opium, four of extract of liquorice, three of Spanish soap, and two of powdered Jamaica pepper.

much diminished the quantity of opium in their tinctures as it was formerly made with two ounces of strained opium to the pint. But it is probable that they have found by experiment that the loss of weight in drying the opium to powder is equivalent to the difference. By using this drug in powder, the difference of strength resulting from the unavoidable difference of consistence in various parcels of the crude or strained opium, is obviated.

Many

Many have endeavoured to correct certain ill qualities, which they suppose opium to be possessed of, by roasting it, by fermentation, by long continued digestions, or boiling, by repeated dissolutions and distillations. These kinds of processes, though recommended by several late writers, do not promise any singular advantage. That they weaken the opium is indeed very probable; but this intention is answered as effectually, and with far greater certainty, by diminishing the dose of the opium itself: for the ill effects, which opium produces in certain circumstances, do not depend on any distinct property or principle, and appear to be no other than the necessary consequences of the same power, by which in other circumstances it proves so beneficial: the only rational way of improving or correcting this valuable drug seems to be, by joining or interposing such medicines, as may counteract or remove those particular effects of it, which in particular cases may be injurious.

OPOBALSAMUM.

OPOBALSAMUM or BALSAM OF GILEAD: a resinous juice, obtained from an evergreen tree or shrub (*balsamum syriacum rutæ folio C. B.*) said to grow in Arabia. The best sort, which naturally exudes from the plant, is scarce known in Europe; and the inferiour kinds, said to be extracted by lightly boiling the branches and leaves in water, are very rarely seen among us.

THE true opobalsam, according to Prosper Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine; but much sweeter and more fragrant, and of a
bitter,

bitter, acrid, astringent taste : on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a gold yellow, after which it grows thick like turpentine, and loses much of its fragrance (*a*). Some resemble the smell of this balsam to that of citrons, others to that of a mixture of rosemary and sage flowers. I have sometimes met with a curious balsam of this last kind of smell, exceedingly fragrant, limpid, and thin : dropt on water, it spread itself all over the surface, imparting to the liquor a considerable share of its taste and smell : the grosser part, that remained on the top of the water, was so tenacious, as to be easily taken up at once with the point of a needle, which is reckoned, by Alpinus and others, as a characteristic of the true balsam.

This precious balsam is of great esteem in the eastern countries, both as a medicine, and as an odoriferous unguent and cosmetic. Its great scarcity has prevented its coming into use among us : nor are its virtues, probably, superior to those of some of the resinous juices more common in the shops ; all these substances being in their general qualities alike, though differing in the degree of their gratefulness, pungency, and warmth.

O P O P A N A X.

OPOPANAX Pharm. Lond. OPOPANAX : a concrete gummy-resinous juice, obtained from the roots of an umbelliferous plant, which grows spontaneously in the warmer countries, and bears the colds of our own (*Pastinaca opopanax Linn.*) The juice is brought from Turkey and

(*a*) *Vide Alpini dialogum de balsamo.*

the East Indies, sometimes in little round drops or tears, more commonly in irregular lumps, of a reddish yellow colour on the outside with specks of white, internally of a paler colour and frequently variegated with large white pieces.

THIS gummy-resin has a strong disagreeable smell, and a bitter, acrid, somewhat nauseous taste. It readily mingles with water, by triture, into a milky liquor, which on standing deposite a portion of resinous matter and becomes yellowish; to rectified spirit it yields a gold-coloured tincture, which tastes and smells strongly of the opopanax. Water distilled from it is impregnated with its smell, but no essential oil is obtained on committing moderate quantities to the operation.

Opopanax is an useful attenuant and deobstruent, and in considerable doses loosens the belly. It is given from a scruple to a dram, in the same intentions as ammoniacum or galbanum; and joined in smaller doses as an auxiliary to those and the other deobstruent gums.

ORIGANUM.

ORIGANUM Pharm. Lond. *Origanum silvestre, cunila bubula plinii C. B. Agrioriganum sive onitis major Lob. Origanum anglicum Ger. Origanum vulgare Linn.* ORIGANUM or WILD MARJORAM: a plant with firm round stalks, and oval, acuminate, uncut, somewhat hairy leaves, set in pairs upon short pedicles: on the tops grow scaly heads of pale red labiated flowers, whose upper lip is entire and the lower cut into three segments, set in form of a convex umbel, intermixed with roundish purplish leaves: each flower is followed by four minute seeds inclosed

in

in the cup. It is perennial, grows wild on dry chalky hills and gravelly grounds, in several parts of England, and flowers in June. The flowers, or rather flowery tops, of a somewhat different species, *origanum creticum*, were formerly brought from Candy, but have long given place to those of our own growth, which are nearly of the same quality.

THE leaves and flowery tops of *origanum* have an agreeable aromatic smell, and a pungent taste, warmer than that of the garden marjoram, and much resembling thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration and the fluid secretions in general: they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid penetrating essential oil, smelling strongly of the *origanum*, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils, or snuffed up the nose, for attenuating and evacuating mucous humours.

OSTEOCOLLA.

OSTEOCOLLA, *aliis ossifragus, osteites, ammonsteus, osteolithos, holosteus, stelochites, Worm. mus.* *OSTEOCOLLA*, or BONE-BINDER: a fossil substance, found in some parts of Germany, particularly in the marchè of Brandenburg, and in other countries. It is met with in loose sandy grounds, spreading, from near the surface
to

to a considerable depth, into a number of ramifications like the roots of a tree: it is of a whitish colour, soft while under the earth, friable when dry, rough on the surface, for the most part either hollow within, or filled with solid wood, or with a powdery woody matter (*a*).

THIS earth has been celebrated for promoting the coalition of fractured bones and the formation of a callus; a virtue to which it does not seem to have any claim. It is found to be composed of two different earthy substances, which are nearly in equal proportions, and which may be separated from one another, by washing the powdered osteocolla with water: the finer matter, which washes over, appears from its burning into quicklime, and its properties in other experiments, to be mere calcareous earth, not different in quality from chalk: the grosser matter that remains is no other than sand.

OSTREUM.

THE OYSTER; a common, bivalvous, marine shell fish.

THE shell of the oyster, levigated into a *Testæ ostre-* subtile powder, is employed as an absorbent, *orumprepar.* in heart-burns and other like complaints arising *Ph. Lond.* from acidities in the first passages: the hollow shells are generally made choice of, as containing more, than the thinner flat ones, of the fine white earth, in proportion to the outer rough coat, which last is found to be considerably

(*a*) A more particular account of this fossil may be seen in *Neumann's chemical works*, p. 11. and the *Memoires de l'Academie royale des sciences de Berlin*, pour l'ann. 1748.

impregnated

impregnated with sea salt. By calcination, they are converted into a strong quicklime, which imparts to water a greater degree of lithontriptic power than the mineral limes; see *Calx viva*.

O V U M.

OVUM gallinaceum Pharm. Lond. HENS EGG.

EGGS are accounted very nutritious, but difficult of digestion, especially if boiled hard. In medicine, the yolk has been employed as an intermedium for rendering resinous juices and balsams soluble in water: it answers this purpose less effectually, and less elegantly than vegetable gums, the solutions obtained by means of the animal matter being apt on standing to become putrid or rancid. The yolk, exsiccated by a gentle warmth, forms a friable concrete; the white, a firm semitransparent one, in appearance resembling amber or gum-arabic, and soluble again in watery liquors. The boiled white, placed in a moist cellar, deliquiates spontaneously, and gummy-resinous substances, included in it, dissolve along with it: preparations of this kind have been directed for medicinal uses, but it does not appear that more of the gummy-resin is thus dissolved by the liquamen of the egg than by simple water.

The shells of eggs, freed, after boiling, from the inner skin, and levigated into fine powder, are sometimes used as absorbents, and supposed, when combined with the acid humours in the first passages, to be less disposed to bind the belly than most of the other testaceous powders.

PÆONIA.

PÆONIA folio nigricante splendido quæ mas,
 & *pæonia femina flore pleno rubro majore C. B.*
Pæonia officinalis Linn. MALE and FEMALE
 PEONY or PIONY: a plant with large leaves, di-
 vided deeply into oblong segments, or rather
 composed of a number of these segments set on
 divided pedicles: on the tops of the branches
 grow large rose-like flowers, followed each by
 two or more horned pods, internally of a deep
 red colour, containing roundish shining red or
 black seeds. The male sort has dark green
 leaves, pale red single flowers, long thick roots,
 and the stalks and pedicles streaked with red:
 the female has longer, narrower, and paler leaves,
 deep red double flowers, and irregular roots
 composed of several tuberous pieces hanging by
 tough filaments from one head. They are both
 found wild in some parts of Europe, and culti-
 vated with us in gardens: they are perennial,
 produce their flowers in May, and very soon
 shed them.

THE male peony has been generally preferred
 for medicinal use: but the female, which is the
 largest and most elegant, and for this reason the
 most common, is the species which the shops
 have been principally supplied with. In qua-
 lity, there does not appear to be any material
 difference betwixt the two; and hence the col-
 lege allow both sorts to be taken indiscri-
 minately.

The roots and seeds of peony have, when
 fresh, a faint unpleasant smell, somewhat of the
 narcotic kind: and a mucilaginous subacid
 taste, with a slight degree of bitterishness and
 astringency.

astringency. In drying, they lose their smell, and part of their taste. Extracts made from them by water are almost insipid as well as inodorous; but extracts made by rectified spirit are manifestly bitterish and considerably astringent.

The leaves are nearly inodorous. To the taste, the leaves themselves discover a moderate degree of roughness, and their pedicles of sweetness; both which are preserved in great measure in the watery, but more perfectly in the spirituous extracts.

The flowers have rather more smell than any of the other parts of the plant, and a rough sweetish taste, which they impart, together with their colour, both to water and spirit: the watery infusion leaves, on being inspissated, a blackish red, austere, sweetish, and somewhat bitterish extract: the spirituous tincture yields an extract of a beautiful bright red, of an agreeable though weak smell, a moderate astringency, and an almost saccharine sweetness.

The roots, flowers, and seeds, are looked upon as lightly anodyne and corroborant; to the latter, at least, of which virtues, they appear from the above experiments to have some claim. They have been principally recommended in spasmodic and epileptic complaints; in which, we are afraid, their effects are not very considerable.

PALMA.

PALM: a tall unbranched tree, with long reed-like leaves elegantly disposed on the top. Different species of it grow spontaneously in the eastern countries, and in the warmer parts of the West Indies.

THE

THE *palma major* C. B. *Phœnix dactylifera* Linn. is cultivated in some of the southern parts of Europe. Its fruit, the dates of the shops, is of an oblong shape, like an acorn, but generally larger; and consists of a thick fleshy substance including, and freely parting from, an oblong hard stone, which has a remarkable furrow running its whole length upon one side. The best dates come from Tunis: they should be chosen large, softish, not much wrinkled, of a reddish yellow colour on the outside, with a whitish membrane betwixt the flesh and the stone. They have an agreeable sweet taste, accompanied with a slight astringency; and hence stand recommended in tickling coughs and thin acrid defluxions on the lungs, and in alvine fluxes. Among the Egyptians and Africans, they are said to be a principal article of food, and when used too freely, to be difficult of digestion, occasion head-achs, sometimes gripes, and, in length of time, obstructions of the viscera, cachectic, and melancholic disorders.

THE *palma oleosa* (*palma foliorum pediculis spinosis, fructu pruniformi luteo oleoso* Sloan. *jam.*) is a native of the coast of Guinea^(a) and the Cape Verd islands, from whence it has been introduced into Jamaica and Barbadoes. From its fruit is extracted an oil, which, as brought to us, is about the consistence of an ointment, of a strong, not disagreeable smell, and scarcely any particular taste: by long keeping it loses its high colour, and becomes white, and in this state is to be rejected. The inhabitants of the

Oleum ex-
pressum pal-
mæ Ph. Ed.

*(a) According to Bergius, another species of the oil palm grows on the coast of Guinea and in Senegal, the *palma altissima non spinosa, fructu pruniformi minore, racemo sparso* Sloan. *Jam.* & Adanson.

Guinea coast are said to employ the palm oil for the same purposes as we do butter. With us, it is only used in some external applications, for pains and weakness of the nerves, cramps, sprains, and other like complaints. The common people sometimes apply it to chilblains; and, when used early, not without benefit. It is said to be peculiarly serviceable in hardness of the belly, both of adults and children.(a)

THE medullary part of certain oriental palm trees (*palma indica caudice in annulos protuberantes distincto, fructu pruniformi, Raii. Sagus, seu palma farinaria Rumph. Amb.*(b) affords another article of food to the natives, and of the materia medica to us. The farinaceous medulla, freed from the filamentous matter with which it is enveloped, is beaten with water, and made into cakes, which are afterwards reduced into small grains, and dried. The cakes are said to be the bread used by the Indians in scarcity of rice: the grains are the fago or fagou of the shops. This substance, commonly recommended as a restorative in phthises and emaciations and for restraining fluxions, appears to be a light, moderately nutritious demulcent food; in which view it is by some directed(c) as a proper aliment for young children, in preference to the more tenacious and less digestible preparations of wheat flour. It dissolves in water into a viscid mucilage; is less acescent and flatulent than other farinæ; keeps longer in the grain, even for twenty years in a dry place, and also in its mucilaginous state a long time(d).

(a) *Bergii Mat. Med.* 88z.

* (b) The *Cycas circinalis* Linn. has been given as the fago plant, but, as Bergius supposes, erroneously.

(c) Albertus Seba, *Thesaur.* vol. i. p. 40. *Art. nat. curios.* vol. i. *Append.*

(d) Cullen, *Mat. Med.*

PAPA-

P A P A V E R.

POPPY: a plant with oblong leaves and round stalks, divided into a few branches, each of which is terminated by a large tetrapetalous flower, set in a two-leaved cup that falls off as the flower opens: the flower itself likewise soon falls, leaving a smooth roundish head or capsule, covered with a radiated crown, and containing a number of smooth roundish seeds. It is annual, and flowers from June to near the end of summer.

1. PAPAVER ALBUM *Pharm. Lond. & Edinb.* *Papaver hortense semine albo C. B.* *Papaver somniferum Linn.* White poppy: with smooth, slightly indented leaves; and whitish flowers and seeds.

2. PAPAVER NIGRUM: *Papaver hortense nigro semine C. B.* Black poppy: a variety of the former, with smooth, slightly indented leaves, purple flowers, and black seeds.

THESE plants are found wild in some parts of Europe; and several varieties of them, in regard to the flowers, are produced by culture in our gardens. The heads, stalk, and leaves, have an unpleasant smell, and a bitterish biting taste, of the same kind with those of opium. Their smell and taste is lodged in a milky juice; which abounds chiefly in the cortical part of the heads; which may be collected, in considerable quantity, by slightly wounding them when almost ripe; and which, on being exposed for a little time to a warm air, thickens into a tenacious dark-coloured mass, similar to the opium

brought from abroad, but stronger in smell and taste. The juices thus obtained from the two sorts of poppies, appear to be of the same quality, the difference being only in the quantity afforded: the white poppy, which is the largest, is the sort cultivated by the preparers of opium in the eastern countries, and for medicinal uses in this. *The following extract from Mr. Kerr's account of the culture of this plant, and the preparation of opium, in the province of Bahar in the East Indies, may convey useful information.

“ The seeds are sown in October or November. The plants are allowed to grow six or eight inches distant from each other, and are plentifully supplied with water. When the young plants are six or eight inches high, they are watered more sparingly. But the cultivator strews all over the areas a nutrient compost of ashes, human excrements, cow-dung, and a large portion of nitrous earth, scraped from the highways, and old mud-walls. When the plants are nigh flowering, they are watered profusely to increase the juice.

“ When the capsules are half grown, no more water is given, and they begin to collect the opium. At sun-set they make two longitudinal double incisions upon each half-ripe capsule, passing from below upwards, and taking care not to penetrate the internal cavity of the capsule. The incisions are repeated every evening, until each capsule has received six or eight wounds; they are then allowed to ripen their seeds. The ripe capsules afford little or no juice. If the wound was made in the heat of the day, a cicatrix would be too soon formed.—The night-dews, by their moisture, favour the exstillation of the juice. Early in the morning

ing old women, boys, and girls, collect the juice, by scraping it off the wounds with a small iron scoop, and deposite the whole in an earthen pot, where it is worked by the hand in the open sun-shine, until it becomes of a considerable spissitude: it is then formed into cakes of a globular shape, and about four pounds in weight, and laid into little earthen basins to be further exsiccated. These cakes are covered over with the poppy or tobacco leaves, and dried until they are fit for sale. Opium is frequently adulterated with cow-dung, the extract of the poppy-plant procured by boiling, and various other substances which they keep in secrecy.”(a)

The collection of the pure milky juice of the poppy has not, among us, been as yet practised in large, or with a view to the supplying of the common demand of opium. Instead of this troublesome process, we extract the narcotic matter by menstrua; the active parts of opium, as observed under that article, being completely dissoluble both by water and rectified spirit. A portion of the herbaceous inert substance of the plant is indeed, at the same time, taken up, at least when water is made use of, so as to render an enlargement of the dose necessary: but this addition to the bulk of a dose of opium would be of no inconvenience, if the compound was always of the same strength, or the narcotic and inert matter in the same proportions to one another; a point which cannot be attained with so much precision as could be wished, but which may nevertheless, by due care in the preparation, be adjusted as nearly as common practice in most cases requires.

(a) *Lond. Med. Obs. and Inq.* vol. v. p. 318.

Syr. Papav.
alb. *Ph. Lond.*

Syrupus pa-
paveris albi,
*ſeu de meco-
nio, vulgo
diacodion
Ph. Ed.*

Extract. ca-
pitum papa-
veris albi
Ph. Ed.

The college of London directs the dried heads, cut and cleared from the seeds, to be boiled in water, in the proportion of three pounds and a half to eight gallons, in the heat of a brine bath, till it is reduced to three gallons: the liquor is then to be expreffed, and boiled down to four pints, which is to be ſtrained hot, firſt through a ſieve, and then through a thin woollen cloth, and ſet by for twelve hours, that the dregs may ſubſide. The liquor poured off clear is to be reduced to three pints, in which ſix pounds of ſugar are to be diſſolved. An ounce of this ſyrup is reckoned equivalent to about a grain of opium. *The Edinburgh college directs two pounds of poppy heads without the ſeeds to be macerated for a night in thirty pounds of boiling water, the liquor then boiled down till only a third part remains, which is to be ſtrongly expreffed and ſtrained, then boiled again to the half, ſtrained, and made into a ſyrup with a ſufficient quantity of ſugar. They alſo allow this ſyrup to be made by diſſolving one dram of the extract of white poppy heads in two pounds and a half of ſimple ſyrup.

A decoction of poppy heads in water, ſtrongly preſſed out, depurated by ſettling, then clarified with whites of eggs, and inſpiſſated, yields an extract amounting to one fifth or one ſixth the weight of the heads: it is ſaid, that two grains of this preparation are equivalent to one grain of opium, and that the extract is not liable to produce a nauſea or giddineſs which generally follow the uſe of pure opium(*a*): but the conſequential effects which opiates produce, in different ſubjects, and in different circumſtances, are ſo variable, that the trials which have been

(*a*) *Mr. Arnot, Edinburgh medical eſſays, vol. v. art. 11.*

made of this preparation, however successful, do not appear sufficient for establishing this superiority. Of tinctures or extracts made with spirituous menstrua, no medicinal trials, so far as I can learn, have as yet been made: in smell and taste they approach more to opium than any other preparation of the poppy I have seen.

Many have supposed the seeds of the poppy to be, like the other parts of the herb, narcotic(*a*); misled, perhaps, by analogical reasoning from other plants. Though the seeds of many plants are more efficacious than the vessel in which they are lodged; those of the poppy have nothing of the narcotic juice which is diffused through their covering, through the stalks, and more sparingly through the leaves. If emulsions of poppy seeds have been found serviceable in coughs, catarrhs, heat of urine, and other like disorders; it is not to an anodyne, but an emollient quality, that this virtue is to be ascribed. The seeds in substance have a sweetish unctuous farinaceous taste, and yield upon expression a large quantity of insipid oil: both the seeds themselves and the oil are said to be in some places common articles of food(*b*).

3. *PAPAVER ERRATICUM Pharm. Lond. Papaver erraticum majus C. B. Papaver Rhæas Linn.* Wild or red poppy, or corn-rose: with deep red flowers, dark-coloured seeds, hairy leaves and stalks, and the leaves cut almost, or quite, to the pedicle into indented segments. It

(*a*) Hermann, *Cynosur. mat. med. edit. Boecler*, p. 436. Juncker, *Conspectus therapie generalis*, p. 279.

(*b*) Prosper Alpinus, *De medicina Ægyptiorum*, lib. iv. cap. 1. Geoffroy, *Mat. med. tom. ii. p. 715.* Linnæi, *Amænitat. Academic.* iii. 71.

is common in corn-fields; and is sometimes, like the others, made to vary its flowers by culture.

THE heads of this species appear to contain the same kind of narcotic juice with those of the two preceding, but in so much smaller quantity that they are wholly neglected. The only part made use of is the flowers, which are supposed to be likewise impregnated in some degree with the same anodyne principle, and stand recommended in catarrhs, coughs, spitting of blood, and other disorders: they have a slight narcotic smell, and a very mucilaginous taste, accompanied with a sensible bitterishness. They are at present regarded rather on account of their colour, than for any great virtues expected from them: they yield upon expression a deep red juice, and impart the same colour to watery liquors, and a brighter though paler red to rectified spirit. A strong infusion of them is prepared in the shops, by pouring four pints and a half of boiling water upon four pounds of the fresh flowers, stirring them over the fire till the flowers are all immersed, and setting them by to steep for a night: without the application of fire so as to scald or shrink the flowers a little, they can scarcely be moistened with the water; if the heat is continued longer than this effect is produced, the liquor turns out quite slimy. This infusion, pressed out and depurated by settling, is reduced, by a proper addition of sugar, into a deep red syrup. The colouring matter of the red poppy differs from that of clove-gilly flowers, red roses, and other bright red flowers, in this; that on the admixture of alkaline liquors, it does not change, like them, to a green, but to a dark purple.

Syr. papav.
errat. *Pb.*
Lond.

PARA-

PARALYSIS.

PARALYSIS: a plant with oblong wrinkled leaves, hairy on the upper sides of the ribs; and naked stalks, bearing monopetalous flowers, each of which is divided about the edge into five segments, and set in a loose tubulous, ridged cup, which, after the flower has fallen, incloses a husk full of roundish seeds. It is perennial, and flowers early in the spring.

1. *VERBASCULUM pratense odoratum* C. B. *Primula veris major* Gerard. *Primula veris officinalis* Linn. Cowslip, paigil, or peagle: with several flowers set together on one stalk, of a deep yellow colour, drooping downwards. It grows wild in marshes and moist meadows.

COWSLIP FLOWERS have a moderately strong pleasant smell, and a somewhat roughish bitterish taste; both which they impart, together with a yellow tincture, to watery and to spirituous menstrua. Vinous liquors, impregnated with their flavour by maceration or fermentation, and strong infusions of them drank as tea, are supposed to be mildly corroborant, antispasmodic, and anodyne. An infusion of three pounds of the fresh flowers in five pints of boiling water is made in the shops into a syrup, of a fine yellow colour, and agreeably impregnated with the flavour of the cowslips.

2. *PRIMULA VERIS minor* Ger. *Verbasculum silvestre majus singulari flore* C. B. *Primula veris acaulis* Linn. Primrose: with pale yellow solitary flowers. It grows wild in woods and hedges.

THE flowers of this species are much weaker and less agreeable in smell than those of the preceding. The leaves and the roots seem to partake in some degree of the nature of those of asarum; acting as strong errhines or sternutatories, when snuffed up the nose, and as emetics (the roots at least) when taken internally. Gerard reports, as from the experience of a skilful practitioner, that "a dram and a half of the powder of the dried roots (taken up in autumn) purgeth by vomit very forcibly, but safely, in such manner as asarum doth."

PAREIRA.

PAREIRA BRAVA Pharm. Lond. *Pareira*, *Ambutua*, *Butua*, *Overo brutua*, *Zan. hist. Pharm. Paris.* *PAREIRA BRAVA*: the root of an American climbing plant (*convolvulus brazilianus flore octopetalo monococcus Raii hist. Cissampelos Pareira Linn.*) brought from Brazil, generally in crooked pieces of different sizes, some no bigger than the finger, others as large as a child's arm: the outside is brownish and variously wrinkled; the internal substance of a pale dull yellowish hue, and interwoven as it were with woody fibres, so that on a transverse section, there appears a number of concentric circles, crossed with striæ running from the centre to the circumference.

THIS root is extolled by the Braſilians and Portuguese in a variety of diseases, particularly in suppressions of urine and in nephritic and calculous complaints. Geoffroy is of opinion, that its virtue consists in dissolving and attenuating tenacious juices; and reports, that in sundry disorders arising from their viscidities, it was

was found remarkably beneficial: that in nephritic pains and suppressions of urine, he has often given it with happy success: that he has sometimes seen the patient freed from pain almost in an instant, and a plentiful discharge of urine brought on: that in ulcers of the kidneys and bladder, where the urine was mucous and purulent, and could scarcely be voided, or not without great uneasiness, the symptoms were soon relieved by pareira, and the ulcer at length healed by joining to it balsam of copaiba: that in an asthmatic case, where the patient was almost suffocated by thick phlegm, an infusion of pareira, after many other medicines had been tried in vain, brought on a copious expectoration, which proved a solution of the disease: that a person who, from an acute pain under the liver, had become in a few hours icterical, had the pain relieved, after bleeding, by the third cup of the decoction, and all the symptoms removed by a continuance of it; and that the same disorder frequently returning, she always found relief from the same medicine: but that in another icterical case, where the liver was swelled, it did no good. He cautions against giving too large doses, which might, he observes, raise a heat, and perhaps an inflammation in the kidneys: of the root in substance he prescribes from twelve grains to half a dram, and in decoction or infusion two or three drams; this quantity of the root, bruised, he directs to be boiled in a pint and a half of water till only a pint remains, which is to be strained off, sweetened with a little sugar, divided into three portions, and drank as tea at intervals of half an hour.

The use of this root has not been in general accompanied with so much success: but though,
like

like many other medicines, it has not been found to answer the character at first given of it, and has thence fallen into neglect, we may presume, from its sensible qualities, that it is not destitute of medical virtue. It has no remarkable smell; but to the taste it manifests a notable sweetness, of the liquorice kind, together with a considerable bitterness and a slight roughness covered by the sweet matter. It gives out great part both of the bitter and the sweet substance to watery and spirituous menstrua: in evaporating the watery decoction, a considerable quantity of resinous matter separates, which does not mingle with the remaining extract or dissolve in water, but is readily taken up by spirit; whence spirit appears to be the most perfect dissolvent of its active parts. Both the spirituous tincture and extract are in taste stronger than the watery.

PARIETARIA.

PARIETARIA Pharm. Lond. & Edinb. *Parietaria officinarum* & *dioscoridis* C. B. *Parietaria officinalis* Linn. PELLITORY OF THE WALL: a plant with tender reddish stalks; rough, uncut, oblong leaves, pointed at both ends; and imperfect rough flowers, growing in clusters along the stalks, followed each by a small shining seed. It is perennial, common on old walls and among rubbish, and flowers in May.

THE leaves of pellitory of the wall have been used in cataplasms for discussing inflammatory swellings: decoctions of them, and their expressed juice, have been given as emollient diuretics in nephritic cases and ischuries, and are
said,

said, when long persisted in, to be useful aperients or sweeteners in cutaneous defecations. The plant appears to be of no great activity, being rather oleraceous than medicinal: to the taste, the leaves in substance and their juice, are little other than herbaceous and watery.

PASTINACA.

PASTINACA: an umbelliferous plant, with naked umbels, yellow flowers, and flat seeds surrounded with a leafy margin: the leaves are oblong, and stand in pairs on a middle rib, without pedicles.

1. *PASTINACA*: *Pastinaca latifolia sativa* C. B. *Pastinaca sativa* Linn. Garden parsnep: with pale-coloured smooth indented leaves, and a large fleshy root.

2. *ELAPHOBOSCU*: *Pastinaca silvestris latifolia* C. B. *Bancia* & *branca leonina quibusdam*. Wild parsnep: with dark green rough indented leaves and slender woody roots; common about the sides of fields; flowering, as the other, in June and July, and ripening its seeds in September. The garden sort is supposed to be only a variety of this, and to owe its differences to culture.

THE roots of the garden parsnep, in taste considerably sweetish, are accounted a very nutritious aliment: they yield with rectified spirit a very sweet extract, and in distillation with water a small portion of essential oil possessing the specific flavour of the roots. It is said that by standing in the ground for some years, it contracts

contracts pernicious qualities, so as to occasion disorders of the senses(*a*).

The seeds of the garden sort are somewhat aromatic; those of the wild a little more so; of considerable smell, but no great pungency or warmth. By infusion, they impregnate water moderately with their smell, but communicate very little taste: in distillation they give over a small quantity of a pale yellowish essential oil, in taste moderately pungent, and smelling strongly of the seeds: five pounds of the seeds of the garden parsnep yielded little more than a dram. Rectified spirit takes up by digestion the whole of their active matter, and carries off little in the inspissation of the tincture: the extracts of both sorts have a moderate warmth and bitterishness, differing in degree as the seeds themselves. These seeds have been commended as diuretics, similar to those of daucus, but weaker, which, in their sensible qualities, they apparently are: Haller reports, that those of the wild species, made into pills, with extract of liquorice, were much used by Boerhaave against nephritic complaints and ulcerations of the bladder.

3. PANAX: *Panax heracleum* Morison. *Panax pastinacæ folio* C. B. *Sphondylia vel potius pastinacæ germanicæ affinis panax vel pseudocostus flore luteo* J. B. *Laserpitium Chironium* Linn. Hercules's allheal or wound wort: with uncut leaves, somewhat heart-shaped, but having one of the sides lower than the other: the middle ribs, bearing the several sets of leaves, stand in

(*a*) Ray, *Historia plantarum*, i. 420. Dan. Hoffman, *Acta acad. cæsar. nat. curiosor. vol. vi. anno 1742. obs.* 128. p. 426.

pairs along a larger rib. It is a native of the warmer climates, and bears the colds of our own.

BOTH the seeds and the roots of this species are considerably warmer than those of the two preceding. The roots and stalks have a strong smell and taste resembling those of opopanax; and Boerhaave relates, that on wounding the plant in summer, he obtained a yellow juice, which, being inspissated a little in the sun, agreed perfectly, in both respects, with that exotic gummy-resin.

PENTAPHYLLUM.

PENTAPHYLLUM Pharm. Lond. Quinquesolium majus repens C.B. Potentilla reptans Linn. CINQUEFOIL OR FIVE-LEAVED GRASS: a trailing plant, with oval serrated leaves, set five together on long pedicles, and pentapetalous yellow flowers standing solitary on like pedicles: the cup is divided into ten unequal segments, the five innermost of which form a covering to a button of seeds: the root is long and slender, dark coloured on the outside, and reddish within. It is perennial, grows wild on open clayie grounds, and flowers in June.

THE roots of pentaphyllum are mild astringents, and give out their astringent matter both to water and spirit. They have been used in diarrhœas and other fluxes, in intermitting fevers, sometimes as corroborants and antiseptics in low colliquative acute fevers, in gargarisms for strengthening the gums, &c. Their virtue is confined chiefly to the red cortical part, the whitish woody fibre in the middle being nearly insipid.

PERSICA.

P E R S I C A.

PERSICA molli carne vulgaris viridis & alba
G. B. Amygdalus Persica Linn. PEACH: a tree common in gardens; with oblong, narrow, pointed, serrated leaves; pale reddish flowers, composed of five broad petala with numerous stamina in the middle, set in five-leaved reddish cups, adhering to the branches without pedicles; and a fleshy fruit covered with downy matter and including a furrowed stone.

THE flowers of the peach tree have an agreeable but weak smell, and a bitterish taste: Boulduc observes, that when distilled without addition, by the heat of a water-bath, they yield one sixth their weight or more of a whitish liquor, which communicates, to a considerable quantity of other liquids, a flavour like that of the kernels of fruits. These flowers appear to be gently laxative: it is said, that an infusion in water of half an ounce of the fresh gathered flowers, or of a dram of them when dried, sweetened with sugar, proves, for children, an useful purgative and anthelmintic; and that the leaves, more unpalatable than the flowers, are somewhat more efficacious. The fruit is of the same quality with the other dulco-acid summer fruits: see *Fruētus boræi*.

P E R S I C A R I A.

ARSMART: an annual plant with oblong uncut leaves pointed at both ends; and imperfect flowers set in spikes on the tops of the stalks: the cup is thick and fleshy, divided into five oval segments, which, closing, form a cover to an angular glossy seed.

I. PERSICARIA

1. PERSICARIA MITIS: *Persicaria mitis maculosa* C. B. *Pharm. Paris. Plumbago. Polygonum Persicaria* Linn. Spotted arsmart; so called from most of the leaves having a blackish spot in the middle. It grows wild in moist watery places, and flowers in July.

THIS plant is said to be a good vulnerary and antiseptic; and decoctions of it in wine, to restrain the progress of gangrenes (*a*). It has a slightly acerb taste inclining to acidity, and no remarkable smell.

2. PERSICARIA URENS *sive hydropiper* C. B. *Polygonum Hydropiper* Linn. Biting arsmart, lakeweed, water pepper: distinguished from the former by the spikes of flowers being slenderer, the leaves shorter, narrower, and without any spots; but more remarkably by its taste. In our markets, a plant of a different genus, the second of the *ranunculi* hereafter described, is sometimes sold for it.

THE leaves of this species have an acrid burning taste, and seem to be nearly of the same nature with those of arum; their acrimony not rising in distillation, and being destroyed in the process (*b*). They are commended as antiseptic, aperient, diuretic; in scurvies and cachexies, humoural asthmas, hypochondriacal and nephritic complaints, and in the wandering gout. The fresh leaves have been sometimes

(*a*) Tournefort, *Memoires de l'acad. des scienc. de Paris. pour l'ann. 1703.*

(*b*) Ruttý, *Synopsis of mineral waters*, p. 524. Dr. Cullen however says, "its acrimony operates chiefly on the "kidneys. What is remarkable, it gives out its diuretic "virtue in distillation to water." *Mat. Med.* 308.

applied externally, in stimulating cataplasms, and for cleansing foul ulcers and consuming fungous flesh; in which last intention they are said to be used by the farriers.

PERUVIANUS CORTEX.

PERUVIANUS CORTEX Pharm. Lond. & Edinb. PERUVIAN BARK: the bark of a middling-sized tree, growing in Peru, called by the Spaniards, from its efficacy against intermitting fevers, *palo de calenturas*, or the fever tree; by Linnæus, *Cinchona officinalis*. This virtue of the bark is said to have been discovered by the Indians about the year 1500, but not revealed to their European masters till 140 years after; when a signal cure having been performed by it on the Spanish viceroy's lady, the countess del Cinchon, it came into general use in those parts, and was distinguished by the appellations *pulvis comitissæ*, *cortex china china* or *chinchina*, *kina kina* or *kinkina*, and *quina quina* or *quinquina*. In 1649, a jesuit brought a large quantity of it into Italy, which was distributed by the fathers of that order, at a great price, in different parts of Europe: about the same time a quantity was purchased by cardinal de Lugo for the use of the poor at Rome. From these it received the names of *cortex* or *pulvis jesuiticus*, *pulvis patrum*, and *pulvis cardinalis de Lugo*.

This bark is brought to us in pieces of different sizes, some rolled up into short thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish, reddish, or rusty iron colour. The best sort breaks close and smooth, and proves friable betwixt the teeth:

teeth: the inferiour kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverises more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, but somewhat paler.

A bark was some time ago brought from America under the name of the female Peruvian bark. This was found, from experience, to be less effectual as a medicine than the genuine sort, which it was frequently substituted to or mixed with in France, insomuch that its importation, as the editor of Geoffroy informs us, was prohibited by law. It is considerably thicker, whiter on the outside, redder within, and weaker in smell and taste than the true bark.

PERUVIAN BARK has a slight smell, approaching as it were to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful.

The febrifuge virtue, for which alone this medicine was at first recommended, has now been established by the daily experience of about a century: and that, when judiciously and seasonably administered, it proves as safe, as it is effectual, is now also beyond dispute. An emetic, which is in most cases necessary, being taken towards the approach of a paroxysm, that its operation may be over before the fit comes on; the bark is begun at the end of the paroxysm, or even in the time of the hot fit, and repeated, in doses of half a dram or more, every third or fourth hour, during the intermission: after the fever has been removed, the medicine

is continued for a time, but more sparingly, to prevent a return. During the use of the bark, the pulse, which betwixt the paroxysms is generally weak and slow, becomes stronger and quicker, the appetite mends, the patient grows more cheerful, and perspiration increases: these may be looked upon as sure presages of its success. At first it frequently occasions a looseness, and this also is salutary; but if the purging runs on too long, as the fever rarely yields while this evacuation continues, it is usually checked by the addition of a little opium: if too great costiveness ensues, recourse is had to glysters. In gross impure habits, gentle purgatives are premised to the bark, or given for a time in conjunction with it: in agues of the inflammatory kind, or accompanied with great heat, a little nitre is joined or interposed: in lax spongy constitutions, and a thin watery state of the blood, the bark is assisted by bitters, snakeroot, camphor, and chalybeates: where obstructions of the abdominal viscera are apprehended, it is not ventured on without the addition of fixt alkaline salts, sal ammoniac, or other aperients. In all cases, moderate exercise, and the drinking of warm liquids, promote its effects. As the bark is hurtful in the inflammatory diathesis, it is not near so effectual in vernal, as in summer and autumnal intermittents (*a*).

In remitting fevers, this medicine is less successful than in those which have perfect intermissions: in hectic, or wherever pus is formed, or juices are extravasated, it does harm. In the decline of long nervous fevers or after a remission, and in those of the low malignant kind where the blood is colligated and the strength

* (*a*) *Cull. Mat. Med.* 292.

exhausted,

exhausted, it proves an excellent cordial, corroborant, and antiseptic.

Peruvian bark has likewise been found serviceable in gangrenes and mortifications, and in foul obstinate ulcers and running sores of other kinds : in these cases, taken in large and repeated doses, it frequently brings on a laudable suppuration, which degenerates on discontinuing the use of the medicine, and again turns kindly upon resuming it. The like effects have been observed from it in variolous cases, where either the pustules did not duly suppurate, or petechiæ shewed a disposition to a gangrene : by the use of bark, the empty vesicles filled with matter, watery sanies changed into thick white pus, and the petechiæ became gradually paler and at length disappeared. The principal symptom in this disease that contraindicates this valuable suppurant and antiseptic, is great obstruction at the breast or difficulty of breathing ; which are always by this medicine increased, insomuch that small doses have in some cases endangered suffocation.

In tumours of the glands, the Peruvian bark appears to promote, not suppuration, but resolution. In the Medical Observations and Inquiries published by a society of physicians in London, there are several instances of its being given with success in scrophulous complaints. Dr. Fothergill observes, that inveterate ophthalmiæ generally yield to it : that beginning glandular tumours are very frequently resolved and their farther progress stopt by it : that swelled lips, cutaneous blotches arising from a like cause, are healed, and the tendency to a strumous habit corrected : that it does not succeed in all cases, but that there are few in which a trial can be attended with much detriment : that

he has never known it to avail where the bones were affected, or where the scrophulous tumour was so situated as to be attended with much pain, as in the joints or under the membranous covers of the muscles; for when it attacks these parts, the periosteum, and consequently the bone, seldom escape being injured; that here the bark, instead of lessening, adds to the fever which accompanies these circumstances, and if it does not increase the force of the mischief, seems at least to hasten its progress.

Peruvian bark has been applied likewise, in conjunction with other appropriated medicines, and often with good success, to the cure of periodic head-achs, hysterical, hypochondriacal, vertiginous and epileptic complaints, and other disorders that have regular intermissions. By its bitterness, astringency, and mild aromatic warmth, it strengthens the whole system, and proves a medicine of great utility in weakness of the stomach, uterine fluxes, and sundry chronical diseases proceeding from a laxity and debility of the fibres. To strengthen the solids appears indeed, in all cases, to be its primary operation; and its salutary virtues in different diseases, to be no other than consequential effects of this general power. In all the distempers where bark is known to take place, other astringent and bitter medicines, singly or combined, have likewise been of service, though not equally with this natural combination of them^{*(a)}.

THE virtues of this bark are very difficultly extracted by long coction in water, and part of

^{*(a)} Dr. Percival found, that on mixing infusion of bark with putrid or ox gall, an instant coagulation ensued, and the fœtor was increased. Hence he accounts for the disagreement of this medicine in the bilious fevers of the West Indies, *Ess. Med. and Exper.* vol. ii. p. 24.

what the liquor is by heat enabled to take up begins to separate as soon as it is cold. This resinous part, which is rather melted out by the boiling heat than dissolved by the water as a menstruum, seems to contain chiefly the astringency of the drug: the bitter matter appears to be perfectly dissoluble, though more difficult to be got completely out. * After repeated infusion in cold water, till the liquor came off colourless and suffered no change from solution of vitriol, warm water extracted a considerable colour, and vitriol produced with this infusion an opaque black: after warm water would extract no more, very hot water received a deeper colour than that of the strongest cold infusion of fresh bark; and this likewise struck a deep black with vitriol: boiling water had the same effect, after very hot water had ceased to act (*a*).

On boiling a pound of finely powdered bark for an hour or two in five or six quarts of water, the decoction whilst hot looks clear and reddish, but in cooling becomes turbid and of a pale yellowish or wheyish hue: in this state it is found to partake, in a great degree, both of the bitterness and astringency of the bark, but in proportion as it deposits the matter that made it turbid, it loses more and more of its stypticity, the bitterness seeming to continue undiminished. The remaining bark, boiled in fresh water, exhibits the same appearance for two or three times successively; and when, at length, it ceases to render the water turbid, it imparts a bitterness without astringency (*b*), retaining still some share

(*a*) *M. S. of Dr. Lewis.*

(*b*) In the above experiments, I judged of the astringency only from the taste: solution of chalybeate vitriol, so useful on other occasions for discovering astringent matter

Extr. cort.
peruv. molle
& durum *Ph.*
Lond.

share of bitterness itself. The vapour which exhales in the first coction being caught in proper vessels, condenses into a limpid liquor which smells strongly of the bark; though no separable oil is obtained on submitting many pounds to the operation. The several decoctions, strained and inspissated together, yield an extract, rather less bitter, and much less styptic, than the bark in substance: this extract is kept in the shops in a soft and a hard form; the one of a proper consistence for making into pills; the other fit for being reduced into powder.

As

in vegetable decoctions or infusions, seemed here to fail; for having often mixed it, in different quantities, with even the first decoctions of bark, it produced, not a black, but a deep green. I have since observed, that when the vitriolic solution is used in very small proportion, it strikes a black with the turbid decoctions of bark, as with other astringents; and that even the green mixtures, resulting from a greater addition of the vitriol, on being largely diluted with water, become black or bluish like diluted ink. The resinous matter, which subsides on standing from the turbid decoctions, being dissolved in spirit of wine, gave likewise a black with vitriol. But when the bark had been boiled in fresh waters, till it no longer gave any turbidness to the liquor, the last transparent decoctions, though still pretty strong in taste, gave no blackness at all.

Some doubts having arisen with regard to this experiment, I have repeated it twice, and found the event both times the same as before. The last decoctions, on dropping in the chalybeate solution, contracted indeed a slight dusky hue, which in certain positions might be mistaken for a low degree of blackness; but the mixtures, held between the eye and the light, appeared only of a kind of olive yellowish or brownish colour, and, on standing for a little while, deposited, not a black, but an ochery precipitate; whereas the first infusions or decoctions, though so far diluted with water as scarcely to discover any taste, struck a bluish colour like that of diluted ink, and what little precipitate could be separated was black.

After the boiling of the bark in water had been repeated till the filtered liquor no longer made any change with solution

As this drug gives out its virtue so difficultly and imperfectly to boiling water, it has not been suspected that cold water would have any considerable action on it: I have nevertheless found, that an infusion in cold water, though perfectly transparent, is rather stronger in taste than even the turbid decoction, though the latter has somewhat more of a kind of fulness in the mouth (*a*). It is by means of a gummy matter

tion of vitriol, the remaining bark gave no tincture at all to rectified spirit.

But fresh bark, boiled in successive portions of rectified spirit, till it ceased to impart any colour to the menstruum, gave still a deep tincture to boiling water; and this decoction, on the addition of solution of vitriol, exhibited nearly the same appearances as the last decoctions above-mentioned, only in a higher degree, the precipitate being much more copious, and its colour deeper.

Though by repeated boilings in water the bark may be so exhausted as to give out nothing to spirit, but after the repeated action of spirit still gives out something to water; yet spirit appears, to be the most active menstruum of its medicinal parts. For all, that spirit can dissolve, is extracted by a far less quantity of spirit than of water; and what spirit leaves undissolved is of little taste. Equal quantities of bark being digested for the same length of time with equal quantities of water and rectified spirit, with or without heat; the spirituous tinctures proved always stronger in taste than the watery, and left on evaporation a larger proportion of extract * ||.

* || This assertion seems contrary to the result of some experiments by Dr. Percival, related in his first vol. of *Ess. Med. and Exper.* p. 91, in which a dram of bark infused seven days in three ounces each of rectified spirit, proof spirit, and water, lost in the first, six grains; in the second, eight and a quarter; and in the third, eight. These accounts can be reconciled only upon the supposition that watery liquors do, indeed, extract more of the inert gummy matter of bark; but spirituous, more of the active matter.

(*a*) I have endeavoured to compare the strength of the two preparations by characters that may be thought more satisfactory than the taste. A cold infusion and decoction were made with equal quantities of bark and water, and both

matter in vegetables, that the resinous parts become dissoluble in watery liquors; and it seems probable that, in boiling, part of the gummy principle of the bark is hastily dissolved and disunited from the resinous, whereas cold water, acting more gradually, extracts them both together. I have given the infusions in intermitting fevers as well as other disorders, with all the success that could have been expected from any preparation of this valuable medicine: the proportions commonly followed were, one ounce of the bark in fine powder, and eight or twelve of water, which were macerated without heat for twenty-four hours (*a*), and

both liquors passed through a filter: the infusion ran through fast; the decoction exceeding slowly, and continued turbid and opake after filtration. The two liquors, examined hydrostatically, were found very nearly of the same specific gravity. Equal quantities of them being turned black with equal quantities of solution of vitriol, the quantity of water necessary for diluting the blackness of the mixtures to an imperceptible degree, was very nearly the same for both. These experiments were often repeated, and seemed to prove, that the infusion and decoction are not considerably different in the quantity of matter taken up from the bark, but that this matter is in the cold infusion transparently dissolved, whereas in the decoction great part of it is only diffused through the liquor in an undissolved state.—In the infusion itself, however, the solution does not appear to be very intimate. The transparent liquor becomes in a day or two turbid, and on standing for some weeks (being now and then shaken to prevent its growing mouldy) deposits so much of the resinous part, that it is in taste simply bitter, and produces no blackness with vitriol. The resinous sediment gives to spirit of wine a dark-coloured astringent tincture, which strikes a black with vitriol like the tincture of bark itself.

(*a*) Since the above account was written, this preparation has been received in general practice, and found to answer the character here given of it. The time of maceration has been diminished to twelve hours, and some late experiments

and the clear liquor given in doses of two or three ounces.

* The London college seems now convinced that long coction of the bark is either unnecessary, or hurtful by dissipating some of the more volatile parts, and precipitating the resinous ones; for they have given a formula for a decoction of bark, in which one ounce of the powder is boiled in a pint and three ounces of water for ten minutes only, in a close vessel, and then strained off while hot.

Decoct. cort.
peruv. Ph.
Lond.

It is a common opinion, that bark in substance is more effectual than any preparation of it. Thus much is plain, that the infusions, as well as the decoctions, have not near so much effect as the quantity of bark they were made from, as the menstruum does not in either case completely extract its active matter: but their effects are evidently the same in kind, and the difference in degree may be compensated by an increase in the quantity.

The turbid decoctions, on the addition of any of the concentrated mineral acids, in the proportion of one drop to about a quarter of an ounce, become transparent, of a bright pale yellow colour, and of a rougher or more acerb

experiments shew, that it may be still further reduced, without any injury to the medicine. A mixture of one part of bark and eight of water being filtered after standing for one hour, the liquor appeared, from its taste, from its colour, from its specific gravity, and from the trial with solution of vitriol, to be very nearly, if not fully, as strong, as those which had stood 2, 4, 6, 8, 12, 24 hours. On doubling the quantity of bark, and shaking it with the water for only two or three minutes, the liquor proved rather stronger than any of the preceding; and being afterwards kept 24 hours on the same bark, it gained no sensible addition to its strength. So that a very strong infusion may be obtained in a very expeditious manner.

taste,

taste, but with the loss of their bitterness: the vegetable acids, added in proportionably larger quantity, render them likewise transparent and improve their roughness, without much diminishing their bitterness: all these mixtures deposite, on standing, a little powdery sediment. Alkalies, both fixt and volatile, occasion a more copious precipitation, and instead of making the turbid decoctions clear, make the clear turbid.

Rectified spirit of wine receives from bark a deep reddish brown colour, and takes up much more of its active matter than watery liquors ^{*}(a): by digesting the powder first in some rectified spirit, and then boiling it in water, nearly the whole of its virtue is pretty readily got out. On inspissating the filtered tincture, the spirit carries off nothing remarkable of its smell or taste: the remaining extract retains the peculiar flavour of the bark, as well as its astringency and bitterness, and proves a very elegant preparation, preferable to the pure resin obtained by precipitation from the tincture by water, as containing a part of the gummy matter, which is a medicinal principle of the bark as well as the resin. The spirituous tincture, and the decoction of the residuum, may be united into an extract, possessing this advantage in a greater degree, by inspissating them separately to the consistence of a syrup, then mixing them together, and continuing the evaporation with a gentle heat.

Proof spirit extracts less from bark than rectified spirit, but more than water. Four ounces of the powder, macerated for some days

Extr. cort.
peruv. *Ph.*
Ed. Extr.
cort. peruv.
cum resina,
Ph. Lond.

^{*} (a) See Dr. Percival's different opinion, at the note in page 201.

without

without heat, in a quart † or two pounds and a † Tinct. cort. half † of proof spirit, impart a considerable degree both of bitterness and astringency: on applying heat †, the taste becomes stronger, the colour darker, and the liquor somewhat turbid; from whence it may be concluded, that the resinous part is not by this menstruum completely dissolved.

Spirit of sal ammoniac made with fixt alkaline salt, by maceration with powdered bark in the above proportion, receives from it very little taste or colour. The spirit prepared with quicklime, and the dulcified spirit, extract in a few hours a very deep colour, and become strongly impregnated with its virtue. Though the spirit made with quicklime is held too acrimonious to be given internally by itself, it is not liable to that objection here; its pungency being sheathed by the substance which it dissolves.

Among the several substances which I have tried for covering the taste of bark, to some persons offensive, liquorice seemed to answer the best. Aromatics alone leave the taste of the bark very sensible in the mouth; but liquorice appeared to cover it effectually, whether in draughts or electuaries, with the bark in substance or its preparations: to this compound any proper aromatic material may be superadded, to give a grateful flavour. For liquid forms, an infusion of the liquorice, and for electuaries the extract should be used: for making up the electuaries, mucilages are more proper than syrups, as the former occasion the compound to pass down freely without sticking about the mouth and fauces.

* PERUVIANUS CORTEX RUBER: Red Peruvian bark. In the year 1779, a Spanish ship from Lima

Lima was taken by an English frigate, and carried into Lisbon. Her cargo chiefly consisted of bark, part of which was afterwards brought to London, and purchased by several druggists. From its large coarse appearance, it was sometime before practitioners could be prevailed on to use it. At length, it was tried in some of the hospitals, and found to be so efficacious, that an opinion soon prevailed of its being of a much superiour quality to the best common bark. Trials were multiplied throughout the kingdom, in a year when intermittents were remarkably frequent and obstinate; and its reputation increased with every experiment. Chemical tests were equally favourable to it, as they proved it to contain a much greater proportion of active matter, than the other sorts. At length, Dr. Saunders, a physician in London, eminent for chemical knowledge, published a treatise, in which various experiments on this bark were related, and attestations of its great medical efficacy from several practitioners were annexed. From this pamphlet, together with the editor's own experiments, the following account is extracted.

The *red bark*, as it is called, is in much larger and thicker pieces than the common. Most of the pieces are concave, though not rolled together, like the quilled bark. They break short, like the best common bark; and appear evidently composed of three layers. The outer is thin, rugged, frequently covered with a mossy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour: it is very brittle and resinous. The innermost layer is more woody and fibrous, and of a brighter red. In powdering this bark, the middle layer, which seems to contain the greatest proportion of resinous matter,

ter, does not break so readily as the rest; a circumstance to be attended to, lest the most active part should be left out of the fine powder.

This red bark to the taste discovers all the peculiar flavour of the Peruvian bark, but much stronger than the common officinal sort. An infusion in cold water is intensely bitter; more so than the strongest decoction of common bark. Its astringency is in an equal degree greater than that of the infusion of common bark, as is shewn by the addition of martial vitriol. The spirituous tincture of the red bark is also proportionally stronger than that of the pale. The quantity of matter extracted by rectified spirit from the powder of the former, was to that from the latter, as 3 to 2 in one experiment, and as 229 to 130 in another. And yet, on infusing the two residuums of the first experiment in boiling water, that of the red bark gave a liquor considerably bitter, and which struck a black with martial vitriol; while that yielded by the other was nearly tasteless, and void of astringency.

With respect to medical properties, from numerous and repeated trials it appears, that the red bark possesses the same virtues with the common, but in a much higher degree. A single half ounce of this has radically cured an obstinate intermittent, where many ounces of the other kind had either had no effect, or merely a temporary one.

Upon the whole, there is the strongest reason to conclude, with Dr. Saunders, that the *red bark* is the true Peruvian bark, of the best quality, or in its highest perfection. It was probably the kind of bark first introduced into Europe, and which acquired so much reputation in the hands of Sydenham and Morton.

It

It is the sort still preferred by the Spaniards for their own use; and they are surprized at our preference of an inferior kind. Whether it be, as Dr. Saunders first imagined, the bark of the *trunk* of *full grown* trees, the *branches* or *young* trees of which yield the pale bark; or whether the trees be different *species*, or, at least, *varieties*, does not seem accurately determined. The latter opinion is, perhaps, rendered the most probable, by an observation in the third edition of Dr. Saunderson's pamphlet. He says, that "he has lately seen some exceeding good red bark imported by a Spanish merchant, a considerable part of which was as small as the quilled bark in common use, yet still preserved its redness in that form, approaching, however, to the colour of cinnamon. It was extremely resinous, and gave evident proofs of its being the *quill* of the larger red bark which was in the same chest." This idea seems to be confirmed by some curious remarks on the natural history of the cinchona, communicated by Dr. Simmons from the papers of the late M. Jussieu, and subjoined to the same edition.

This writer makes several different species of bark, which may, however, be reduced to two. The first includes the *red*, the *yellow*, and the *knotty* barks, all of which have very smooth leaves, purplish flowers, with a bark that is bitter to the taste, and more or less coloured. Of these, the *red* is held in the highest estimation, and was that first imported into Europe, but is now become exceeding scarce, so that its place has been supplied by the yellow and knotty kinds. The second species includes the *white* barks, of which there are four varieties. All these have broad hairy leaves, and red,
very

very odoriferous flowers, furnished with hairs on their inside. In two of these varieties the inner layers of bark are of a reddish hue. These have a slightly bitter taste, and somewhat of a febrifuge quality, which, however, they soon lose. The bark of the other two is quite white and insipid.

There have been lately discovered in the province of Santa-Fe, four degrees and a half *north* of the equator, two kinds of cinchona, one of which appears to be the same with the *red* bark of Peru; the other, one of the *white* species. This is a fortunate discovery, as it points out a new store of this most valuable medicine, when the ancient ones shall be exhausted. We shall see in the next article, that our own settlements are not unprovided with a plant of the same genus, and similar virtues.

* CINCHONA CARRIBÆA Linn. *Cinchona Jamaicensis* Dris. Wright, *Phil. Transf.* vol. lxxvii. part ii. This is a species of the Jesuit's bark, produced in Jamaica and the Carribee islands, of which an accurate description, with an account of its virtues, has been published by Dr. Wright in the volume of Philosophical Transactions above referred to; and some additions are made to this, in a letter from the same physician to Dr. Duncan. *Med. Comment.* vol. v. p. 398.

This tree, called in Jamaica the *sea-side beech*, grows to the height of from twenty to forty or fifty feet. The outer bark of the large trees is white, furrowed, and very thick. This is inert, and may be knocked off from the inner. This latter is of a dark brown colour. Its flavour is at first sweet, with a mixture of the taste of horseradish and of the eastern aromatics; but

when swallowed, it has that very bitterness and astringency which characterize the Peruvian bark. It yields its virtues both to cold and warm water; and a decoction of half an ounce of it boiled in a quart of water to the consumption of a pint, proved as strong as a decoction of an ounce and a half of the true bark. With the addition of orange peel it makes an elegant and grateful bitter tincture.

Its medicinal powers have been frequently tried by Dr. Wright, and it was found very efficacious in the dangerous remittent fevers of the West Indies, and also in nervous fevers. It has been administered in London in an intermittent, and effected a cure as completely as the Peruvian bark. From these accounts, we may hope that it will prove an useful and efficacious substitute for the cinchona of Peru, if ever the supplies of this medicine should fail.

PETASITES.

PETASITES major & *vulgaris* C. B. *Galerita* & *tussilago major quibusdam*. *Tussilago Petasites* Linn. BUTTERBUR or PESTILENTWORT: a perennial plant, found wild by the sides of ditches, and in meadows; producing early in the spring a thick naked roundish stalk, with a spike of small naked purplish flosculous flowers on the top: the flowers and stalks soon wither, and are succeeded about May, by very large, roundish or somewhat heart-shaped leaves, standing on long pedicles, somewhat hollowed in the middle so as to resemble a bonnet (*petasos*): the root is long, thick, of a dark brownish or black colour on the outside, and white within.

THE roots of butterbur are recommended as aperient and alexipharmac; and promise, though now disregarded in practice, to be of considerable activity. They have a strong smell, and a bitterish acrid taste, of the aromatic kind, but not agreeable, very durable and diffusive, scarcely to be concealed, as Fuller observes, by a large admixture of other substances. Their virtue appears to reside in a resinous matter; which is distinguishable by the eye in the dried root, and which is readily extracted by spirit of wine.

PETROLEUM.

PETROLEUM, *Pharm. Lond.* *Oleum petræ*, *Oleum terræ*. ROCK OIL: a fluid bitumen or mineral oil; exuding from the clefts of rocks or from the earth, or found floating on the surface of waters, in different parts of Europe, and more plentifully in the warmer countries; similar, in its general properties, to the oils extracted by distillation from pitcoal, amber, and other solid bituminous bodies. The more fluid petrolea have been distinguished by the name of *naphtha*; and the thicker by those of *pissasphaltum* and *pisselæum*.

1. PETROLEUM ALBUM. White petroleum: nearly colourless; almost as clear, fluid, and transparent, as water; of a strong penetrating smell, not disagreeable, somewhat resembling that of rectified oil of amber. The principal, or only, part of Europe, in which it is found, is the dutchy of Modena in Italy.

2. PETROLEUM FLAVUM *seu italicum Pharm. Paris*. Yellow petroleum: of a clear yellow
P 2 colour;

colour; somewhat less fluid than the former; in smell rather less penetrating, less agreeable, and more nearly allied to that of oil of amber. This also is found chiefly in the dutchy of Modena, and does not appear to differ very materially from the white sort.

3. PETROLEUM RUBRUM seu *gabianum*, sive *Oleum gabianum Pharm. Paris.* Red petroleum: of a blackish red colour; of a thicker consistence, and a less penetrating and more disagreeable smell, than either of the foregoing; found in Italy, and about the village Gabian in Languedoc.

There are many variations of these oils in regard to colour, fluidity, subtilty, and the pungency of their smell and taste: the most fluid are in general the most subtile and pungent. Among us, the finer kinds are rarely to be met with; and even the inferiour sorts are rarely unsophisticated.

Fine petroleum catches fire on the approach of a flaming body, even without the contact of its substance with the flame; and burns entirely away. The hasty affusion of concentrated mineral acids, which raises a violent ebullition with distilled vegetable oils, and generally sets them on fire, makes no great conflict with petroleum: its consistence becomes thicker by this admixture, and its smell more fragrant. By distillation, it loses much of its natural scent, and becomes somewhat more pellucid than at first; a small quantity of a brownish or yellowish matter, similar to amber (*a*), remaining behind. Dropt on water, it spreads to a

(*a*) Borrichius, *Acta medica & philosoph. Hafnienfis*, tom. i. *obs.* 57.

great distance, forming a various-coloured film on the surface. It floats also on rectified spirit of wine, and appears to be indissoluble in this menstruum; but unites with the essential oils of vegetables (a).

The finer petrolea, more agreeable than oil of amber, and more mild than that of turpentine, partake of the virtues of both. They have been sometimes taken internally in nervous complaints and as a diuretic; but used chiefly as an external stimulant, against rheumatic pains, palsies, chilblains, &c. In these intentions, some mineral oils, procurable among ourselves, are used by the common people, and often with benefit: the empyrical medicine, called British oil, is of the same nature with the petrolea; the genuine sort being extracted by distillation from a hard bitumen, or a kind of stone-coal, found in Shropshire and other parts of England.

4. PETROLEUM BARBADENSE *Pharm. Edinb. Bitumen barbadense. Pisselæum indicum.* Barbadoes tar: of a reddish black colour, and a thick consistence, approaching to that of treacle or common tar. It is found in several of our American islands, particularly, as is said, in that from which it receives its name.

This bitumen, greatly esteemed by the Americans as a sudorific, in disorders of the breast, and as an external discutient and antiparalytic, is in smell more disagreeable, and both in smell and taste less pungent, than the foregoing petrolea. It is likewise less inflammable, and leaves on being burnt a considerable quantity of

(a) See *l'Histoire & les memoires de l'acad. roy. des scienc. de Paris, pour les années 1715 & 1726.*

Ol. petrolei
Ph. Lond.

Petroleum
sulphurat.
Ph. Lond.

ashes. In distillation, it yields an oil different, in regard to its colour, from those afforded by such of the other bitumens as have been examined; appearing, when placed betwixt the eye and the light, of an orange colour, in other positions blue; but losing this variability of aspect in long keeping, and then looking in all situations yellow. This oil, and a balsam prepared by boiling the petroleum itself with one fourth its weight of flowers of sulphur, are directed by the London college to be kept in the shops.

PETROSELINUM.

PETROSELINUM Pharm. Lond. & Edinb.
Apium hortense seu petroselinum vulgo C. B. *Apium Petroselinum* Linn. PARSLEY: an umbelliferous plant, with deep green winged leaves, of which those that grow on the stalk are divided into fine oblong narrow segments: the seeds are small; somewhat crookedly plano-convex, of a dusky greenish colour, with four yellow ridges along the convex side; the root long, whitish, about the thickness of the finger. It is biennial, a native of moist grounds in the southern parts of Europe, and common in our culinary grounds.

THE roots of parsley are sometimes used in apozems, and supposed to be aperient and diuretic, but liable to produce flatulencies. Their taste is sweetish, accompanied with a slight warmth or flavour, somewhat resembling that of a carrot. Rectified spirit takes up, by digestion, all their active matter, and on inspissating the tincture, leaves it entire in the extract; in which, the sweetness is very considerable,
the

the warmth very weak. Distilled with water, they impregnate the first runnings pretty strongly with their flavour: when large quantities are distilled, there separates a small portion, two or three drams from two hundred pounds, of essential oil, which partly swims on the water, partly sinks, and partly concretes about the nose of the worm into a butyraceous matter.

The leaves of the plant have a greater warmth and less sweetness than the roots. In distillation with water, they yield a greater quantity of essential oil, about ten drams from two hundred pounds, smelling agreeably of the herb, and in taste moderately pungent.

The seeds, said to be carminative, resolvent, and diuretic, and commended in the German ephemerides for destroying cutaneous insects in children, are in taste warmer and more aromatic than any other part of the plant, and accompanied with a considerable bitterness. In distillation, three pounds yielded above an ounce of essential oil, great part of which sunk in the watery fluid. They give out little by infusion to watery menstrua, but readily impart all their virtue to rectified spirit: the tincture loses nothing considerable in being gently inspissated to the consistence of an extract, which proves a moderately warm, pungent, bitterish, not very grateful, aromatic.

PETROSELINUM MACEDONICUM.

APIUM MACEDONICUM C. B. Apium petræum & petrapium quibusdam. Bubon macedonicum Linn. MACEDONIAN PARSLEY: differing from the foregoing, in the upper and lower leaves being alike, the stalks hairy and much branched, the seeds dark coloured and covered

with rough hoariness. It is a native of stony soils in Macedonia, and cultivated in some of our gardens.

THE Macedonian parsley is similar in quality to the common sort, but weaker and less grateful. The seeds are the only part made use of, and these only as ingredients in the mithridate and theriaca: hence the Edinburgh college, having now dropt those compositions, has dropt also the Macedonian parsley.

PEUCEDANUM.

PEUCEDANUM germanicum C. B. *Pinnastellum*, *feniculum porcinum*, *feniculum silvestre*, *marathrum silvestre*, *marathrophyllum*, & *cauda porcina quibusdam*. *Peucedanum officinale* Linn.

HOGS FENNEL, HORESTRONG, SULPHURWORT: an umbelliferous plant, with large leaves divided and subdivided tripartitely into fine oblong narrow segments: the seed is somewhat oval, flattish, marked with three striæ, and surrounded with a leafy margin: the root long and thick, with a tuft of filaments on the top, blackish on the outside and pale coloured within. It is perennial, grows wild by the sea shores and in moist shady grounds, and flowers in July.

THE roots of sulphurwort have a strong fetid smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacid, bitterish taste. Wounded when fresh, in the spring or autumn, particularly in the former season, in which they are most vigorous, they yield a considerable quantity of yellow juice, which soon dries into a solid gummy-resin, retaining the taste and the strong smell of the root. This
gummy

gummy-refin stands recommended as an aperient, and antihysteria.

PILOSELLA.

PILOSELLA, *Myosotis*, seu *Auricula muris*. Pharm. Paris. *Pilosella major repens hirsuta* C. B. *Hieracium Pilosella* Linn. MOUSE-EAR: a low creeping hairy plant; with oval leaves, in shape like those of the daisy, joined to the stalks without pedicles, green above and white underneath: the flowers, which stand solitary on upright naked stalks, are composed of a number of yellow floscules, set in scaly cups, and followed by small black seeds, winged with down. It is perennial, grows wild in dry pasture grounds, and flowers in June and July.

PILOSELLA is one of the bitterish lactescent plants. Its leaves differ from those of dandelion, cichory, and the other herbs of that class, in being much less juicy, less bitter, accompanied with some astringency which seems to prevail above the bitter, and a slight sweetishness very durable in the mouth: in the extracts made from them, both by water and spirit, the astringency is more manifestly the prevailing principle, though even when thus concentrated it is not very strong. The roots are considerably bitterer than the leaves, and less, if at all, astringent.

PIMPINELLA.

PIMPINELLA SAXIFRAGA Linn. BURNET-SAXIFRAGE; a perennial umbelliferous plant; with naked umbels; the outermost flowers composed of unequal petals, the inner equal; the seeds

feeds small, oblong, somewhat pointed, flat on one side, convex and striated on the other; the lower leaves roundish, indented, set in pairs along a middle rib with an odd one at the end; the upper leaves oblong and very narrow; the roots long, slender, and whitish.

1. PIMPINELLA ALBA *Germanorum*: *Pimpinella saxifraga major umbella candida C. B.* Greater or white burnet-saxifrage: with some of the leaves pretty deeply cut, the odd one into three sections. It is not very common in this country, and therefore our markets have been generally supplied with the following.

2. PIMPINELLA SAXIFRAGA: *Pimpinella saxifraga minor foliis sanguisorbæ Raii*; *Tragoselinum alterum majus Tourn.* Smaller burnet-saxifrage; with uncut leaves. It grows wild in dry pasture grounds.

3. PIMPINELLA SAXIFRAGA MINOR *C. B.* *Tragoselinum minus Tourn.* Small burnet-saxifrage; with the upper leaves divided into oblong narrow segments; taller than the others, but with smaller leaves. This is the most common sort in the fields about London.

ALL these plants appear to be possessed of the same qualities, and to differ little otherwise than in external appearance: and even in this, their difference is so inconsiderable and inconstant, that Linnæus has joined them into one species, under the name of *pimpinella foliis pinnatis, foliolis radicalibus subrotundis, summis linearibus*: he says he has seen the second sort produced from the seeds of the first sown in a richer soil. Instead of the first, which has been generally understood

as

as the officinal kind, our college allows either of the others to be taken indifferently.

The roots of pimpinella have a hot, pungent, not very durable taste; and emit, when fresh, an acrid halitus, of no particular smell, but affecting the eyes like that of horseradish or mustard seed, though in a lower degree. In drying, they lose this subtile matter, and in long keeping the pungency of their taste is diminished. Their virtue is extracted, partially by water, and completely by rectified spirit. In distillation with water, a part of their pungency arises and impregnates the distilled fluid, and a part remains behind in the decoction: when large quantities are distilled, there separates from the water a small portion of a yellowish essential oil extremely acrid and fiery. On inspissating the spirituous tincture, little or nothing of the virtue of the pimpinella rises with the spirit: the remaining extract, small in quantity, is of great pungency and heat. The leaves and seeds of the plant have likewise a considerable acrimony; the leaves less than the seeds, and both less than the roots.

This pungent root is in great esteem among the Germans, as a warm stimulating resolvent, aperient, diaphoretic, &c. in weakness of the stomach from viscid phlegm, infarctions of the breast, tumours and obstructions of the glands, impurities of the blood, and in general wherever tenacious humours are to be attenuated, or the fluid secretions promoted. It is an useful ingredient in our officinal compound arum powder, supplying in good measure the pungency which the arum root loses in being reduced into that form. It is employed also as a masticatory for stimulating the salival glands; and in gargarisms for dissolving viscid mucus in the fauces.

P I N.

PINGUEDO.

PINGUEDO five adeps: *Sevum ovillum & hircinum, Axungia porcina & viperina.* ANIMAL FATS: sheeps suet, goats suet, hogs lard, and vipers fat.

THE medical use of these substances is wholly external, as the basis of ointments and other unctuous applications. In their effects, they do not seem to differ materially from one another; all of them having one common emollient virtue, supplying and relaxing the part to which they are applied, and obstructing its perspiration. The principal difference to be considered in them is that of their consistence, by which they are adapted to different forms, or for receiving different admixtures; the solid *seva* serving to give the thick consistence of an unguent to oils and the more fluid resinous juices, while the softer *axungie* procure a like consistence to solid resins and powders. The fat of the viper is commonly preferred to the others in affections of the eyes; but its superiority, in these cases, to other soft fats, does not appear to have been sufficiently determined by experience. Nor indeed does it appear, that animal fats, and flavourless vegetable oils, of similar consistences, are materially different, respectively, from one another, in their effects when used in external applications. Even in regard to qualities, more remote than those, by which they can act when applied to the external parts of the body, the difference between the vegetable and animal fats is, perhaps, less than might be expected, and apparently less than that which is observed between the other corresponding substances of the

the two kingdoms, as the gelatinous matters of the one and the gummy of the other: animal fats, in their resolution by fire, yield neither the peculiar stench, nor the volatile alkaline salt, which substances completely animalized afford.

Lard and suet are directed to be tried or purified, by chopping them into small pieces; melting them by a gentle heat, with the addition of a little water, which secures them from any danger of burning or turning black, this fluid not being susceptible of a degree of heat sufficient for that effect; and then straining them from the membranes. Vipers fat, separated from the heart, liver, and other bloody parts, is ordered to be melted without addition, and then strained through a linen cloth; the quantity of this fat, usually purified at a time, being so small, that the heat may be easily regulated, so as to prevent burning, without water.

*Adipis suillæ
seviqve ovilli
curatio Pb.
Lond.*

Tried lard is formed into an elegant ointment, commonly called pomatum, by beating it with rosewater, in the proportion of three ounces of the water to two pounds of the lard, till they are well mixed; then melting it over a very gentle fire, and after standing for a little while, that the watery part may settle, pouring off the lard, and incessantly stirring and beating it about till it grows cold, so as to reduce it into a light yielding mass; and afterwards adding so much essence of lemons as will be sufficient to give a grateful smell. Some scent it with oil of rhodium; and previously digest the lard for ten days with common water, renewing the water every day, a process which does not appear to be of much use. These ointments may be tinged of a fine red colour, for lip-salves, by a proper addition of alkanet root: the faculty of Paris directs, for this purpose, twenty-four parts

*Unguentum
adipis suillæ
Pb. Lond.*

*Pomatum
rubrum Pb.
of Paris.*

of the white pomatum, eight of oxes marrow, and eight of white wax cut in small pieces, to be melted together by the heat of a water bath; one part of powdered alkanet root to be added; the mixture stirred at times till it appears tinged of a deep red colour, and then strained through a linen cloth.

Animal fats are not dissoluble by spirit of wine any more than by water: when scented with essential oils, the oil may be totally extracted by digestion in rectified spirit, so as to leave the fat inodorous. By the same menstruum, fats may be freed from their ill smell, and even those that have grown considerably rancid by keeping may be made sweet again as at first; the rancidity and smell seeming to consist in a part of the fat attenuated, or subtilized, into a state analogous to that of the oil into which fats are resolved by distillation, which oil is totally dissoluble in spirit.

PINGUICULA.

PINGUICULA: *Sanicula montana flore calcari donato* C. B. *Pinguicula sive sanicula eboracensis* Gerard. *Viola palustris, liparis, cucullata, & dodecatheon plinii quibusdam.* *Pinguicula vulgaris* Linn. BUTTERWORT or YORKSHIRE SANICLE: a small plant, with a few, oblong, obtuse, uncut, pale, glossy, unctuous leaves, lying on the ground; among which rise naked pedicles, bearing, each, a purplish monopetalous flower divided into two lips (of which the upper is cut like a heart, the lower into three sections) with a slender cylindrical spur or tail at bottom: the flower is followed by a roundish capsule full of small seeds. It is perennial, grows wild in elevated

elevated marshy grounds, and flowers in the spring.

THE remarkable unctuousity of this plant, and of some others of the same genus, seems to entitle them to a further examination than has yet been bestowed upon them (*a*). It is said, that the unctuous and glutinous juice of the *pinguicula* is used in some places as a liniment for chaps (*b*), and as a pomatum for the hair (*c*): that new milk, poured upon the fresh leaves, on a strainer, and after quick colature, set by for a day or two, becomes thick, tenacious, very agreeable and salubrious, and throws off no whey unless long kept; and that a little of the milk, so thickened, serves for bringing fresh milk to the same state (*d*): that a syrup made from the juice, and decoctions of the leaves in broth, are used among the common people in Wales as cathartics: and that the herb is hurtful to cattle that feed upon it (*e*).

PIPER.

PEPPER: the small, round, aromatic fruit of a trailing plant growing in Sumatra, Java, and Malabar, (*Piper nigrum* Linn.) The pepper-corns adhere in clusters to the stalks, without pedicles: when ripe, they are firm, not juicy, of a red colour, which changes in drying to a black.

(*a*) Linnæus, *Flora lapponica*, p. 10.

(*b*) Simon Paulli, *Quadripartit. botanic.*

(*c*) Ray, *Historia plantarum*, i. 752.

(*d*) Gissler, *Svenska vetenskaps akademies handl.* 1749.

(*e*) Gerard, *Herbal emaculated*, p. 789.

1. PIPER NIGRUM *Pharm. Lond. & Edinb. Melanopiper*. Common or black pepper: the fruit gathered, probably, before perfect maturity, and dried in the sun.

2. PIPER ALBUM. *Leucopiper*. White pepper: the ripe fruit decorticated by maceration in water. Some of the grains, as brought to us, have pieces of a dark-coloured skin still upon them.

OF these pungent hot spices, the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They both seem to heat the constitution more than some other spices that are of equal pungency upon the palate; and from those spices they differ in this, that their pungency does not reside in the volatile parts or essential oil, but in a substance of a more fixt kind, which does not rise in the heat of boiling water.

Pepper, infused in water, impregnates the menstruum pretty strongly with its flavour, but weakly with its taste: by boiling for some time, a little more of its pungent matter is extracted, and its flavour dissipated. On collecting the fluid that exhales in the boiling, the water is found agreeably impregnated with the odour of the spice, but scarcely discovers any taste: the essential oil, which rises to the surface of the water, thin, light, and limpid, in smell strong and agreeable, is in taste mild; a drop or two impressing on the tongue only a moderate grateful warmth. On inspissating the decoction, a part of the pungency of the pepper is found
in

in the mucilaginous extract, and a part is retained by the pepper itself.* (a)

Rectified spirit extracts completely the active matter of the pepper. The tincture is extremely hot and fiery, a few drops setting the mouth as it were in a flame: inspissated, it leaves an extract still more fiery; the spirit carrying off in its exhalation a little of the flavour, but nothing of the heat or pungency of the spice. The quantity of extract is nearly the same from both kinds of pepper; the spirituous amounting to about one eighth, and the watery to near one half their weight: but those of the white, like the spice in substance, are weaker than those of the black sort.

PIPER LONGUM.

PIPER LONGUM Pharm. Lond. & Edinb. Macropiper Pharm. Paris. Piper longum orientale C. B. LONG PEPPER: the fruit of an East Indian plant of the same genus with that which produces the black pepper, (*Piper longum Linn.*); of a cylindrical figure, about an inch and a half in length, having numerous minute grains disposed round it in a kind of spiral direction.

THIS spice is hotter and more pungent than either of the preceding kinds, and its spirituous extract is proportionably more fiery. In pharmaceutical properties, it entirely agrees with them; its active matter being only partially dissoluble in watery menstrua, and its pungency not rising in the heat of boiling water. Decoc.

* (a) The acrid matter of pepper is so strongly retained, that a quantity boiled successively in fresh parcels of water, had not lost all its taste till the forty-third boiling. *Gaubii Adversar.*

tions of it are very mucilaginous, rather more so than those of the black or white.

PIPER JAMAICENSE.

PIMENTO Pharm. Lond. Pimenta sive piper jamaicense Pharm. Edinb. Amomum Pharm. Wirtemb. JAMAICA PEPPER, PIMENTO, ALLSPICE: the dried aromatic berry of a large tree growing in the mountainous parts of Jamaica, reckoned a species of myrtle, and called by Sir Hans Sloane *myrtus arborea aromatica foliis laurinis*, by Linnæus *myrtus (pimenta) foliis alternis*.

PIMENTO is a moderately warm spice, of an agreeable flavour, somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water, it yields an elegant essential oil, so ponderous as to sink in the aqueous fluid, in taste moderately pungent, in smell and flavour approaching to oil of cloves, or rather a mixture of those of cloves and nutmegs: the remaining decoction, inspissated, leaves an extract somewhat ungrateful but not pungent, and the berry itself is now found to be almost wholly deprived of its taste as well as flavour; the warmth of this spice residing rather in the volatile than in the fixed parts. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue, together with a brownish green tincture: in distillation, it gives over nothing considerable to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract; which is very warm and pungent, but not of a fiery heat like those obtained from the foregoing sorts of pepper.

This spice, at first brought over for dietetic uses, has been long employed in the shops as a succedaneum

succedaneum to the more costly oriental aromatics; from them it was introduced into our hospitals, and is now received both in the London and Edinburgh pharmacopœias. A simple water is directed to be distilled from it, in the proportion of a gallon or ten pounds from half a pound: this is strongly impregnated with the flavour of the pimento, though it is less elegant than the spirituous water which the shops have been accustomed to prepare, by drawing off two or three gallons of proof spirit from the same quantity of the spice. The Edinburgh college directs only nine pounds from this quantity. The essential oil does not seem to be much known in practice; though it promises to be a very useful one, and might, doubtless, on many occasions, supply the place of many of the dearer oils. The quantity of oil afforded by the spice is very considerable: Cartheuser indeed says, that only about half a dram is to be got from sixteen ounces; a mistake, which probably has arisen from inadvertence in copying Neumann's proportion, of half a dram from an ounce, or one sixteenth: so large a proportion as this last cannot, however, be collected in its proper form, the oil that remains dissolved in the distilled water being here included.

Aq. pimento
Ph. Lond.
Aq. piperis
jamaicensis
Ph. Ed.
Spir. pimento
Ph. Lond.
Aq. piper.
jamaic. spirit.
Ph. Ed.
Ol. essent.
pip. jamaic.
Ph. Ed.

PIPER INDICUM.

PIPER INDICUM Pharm. Lond. & Edinb.
Capsicum Pharm. Paris. Piper indicum, brazilianum, guineense, calecuticum, hispanicum, & lusitanicum, quibusdam. Capsicum siliquis longis pro-pendentibus Tourn. Siliquastrum plinii J. Bauh. Capsicum annuum Linn. CAPSICUM OR GUINEA PEPPER: long, roundish, taper, bright red pods, divided into two or three cells full of small

whitish seeds : the fruit of an annual plant, with square stalks, oblong acuminate leaves, and white flowers growing in their bosoms divided into five segments in form of a star ; a native of the East and West Indies, and raised in some of our gardens.

THIS fruit, when fresh, discovers to the organs of smell, a penetrating acrid halitus, which in drying is dissipated : its taste, whether fresh or dry, is extremely pungent and acrimonious, setting the mouth as it were on fire, and producing a painful burning vellication of long continuance, like that occasioned by arum root, but more of the warm aromatic kind. It gives out its pungency to rectified spirit, together with a pale yellowish red tincture : the spirit, gently distilled off, has no considerable impregnation from the capsicum : the remaining extract is insupportably fiery.

Capficum is sometimes given, in minute quantities, as one of the highest stimulants, in cold sluggish phlegmatic temperaments, in some paralytic cases, in relaxations and insensibility of the stomach, and for promoting the efficacy of aloetic medicines and the deobstruent gums in uterine disorders. It is used principally at table : a species of it, called in the West Indies bird-pepper, is the basis of the powder brought from thence under the name of Cayenne pepper. It is observable that this fruit, perhaps the strongest of the aromatic stimulants, is used freely, as is said, by the natives even of the warm climates : possibly these pungent antiseptic kinds of substances may there be more salubrious than they are, in general, among us, as they seem qualified to resist or correct the putridous

dinous colliquation of the humours which immoderate heat produces.

P I X.

PIX LIQUIDA Pharm. Lond. & Edinb.

TAR: a thick, black, resinous, very adhesive juice; melted out by fire from old pines and fir-trees. The trees, cut in pieces, are inclosed in a large oven, which being heated by a fire on the outside, or the wood itself kindled and smothered, the juice runs off by a canal at the bottom.

TAR differs from the turpentine or native resinous juice of the trees, in having received a disagreeable empyreumatic impresson from the fire; and in containing, along with the pungent bitter terebinthinate matter, a portion of the acid which is extricated from the wood by the heat, and likewise of its gummy or mucilaginous matter. By the mediation of these principles, a part of the terebinthinate oil and resin becomes dissoluble in watery liquors, which extract little or nothing from the purer turpentine.

Water impregnated with the more soluble parts of tar has been recommended as a remedy for almost all diseases. The proportions that have been commonly followed are, two pounds of tar to a gallon of water; which are to be well stirred together, then suffered to settle for two days, and the clear liquor poured off for use. It is observed, that "tar water, when right, is "not paler than French, nor deeper coloured "than Spanish white wine, and full as clear: "if there be not a spirit very sensibly perceived "in drinking, the tar-water is not good. It "may be drank either cold or warm. As to

“ the quantity, in common chronical indispo-
 “ sitions a pint a day may suffice, taken on an
 “ empty stomach, at two or four times : more
 “ may be taken by strong stomachs. But those
 “ who labour under great and inveterate mala-
 “ dies, must drink a greater quantity, at least
 “ a quart every twenty-four hours. In acute
 “ diseases, it must be drank in bed warm, and
 “ in great quantity (the fever still enabling the
 “ patient to drink) perhaps a pint every hour.”
 Though this medicine is undoubtedly very far
 inferior to the character that has been given
 of it, it is apparently capable of answering im-
 portant purposes, as a deobstruent balsamic solu-
 tion, moderately warm and stimulating. It
 sensibly raises the pulse, and increases either
 perspiration or the grosser evacuations. I have
 been informed of some late instances of its good
 effects in disorders of the leprous kind.

Some have imagined the acid to be the prin-
 ciple that gives virtue to tar-water ; and hence
 have endeavoured to introduce, instead of the
 infusion, an acid spirit extracted from tar by
 distillation. But the effects of this, as of other
 acids, are opposite to those experienced from
 tar-water ; nor does the acid of tar differ from
 that which is extricated by fire from all kinds of
 recent wood. Tar-water, distilled, yields a
 liquor very considerably impregnated with its
 flavour, though more grateful than the infusion
 itself both in smell and taste : there remains a
 light, spongy, blackish substance, not acid but
 bitter, partially dissoluble again in water.

Pil. piceæ
Nosocom. Ed.

This juice is sometimes given also in sub-
 stance, mixed with so much powdered liquorice,
 or other like powdery matters, as is sufficient to
 render it of a due consistence for being formed
 into

into pills. An ointment, made by melting it with an equal weight of mutton suet, and straining the mixture whilst hot†, or by melting together five parts of tar and two of yellow wax‡, is sometimes used as a digestive, and said to be particularly serviceable against scorbutic and other cutaneous eruptions.

Unguent. e
pice † Ph.
Lond.

‡ Ph. Ed.

On inspissating tar, or boiling it down to dryness without addition, it gives over an acid liquor in considerable quantity, and an ethereal oil of the same general nature with that of turpentine, but impregnated with the empyreumatic flavour of the tar. The solid residuum is the common pitch, *pix arida*. *Pix sicca, palimpissa dioscoridis C. B.* This is less pungent, and less bitter than the liquid tar, and used only in some external applications, as a warm adhesive resinous substance. Neumann observes, that when melted with oils, resins, and fats, into ointments and plasters, the pitch is greatly disposed to separate and precipitate.

PLANTAGO.

PLANTAIN: a small perennial herb, common in fields and by road sides; with the leaves lying on the ground; and naked unbranched stalks, bearing on the top a spike of small imperfect four-leaved flowers, followed by little capsules, which, opening horizontally, shed numerous crooked seeds.

1. *PLANTAGO Pharm. Edinb. Plantago latifolia sinuata C. B. Plantago septinervia. Plantago major, Linn.* Common greater plantain: with oval leaves, having seven ribs, prominent on the lower side, running from end to end; and long slender spikes.

2. *PLANTAGO MINOR* seu *quinquenervia*: *Plantago major angustifolia* C. B. *Plantago lanceolata* J. B. *Plantago lanceolata* Linn. Narrow-leaved plantain or ribwort: with oblong, five-ribbed leaves; and short thick spikes.

THE leaves and seeds of plantain, recommended as vulneraries, in phthifical complaints, spittings of blood, alvine fluxes, &c. appear to be of the milder kind of restringents or corroborants. The leaves, of no remarkable smell, are in taste slightly acerb: their expressed juice, depurated by settling and colature, or clarified with white of eggs, and inspissated to the consistence of honey, discovers a considerable saline austerity. The two sorts are not sensibly different in quality from one another, though the first has been generally directed for medicinal use in preference to the other. The leaves are, in some places, the usual application made by the common people to slight wounds.

* For the use of a species of plantain, with horehound, in the bite of the rattlesnake, see the art. *Marrubium*.

PLUMBUM.

PLUMBUM Pharm. Lond. LEAD: a pale, livid, soft, very flexible metal; above eleven times specifically heavier than water; fusible in a small heat, somewhat less than that in which expressed oils begin to boil. Continued in fusion it contracts a various-coloured pellicle on the surface, and if kept stirring, so as that fresh surfaces may be exposed to the air, it changes by degrees into a powdery dusky-coloured calx: this powder, calcined for some time in a stronger fire, in such a manner that the flame may reverberate

verberate all over it, becomes first yellow, and afterwards of a deep red colour†: all these † Minium calces, if the fire be hastily raised to a consider- *Ph. Lond.* able degree, melt into the appearance of oil, and on cooling form a soft flaky pulverable substance called litharge‡, of a pale yellowish † Lithargyrus or reddish colour, according as the lead has *Ph. Lond. & Ed.* been less or more calcined: if the calces be urged with a pretty strong fire, they run into a yellowish glass, which, while in fusion, powerfully dissolves most kinds of earthy bodies, and corrodes the common crucibles till it has saturated itself with their earth.

The ores of lead, in colour commonly resembling lead itself, and of a cubical or parallelopipedal structure, are plentiful in England and other parts of the world. The metal, extracted from the ore by fusion, contains frequently a portion of silver, and sometimes of gold: on keeping the compound melted in a due degree of heat, the lead calcines and turns to litharge, which is raked or blown off till the noble metals remain pure; all the other common metallic bodies being scorified and carried off by the lead. From the works, wherein silver is thus extracted from lead in the large way, the Thops are supplied with litharge; which, when pale coloured, is called litharge of silver; when high coloured, litharge of gold. The latter is to be preferred, not as containing any of the metal by whose name it is distinguished, but as being more thoroughly calcined than the pale sort: the pale may be freed from the uncalcined lead it holds, by melting it; the uncalcined part falling to the bottom during the fusion.

The nitrous acid, diluted with about an equal quantity of water, dissolves lead pretty readily into

into a gold-coloured liquor: by the vitriolic and marine acids it is very difficultly acted on; and when previously dissolved in the nitrous, it is by either of these precipitated. Vegetable acids, digested on lead in substance, dissolve it exceeding sparingly: by certain managements they may be made to act more vigorously, and to satiate themselves with the metal.

Cerussa Pb.
Lond. & Ed.

Thin plates of lead, suspended over vinegar in a proper vessel, and set to digest in a gentle heat, as that of horse-dung, that the acid vapour may rise and circulate round the plates, are found, in about twenty days, covered with a white powdery or flaky matter: this being scraped off, and the process repeated, the whole of the metal is thus corroded by degrees into cerusse or white lead. This commodity, the preparation of which makes a considerable trade, is frequently adulterated with a mixture of whiting: the entire flaky masses, called flake lead, should be chosen, as not being liable to abuse. The adulteration may be discovered by means of vinegar, which will effervesce with and dissolve the whiting or calcareous earth: the liquor being then poured off clear, or filtered, the addition of a little spirit of salt will precipitate such part of the lead as the vinegar may have taken up; after which the calcareous earth will manifest itself on adding a little vitriolic acid.

Acetum lithargyrites.

The calces of lead are much easier of solution in vegetable acids than lead in its metallic form. On digesting four ounces of litharge about three days in a sand heat with a pint of strong vinegar, and now and then shaking the vessel; the liquor, filtered, is found to have received a strong impregnation from the litharge, and to have dissolved about one tenth of it, whereas,

whereas, of the same quantity of lead in substance, scarcely one hundredth part would be dissolved. Lead even in its vitreous state, or in the glazing of the common earthen-ware vessels, is considerably acted on by vegetable acids; which, by being boiled in those vessels receive from them the peculiar taste, and pernicious qualities of saturnine solutions.—Lead may be discovered in acid liquors by a reddish, brown, or blackish colour being produced in them on adding a few drops of a solution of orpiment or common sulphur made in lime-water, and by the colour not being destroyed on the super-addition of a little spirit of salt (*a*): other metals, dissolved in vegetable acids, produce, as well as lead, a dark colour with the sulphureous solutions, but spirit of salt redissolves them, and totally discharges the colour.

Of all the saturnine calces, the cerusse, on account of the corrosion it has previously undergone from the steam of vinegar, is the most easily dissoluble in fresh vinegar, and hence is made choice of where a saturated solution is required. The solution made in vinegar, inspissated to the consistence of honey and set in the cold, shoots by proper management into crystals, called, from their taste, *sugar* of lead. All the solutions, and soluble preparations of this metal, have a remarkably sweet taste, mixed with a considerable austerity.

Cerussa acetat. Ph. Lond.

Sal plumbi vulgo sacch. saturni Ph. Ed.

LEAD in its metallic form, or when calcined by fire, does not appear to have any medicinal operation: dissolved or rendered soluble

(*a*) The brownish or reddish colour produced by alkalis in cyder impregnated with lead, is totally discharged by spirit of salt. *M. S. of Dr. Lewis.*

by

Tinct. saturnina *vulgo*
antiphthifica
Pb. Ed.

by acids, it is one of the most powerful styptics, but at the same time, for internal uses, one of the most dangerous. A few grains of the sugar have been ventured on for checking obstinate hemorrhagies and other profuse evacuations: a tincture drawn with rectified spirit, by maceration without heat, from sugar of lead and green vitriol, in the proportion of three ounces of the sugar and two of the vitriol, to a quart of spirit, has been given from fifteen to thirty drops, for restraining the colliquative sweats attending phthises and hectic fevers. This practice has in some instances been successful, but the hazard is very great: all the saturnine preparations that have any activity are in a peculiar manner injurious to the nervous system, and ought never to be ventured on but in desperate cases as a last resource. Obstinate constipations, violent colics, pains and contractions of the limbs, tremors and resolutions of the nerves, and slow wasting fevers, are the general consequences of saturnines taken in any considerable quantities internally, and of the fumes to which the workmen are exposed in the fusion of the metal in the way of business (*a*).

Empl. litharg. † *Pb.*
Lond.
commune
† *Pb. Ed.*

Externally, this metal and its preparations are of sufficient safety and of great utility. The plaster, in general use for slight cutaneous injuries, and which makes the basis of several other plasters, is a solution of litharge in oil olive, in the proportion of five pounds of the litharge, subtilely powdered, to eight pints† or ten pounds‡ of the oil. The union is effected by

(*a*) Vide Hoffman, *Philosophia corp. human. morboſi*, P. II. cap. viii. §. 20. & seq. Hundert mark, *Acta acad. cæsareæ nat. curios. vol. vii. Append. p. 96.*

boiling them together over a gentle fire, with the addition of about a quart of water to prevent their burning, and keeping them continually stirring, till they incorporate and acquire a due consistence: if all the water should be consumed before this happens, some more water, previously made hot, is added. A red plaster is prepared in the same manner with minium Emp. e minio. instead of litharge, but as it does not stick so well as the other, it is more rarely used: it is likewise more difficult of preparation, the compound being very apt, though a considerable quantity of water be used, to burn and grow black in the boiling.

The cerusse and sugar, particularly the latter, are cooling, drying, and astringent: the sugar is used in collyria for inflammations and defluxions of the eyes, and in injections for restraining simple gonorrhœas; and both preparations in unguents and liniments, against cutaneous heats and excoriations, slight serpiginous eruptions, and for anointing the lips of wounds or ulcers that itch much or tend to inflammation. Compositions for these purposes are made in the shops, by mixing one part of cerusse with five of the simple ointment made with oil and wax; by grinding two ounces of litharge, and adding, alternately and by little and little, two ounces of vinegar and six of oil†; or by boiling and stirring, over a gentle fire, four ounces of the common plaster, with one of vinegar, and two of oil where a thick unguent is required‡, or four of oil for a softer liniment||: this last is a less troublesome method of uniting the litharge with the oil and vinegar, than trituration; and the composition proves likewise more smooth and uniform, and less liable to grow hard in keeping

Ung. e cerussa, *vulgo* album *Ph. Ed.*

† Ung. nutritum.

‡ Ung. tripharmacum
|| Lin. tripharmacum.

keeping **(a)*. But the most elegant and effectual of all the saturnine unguents, are those made with the sugar; in the proportion of half an ounce† to a pint of oil and three ounces of white wax; or one part, to twenty parts of the simple oil and wax ointments‡**(b)*.

Ung. ceruff.
acet. † *Ph.*
Lond.
— saturni.
‡ *Ph. Ed.*

* Mr. Goulard, a surgeon of Montpellier, has been the means of greatly extending for some years past the external use of lead. The basis of his preparations is what he calls the *extract of lead*, or a solution of litharge in strong vinegar, boiled down to almost a syrupy consistence. This, diluted in a large quantity of soft water, makes his *vegeto-mineral water*, which is employed as a lotion or foment, or boiled with bread to make a cataplasin. The extract is likewise combined with unguentous matters into a variety of forms. These preparations have, in fact, been found of the greatest utility in various cases of inflammation, particularly of the erysipelatous kind, and the consequences of burns and scalds. Their most liberal application has not, in the opinion of most practitioners, been observed to produce any of those affections of the nervous system, which characterize the poisonous effects of lead taken internally. At the same time, the abuse of saturnine applications, on the ground of those

**(a)* The *ung. nutritum*, made without heat, though now expunged from our dispensaries, is much the best of the above preparations, and a very excellent application in many cases. It should not be long kept, but made fresh as wanted.

**(b)* These are by no means the efficacious preparations here represented. The oil and wax so cover the metallic salt, that its action is prevented; or, if it acts at all, it proves highly stimulating from the *undissolved* state in which it is applied.

false

false and inconsistent ideas of their action which Mr. Goulard has supported, has not infrequently been attended with disagreeable consequences.

* The London college have now given a preparation similar to Goulard's *extract*, directing two pounds and four ounces of litharge to be boiled in a gallon of distilled vinegar till reduced to six pints, continually stirring the liquor, and straining it after subsidence. They have likewise given another, similar to Goulard's vegetable-mineral water, in which two drams of this preparation, with as much proof spirit, are mixed with a quart of distilled water.

Aq. litharg.
acetat. Ph.
Lond.

Aq. litharg.
acetat. comp.
Ph. Lond.

P O L I U M.

POLEY-MOUNTAIN: a small shrubby plant, with square stalks, oblong woolly leaves set in pairs; and labiated flowers wanting the upper lip and having the lower divided into five segments.

1. *Polium maritimum erectum monspeliacum* C. B. *Teucrium capitatum* Linn. Poley-mountain of Montpellier; with the leaves indented towards the end and joined to the stalk without pedicles, the flowers white and set in roundish spikes on the tops of the branches.

2. *Polium angustifolium creticum* C. B. *Teucrium frutescens, stachados arabicæ folio* & facie Tourn. *Teucrium creticum* Linn. Poley-mountain of Candy; with the leaves not indented and set on short pedicles, the flowers standing in loose clusters, each on a separate foot-stalk.

SEVERAL other species, or varieties of *polium*, erect and procumbent, with white, yellow, and purplish

purplish flowers, have been received in the shops. The second above described has been commonly understood as the true officinal sort, and procured dry from the island Candy, of which it is a native: the first, which better bears the winters of our own climate, appears to be of the same quality; and hence the college allow either sort to be taken indifferently.

THE leaves and tops of poley-mountain have a moderately strong aromatic smell, and a disagreeable bitter taste: distilled with water, they yield a small quantity of yellowish essential oil, of a pungent taste, in smell less agreeable than the herb itself; the remaining decoction, inspissated, leaves a strongly bitter extract. They stand recommended as corroborants, aperients, and antispasmodics; but are at present scarcely otherwise made use of than as an ingredient in mithridate and theriaca.

POLYGALA.

MILKWORT: a small perennial plant; with the leaves alternate, uncut, and those on the upper parts of the stalks larger than on the lower; the flowers irregular, tubulous, tripetalous, labiated, set in loose spikes on the tops; the cup composed of five leaves, the two larger of which continue after the flower has fallen, and embrace, like wings, a flat bicellular seed-vessel.

I. SENEKA *Lond. & Pharm. Edinb.* *Polygala* (*Senega*) *floribus imberbibus spicatis, caule erecto herbaceo simplicissimo, foliis lato-lanceolatis* Linn. Seneka or Senegaw milkwort, rattlesnake-rooted milkwort: with oblong, somewhat oval, pointed leaves;

leaves; upright unbranched stalks; white flowers; and a variously bent and divaricated jointed root, about the thickness of the little finger, with a membranous margin running its whole length on each side, externally of a yellowish or pale brownish colour, internally white. It is a native of Virginia, Pennsylvania, and Maryland, and cultivated in some of our gardens.

THE root of this plant is said to be the specific of the Senegaw Indians against the poison of the bite of the rattlesnake; and to be effectual, when used early, even in the middle of the summer heats, when the poison is in its highest vigour, and when all their other antidotes fail. The powder or a decoction of the root is taken internally; and either the powder, or cataplasms made with it, applied to the wound.

Dr. Tennent, observing that this poison produces symptoms resembling those of pleurisy and peripneumonies (a difficulty of breathing, cough, spitting of coagulated blood, and a strong quick pulse) conjectured that it might be serviceable in those distempers also: and from the trials made by the gentlemen of the French academy, as well as those mentioned by him, its virtues appear to be great. It made the sily blood fluid, procured a plentiful spitting, increased perspiration and urine, and sometimes purged or vomited. The usual dose was thirty or thirty-five grains of the powder; or three spoonfuls of a decoction prepared by boiling three ounces of the root in a quart of water till near half the liquor was consumed.

The seneka root has been tried likewise in hydropic cases, and found in some instances to procure a copious evacuation by stool, urine, and perspiration, after the common purgatives

and diuretics had failed. Monf. Bouvart obferves, that though dropfies were thus removed by the feneka, the cure did not feem complete, a fwelling and hardnefs of the fpleen remaining, which fometimes occafioned a frefh extravafation : that the medicine fometimes afts by liquefying the blood and juices, without producing a due difcharge ; and that in thefe cafes it does harm unlefs affifted by proper additions, but that fo long as it proves cathartic, nothing is to be feared from it. It is faid to have been found ferviceable alfo in the rheumatifm and gout.

This root, of no remarkable fmell, has a peculiar kind of fubtile pungent penetrating tafte. Its virtue is extracted both by water and fpirit, though the powder in fubftance is fuppofed to be more effectual than either the decoction or tincture. The watery decoction, on firft tafting, feems not unpleafant, but the peculiar pungency of the root quickly difcovers itfelf, fpreading through the fauces, or exciting a copious difcharge of faliva, and frequently, as Linnæus obferves, a fhort cough : thofe, to whom I have directed this medicine, have generally found a little Madeira moft effectual for removing its tafte from the mouth, and making it to fit eafy on the ftomach.

Decoct. fenekæ Ph. Ed.

The Edinburgh college direct a decoction made with one ounce of the root boiled in two pounds of water to fixteen ounces. A tincture of the root in rectified fpirit is of a more fiery pungency, extremely durable in the mouth and throat, and apt to promote vomiting or reaching.

2. POLYGALA: *Polygala vulgaris* C. B. & Linn. *Flos ambarvalis*. Common milkwort : with the ftalks procumbent ; the lower leaves roundifh, the upper oblong, narrow, and pointed ;

ed; the flowers blue, purplish or red, sometimes white, with a kind of fringed appendix on the lower lip; the roots slender and hard. It grows wild in dry pasture grounds.

THE roots of this species are somewhat similar in taste to those of the preceding, but far weaker: they have been found likewise to produce the same effects in pleurisies, in a lower degree. The leaves of the plant are very bitter: Gesner, who from this quality gives it the name of *amarella*, relates, that an infusion of a handful of them in wine is a safe and gentle purgative.

POLYPODIUM.

POLYPODIUM vulgare C.B. & Linn.

POLYPODY: a plant with long leaves issuing from the root, divided on both sides, down to the rib, into a number of oblong segments, broadest at the base: it has no stalk, or manifest flower: the seeds are a fine dust, lying on the backs of the leaves, in roundish specks, which are disposed in rows parallel to the rib: the roots are long and slender, of a reddish brown colour on the outside, greenish within, full of small tubercles, which are resembled to the feet of an insect, whence the name of the plant. It grows in the clefts of old walls, rocks, and decayed trees: that produced on the oak has been generally accounted the best, though not sensibly different from the others. It is found green at all seasons of the year.

THE leaves of polypody have a weak ungrateful smell, and a nauseous sweet taste, leaving a kind of roughness and slight acrimony in the mouth. They give out their smell and taste,

together with a yellow colour, both to water and rectified spirit: the spirituous tincture is sweeter than the watery, but in inspissation its sweetness is in great part destroyed or covered by the other matter; the spirituous extract, as Cartheuser observes, being to the taste only subastringent and subacid, with very little sweetness, while the watery extract seems to retain the full sweetness of the polypody. The root is supposed to be aperient, resolvent, and expectorant: it was formerly ranked among the purgatives, but operates so weakly, a decoction of an ounce or two scarcely moving the belly, that it has long been expunged from that class: the present practice pays very little regard to it in any intention.

POPULUS.

POPULUS NIGRA C. B. & Linn. *Populus nigra* five *aigeiros* J. B. BLACK POPLAR: a large tree; with dark green, somewhat rhomboidal acuminate leaves; producing imperfect flowers, in catkins: in some of the individuals, called male, the flowers are barren; in others, called female, they are followed by membranous pods, containing a number of seeds winged with down. It is indigenous in watery places, and quick of growth.

THE young buds or rudiments of the leaves, which appear in the beginning of the spring, were formerly employed in an officinal ointment, which received its name from them. At present, they are almost entirely disregarded; though they should seem, from their sensible qualities, to be applicable to purposes of some importance. They abound with a yellow, unctuous,

tuous, odorous, balsamic juice, which they readily impart, by maceration or digestion, to rectified spirit. The tincture, inspissated, yields a fragrant resin, superiour to many of those brought from abroad, and approach to the nature of storax.

* A species of poplar growing in Siberia and in North America, called by Linnæus *Populus balsamifera*, is said to be much more abundant in balsamic juice than the former, insomuch that the buds give it out on mere expression (*a*).

P R U N E L L A.

PRUNELLA five *Brunella*. *Prunella major folio non dissecto* C. B. *Consolida minor*. *Symphitum minus*. *Prunella vulgaris* Linn. SELF-HEAL: a small plant; with square stalks; oval uncut leaves set in pairs on pedicles; and short thick spikes of purplish labiated flowers. It is perennial, grows wild in pasture grounds, and flowers in June and July.

THIS herb is recommended as a mild restraining and vulnerary, in spitTINGS of blood, and other hemorrhagies and fluxes: and in gargarisms against aphthæ and inflammations of the fauces. Its virtues do not appear to be very great: to the taste it discovers a very slight astringency or bitterishness; which is more sensible in the flowery tops than in the leaves; though the latter are generally directed for medicinal use.

P R U N U S.

PRUNUS: a tree with pentapetalous white flowers; each of which is succeeded by a round-

* (*a*) Bergius, *Mat. Med.* 804.

ish or oval fruit, standing on a long pedicle, composed of a fleshy pulp including a flat stone pointed at both ends.

1. PRUNUS HORTENSIS. *Prunus domestica* Linn. Garden plum tree: without prickles; bearing a sweet fruit. Three sorts of this fruit are ranked among the articles of the materia medica: they are all met with in our gardens, but the shops are supplied with them, moderately dried, from abroad. 1. PRUNA BRIGNOLENSIA. *Pruna ex flavo rufescentia mixti saporis gratissima* C. B. The Brignole plum or prunelloe, brought from Brignole in Provence, of a reddish yellow colour, and a very grateful sweet subacid taste. 2. PRUNA GALLICA Ph. Lond. & Edinb. *Pruna parva dulcia atro-cerulea* C. B. The common or French prunes, called by our gardeners the little black damask plum. 3. PRUNA DAMASCENA: *Pruna magna dulcia atro-cerulea* C. B. Damsons, the larger damask violet plum of Tours: this is seldom kept in the shops, and has been generally supplied by the common prune.

All these fruits possess the same general qualities with the other summer fruits. The prunelloes, in which the sweetness has a greater mixture of acidity than in the other sorts, are used as mild refrigerants in fevers and other hot indispositions, and are sometimes kept in the mouth for alleviating thirst in hydropic cases. The French prunes and damsons are the most emollient, lubricating and laxative: they are taken by themselves for gently loosening the belly in costive habits and where there is a tendency to inflammation: decoctions of them afford an useful basis for laxative or purgative mixtures,

mixtures, and the pulp in substance for electuaries.

2. PRUNUS SILVESTRIS *Pharm. Lond. & Edinb. & C. B. Acacia Germanorum. Prunus spinosa Linn.* Black thorn or sloe: a prickly bush, common in hedges, producing austere fruit, somewhat smaller than an ordinary cherry.

THE fruit of the sloe bush is so harsh and austere, as not to be eatable till thoroughly mellowed by frosts. The juice expressed from it while unripe, or before it has been thus mellowed, inspissated by a gentle heat to dryness, is called German acacia, and has been usually sold in the shops for the Egyptian juice of that name; from which it differs in being harder, heavier, darker coloured, of a sharper or tarter taste, and more remarkable in this, that it gives out its astringency in good measure to rectified spirit as well as to water, whereas that of the Egyptian acacia is not at all dissoluble in spirit. A conserve of this fruit is likewise prepared in the shops, by mixing the pulp with thrice its weight of double-refined sugar: the sloes being previously steeped in water, over the fire, with care that they do not burst, till they are sufficiently softened to admit of the pulp being pressed out through a sieve. In some places, the unripe sloes are dried in an oven, and then fermented with wines or malt liquors, for a restringent diet drink in alvine and uterine laxities.

The bark, both of the branches and of the roots, is said to have been given with success in intermitting fevers, and by some stands recommended as equal to the Peruvian bark. It is apparently a strong styptic; and its styptic matter is of that kind which is not easily extracted by watery menstrua.

R 4

The

Conserv.
pruni sylvestris. *Ph. Lond.*
prunor sylvestrium *Ph. Ed.*

The flowers, in smell very agreeable, and in taste bitterish, appear to have a laxative virtue, like those of the peach tree or the damask rose. They impregnate water, by distillation, strongly with their fragrance; and give out their active matter, by infusion, both to water and spirit. The watery infusion, sweetened with sugar, or made into a syrup, is said to be a very useful purgative for children.

PSYLLIUM.

PSYLLIUM Pharm. Paris. Pulicaris herba Lugdun. Psyllium majus erectum C. B. Plantago Psyllium Linn. FLEAWORT: an herb of the plantain kind, differing from the common plantains in being annual, and having its stalks branched, with leaves upon them, which are long, slender, and somewhat hairy. It grows wild in the warmer parts of Europe, and is sometimes raised in our gardens. The seeds have been usually brought from the south of France: they are small, smooth, slippery, of a shining brown colour, of an oblong flattish figure supposed to resemble that of a flea, whence the name of the plant.

THE seeds of fleawort have a nauseous mucilaginous taste, and no remarkable smell: a dram renders near a pint of water slimy and yellowish: the decoction, inspissated, leaves a strong dark brown mucilage, which impresses on the palate an unpleasant, weak, but penetrating acrimony. This mucilage has been employed chiefly in emollient glysters, in gargarisms for hoarseness and asperity of the fauces, and in external applications for chaps of the lips and inflammations of the eyes. Prosper Alpinus re-
lates,

lates, that among the Egyptians, the mucilage or an infusion of the seeds is given internally, in ardent fevers; and that it generally either loosens the belly or promotes sweat. The particular virtue of these seeds, or whatever virtue they may have distinct from that of mucilaginous substances in general, appears to reside in the acrid matter, which may be separated from the mucilaginous by rectified spirit: the seeds, digested in rectified spirit, give out their acrimony and ill taste, and yield afterwards to water an almost insipid mucilage.

PTARMICA.

PTARMICA, *Pseudopyrethrum*, *Pyrethrum silvestre*, *Draco silvestris*, *Tarchon silvestris*, *Sternutamentoria*: *Dracunculus pratensis serrato folio* C. B. *Achillea Ptarmica* Linn. SNEEZEWORD or BASTARD PELLITORY: a plant with long narrow leaves finely ferrated about the edges, and radiated discous white flowers set in form of umbels on the tops of the branches. It is perennial, grows wild on heaths and in moist shady grounds, and is found in flower from June to the end of summer.

THE roots of this plant have a hot biting taste, approaching to that of pyrethrum, with which they nearly agree also in their pharmaceutic properties, and to which they have been sometimes substituted in the shops. They are by some recommended internally as a warm stimulant and attenuant; but their principal use is as a masticatory and sternutatory.

PULEGIIUM.

P U L E G I U M.

PENNYROYAL: a plant of the mint kind; differing from the mints strictly so called, in the flowers being disposed, not in spikes on the tops, but in thick clusters, at distances, round the joints of the stalks; and the upper segment of the flower not being nipped at the extremity.

1. PULEGIUM *Pharm. Lond. & Edinb. Pulegium latifolium C. B. Mentha palustris sive pulegium Pharm. Paris. Pulegium regium Ger. emac. Mentha pulegium Linn.* Common pennyroyal: with somewhat oval obtuse leaves, and trailing stalks, striking root at the joints. It grows wild on moist commons and in watery places, and flowers in June.

2. PULEGIUM ERECTUM: *Pulegium erectum officinarum Dale: Pulegium mas Ger. emac.* Upright pennyroyal; with the stamina standing out from the flowers; said to be a native of Spain, common in our gardens, and usually substituted in our markets to the foregoing species.

3. PULEGIUM CERVINUM: *Pulegium angustifolium C. B. Mentha aquatica satureiæ folio Tourn. Mentha cervina Linn.* Harts pennyroyal, with small oblong narrow leaves; said to grow wild about Montpellier.

ALL the pennyroyals are warm pungent herbs, somewhat similar to mint, but more acrid and less agreeable both in smell and taste, less proper in common nausæa and weakness of the stomach,

mach, more efficacious as warm carminatives and deobstruents in hysteric cafes and disorders of the breast : the last species is the strongest, though least ungrateful, of the three. Their active principle is an essential oil ; of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly-rectified spirit ; in taste very pungent, and of a strong smell ; when newly drawn, of a yellowish colour with a cast of green ; by age turning brownish. The oil, and a simple† and spirituous‡ water strongly impregnated with it, by drawing off a gallon of water or proof spirit from a pound and a half of the dry leaves, are kept in the shops.

Ol. pulegii
essent. Ph.
Lond.

Aq. pulegii
Ph. Lond. &
Ed. †
Spirit. pu-
legii Ph.
Lond. †

PULMONARIA.

PULMONARIA MACULOSA. *Symphytum maculosum sive pulmonaria latifolia* C. B. *Pulmonaria officinalis* Linn. SPOTTED LUNGWORT, JERUSALEM COWSLIPS, JERUSALEM SAGE : a hairy scabrous plant, with the leaves of a dark brownish green colour on the upper side and spotted for the most part with white, underneath of a paler green, the lower oval and set on broad pedicles, those on the stalks narrower, long-pointed, set alternately, without pedicles : the flowers are monopetalous, cut into five sections, of a purple or blue colour, and sometimes white, followed each by four seeds inclosed in the cup. It is perennial, grows wild in several parts of Europe, and flowers in our gardens in April and May.

The leaves of pulmonaria, recommended in hemoptoës, tickling coughs, asperities of the fauces, &c. appear to be of little medicinal virtue.

tue. The dried leaves have hardly any smell; and their taste is just perceptibly mucilaginous, sweetish, and roughish. They seem to be nearly of the same nature with the *adiantum* and *trichomanes*.

* *PULSATILLA*.

PULSATILLA NIGRICANS Stærck, Pharm. Edinb. *Pulsatilla flore minore nigricante* C. B. *Anemone pratensis* Linn. A species of anemone, much resembling the *pulsatilla vulgaris*, or pasque flower, but its flower is less, and of a darker hue. It is a native of the south of Germany, and other neighbouring countries.

All the anemonies have a considerable degree of acrimony; but this seems to possess the largest share. The whole plant when chewed impresses the tongue with a sharp, burning, durable taste. The root is milder than the other parts. On distilling the plant with water, the liquor which comes over is strongly impregnated with its virtues; and the remaining extract is also considerably active.

Dr. Stærck of Vienna, to whom the introduction of so many of the more powerful vegetables is owing, has likewise recommended this to the medical practitioner. From numerous trials, he celebrates its efficacy in various chronic diseases of the eye; in venereal nodes and nocturnal pains; in foul ulcers with caries; in serpigo; and suppressed menses. He relates instances of its curing blindness of many years continuance, by dissipating and dissolving films and obscurities of the cornea. In these cases, its good effects were first indicated by considerable pain excited in the eye. The sensible operation of the medicine was nausea and vomiting,

vomiting, particularly when the distilled water was used; an increased flow of urine; and sometimes gripes and looseness; with increased pain at first in the affected part. From all these circumstances, the pulsatilla seems to be endued with very active and penetrating powers, yet such as may be employed with perfect safety if proper caution be used. The dose of the distilled water to adults is about half an ounce, twice or thrice a day; of the extract, reduced to powder with the addition of sugar, five or six grains. Bergius mentions having given the extract copiously, especially in diseases of the eyes, but without any effect (a).

The Edinburgh college had adopted the distilled water of pulsatilla, but has now changed it for the extract.

Extract. folior. pulsatillæ nigricantis *Pb. Ed.*

PYRETHRUM.

PYRETHRUM Pharm. Lond. & Edinb.
Pyrethrum flore bellidis C. B. Chamæmelum specioso flore, radice longa fervida Shaw afr. Dentaria, herba salivaris, & pes alexandrinus quibusdam. Anthemis Pyrethrum Linn. PELLITORY of SPAIN: a trailing perennial plant; with finely divided leaves somewhat like those of camomile or fennel; and naked thick stalks, bearing each a large flower, which consists of a yellow disk surrounded with petals of a pure white colour on the upper side, and a fine purple underneath: the root, which sinks deep in the ground like a carrot, is of a brownish colour on the outside and whitish within. It is a native of the warmer climates, but bears the cold of our own, and often produces flowers in succession from January to May: the roots also, as Parkinson

(a) *Mat. Med.* 491.

observes,

observes, grow larger with us, than those which the shops are supplied with from abroad.

PELLITORY root has a very hot pungent taste, without any sensible smell. Its pungency resides in a resinous matter, of the more fixt kind; being extracted completely by rectified spirit, and only in small part by water; and not being carried off, in evaporation or distillation, by either menstruum. The spirituous extract is extremely fiery, but in small quantity, scarcely amounting to one twentieth of the weight of the root. The watery infusion is nauseous, but scarcely discovers any acrimony till concentrated by inspissation; when reduced to the consistence of an extract, it proves considerably pungent: the quantity of this extract is commonly five or six times as large as that of the spirituous. The root remaining, after the action of water, yields still with rectified spirit a very fiery extract; whereas that, which has been digested in spirit, yields with water only an insipid mucilaginous substance.

The principal use of pyrethrum, in the present practice, is as a masticatory, for stimulating the salival glands, &c. and evacuating viscid humours from the head and parts adjacent: by this means it frequently relieves tooth-achs, some kinds of head-achs, lethargic complaints, and paralyzes of the tongue. It has sometimes likewise been given internally, from a few grains to a scruple, as a hot stimulant and attenuant, in paralytic and rheumatic disorders.

PYRITES.

MARCASSITA Pharm. Paris. PYRITES or MARCASITE: a hard fossil; striking fire with steel,

steel, copiously, and in large sparks; becoming vitriolic, either by simple exposure to the air, or by calcination and subsequent exposure.

THIS mineral varies extremely in its appearances. It is found of a bright brass yellow, of a greenish, of a grey or whitish colour, and of different intermediate or mixt shades: in masses, rarely of any great size, globular, oblong and flattish, cubical, octoedral, dodecaedral; sometimes covered with a coat or crust, but oftener bare; internally sometimes striated, and sometimes of an even and simple structure (*a*). It is met with in different places of this kingdom, and in most parts of the world; on the surface of the earth, on the sea shores, in clay pits, embedded in earthy and stony bodies of various kinds.

The pyritæ consist, in general, of sulphur, iron, and unmetallic earth: in some, a little copper is joined to the iron; and in some, copper is the prevailing metal. In some, particularly the yellow kind, the quantity of sulphur is large: in others, particularly the white, both the sulphur and metal are in small proportion.

If artificial mixtures of sulphur with iron or copper be gently calcined, the inflammable principle of the sulphur exhales; and its acid remains united with the metal, forming therewith a saline vitriolic compound: a mixture of iron filings and sulphur, moistened with water, suffers a like change without external heat, and if the quantity is large, bursts spontaneously into fire. A resolution of the same kind happens in the natural pyritæ on exposing them to the air and rain; provided, where they are very sul-

(*a*) See Henckel's *Pyritologia oder kiefs-historie*.

phureous,

phureous, a part of the sulphur be previously dissipated by calcination. On this exposure, they all become powdery and acquire a vitriolic taste, the ferrugineous much more easily than those which have any admixture of copper: some shoot out efflorescences of vitriol upon the surface: from others, the saline matter, washed off by rain, is found to consist chiefly of the sulphureous or vitriolic acid. If the pyritæ, even such as have the least sulphureous and metallic impregnation, as those from which the English vitriol is made, be laid in large heaps, they grow hot, and take fire, and emit, during the burning, strong diffusive sulphureous vapours. (a).

The pyritæ, in substance, are never used medicinally; but in their products they are very important. It is from these, that common sulphur is extracted, in Sweden and Saxony; that the native vitriols are produced in caverns of the earth or on its surface; that the greatest quantities of artificial vitriol are prepared; and that the chalybeate mineral waters are supposed to receive their impregnation: see the respective articles.

* QUASSIA.

QUASSIA Pharm. Lond. & Edinb. *Lignum Quassie Amœnit.* Acad. vol. vi. *Bois de Coissi Fermin Surinam.* QUASSY ROOT: the woody root of a tree growing in Surinam, called by Linnæus, *Quassia amara*, of the class and order decandria monogynia in his system. This root is as thick as a man's arm. Its wood is whitish, hard, solid, and tough, becoming yellowish on

(a) Dr. Slare, *Philosophical transactions*, numb. 213.

exposure

exposure to the air. It is covered by a thin, grey, fissured, and brittle bark.

QUASSI ROOT has no sensible odour. Its taste is that of a pure bitter, more intense and durable than that of almost any other known substance. Its watery infusions and decoctions, and its spirituous tinctures, are all almost equally bitter, of a pale yellowish hue, which is not blackened by the addition of martial vitriol. The watery extract is from a sixth to a ninth of the weight of the wood; the spirituous about a twenty-fourth. The bark of the root is reckoned in Surinam more powerful than the wood. The flowers also are a strong bitter.

THE medical use of the quassi has been a considerable time known in Surinam. The flowers were long ago employed by the natives as an excellent stomachic. The root was a secret remedy used by a negro, named Quassi, in the fatal fevers of that country, from whom it was purchased by Dan. Rolander, a Swede, who returned from thence in 1756. Some specimens of the wood and of the fructification were, in 1761, presented by M. Dahlberg to the celebrated Linnæus; who drew up a botanical description of the plant, with an account of its virtues, and published it in the sixth vol. of the *Amæni. Acad.* A confirmation of its medical powers appeared in a letter from Mr. Farley, a practitioner in Antigua, printed in the *Phil. Transact.* vol. lviii. He found it remarkably efficacious in suppressing vomitings, stopping a tendency to putrefaction, and removing fevers. It seemed capable of producing all the good effects of Peruvian bark, without heating. Some further experiments on the quassi are

VOL. II. S contained

contained in a late medical thesis by Dr. Ebeling. He confirms the general account of its virtues, with this additional circumstance, that though its general antiseptic powers were inferior to those of Peruvian bark, yet it preserved bile a longer time from putrefaction. In this circumstance it agrees with another pure bitter, the columbo root.

From these relations, the quassi appears to be a valuable addition to our tonic remedies, and has therefore obtained a place in the last Edinburgh and other pharmacopœias. It may be used either in infusion, or extract: the latter, made into pills, on account of the intense bitterness of the drug, is preferable for delicate stomachs.

QUERCUS.

QUERCUS Lond. & Pharm. Edinb. *Quercus cum longis pediculis* C. B. *Quercus Robur* Linn.

OAK: a large tree, with oblong leaves, widening from the bottom to the extremity, and sinuated or bluntly indented about the edges: the fruit is an acorn, or kernel with a coriaceous covering, inclosed at bottom in a scaly cup. It is a common forest tree in most parts of Europe.

THE bark of the oak is a strong astringent, accompanied with a moderate bitterness, but no remarkable smell or particular flavour: with solution of chalybeate vitriol it strikes an inky blackness. It is said to have been employed with success, not only for restraining hæmorrhagies, and other immoderate evacuations, but likewise in intermitting fevers and in gleet-ing gangrenous wounds and ulcers; in which cases,

cases, an extract made from it is said by some to be equal to that of the Peruvian bark. A decoction of it used as a fomentation is said to have cured a procidentia recti(a). It gives out its virtue both to water and rectified spirit.

QUERCUS MARINA.

QUERCUS MARINA *sive fucus vesiculosus*: *Fucus maritimus sive quercus maritima vesiculas habens* C. B. *Fucus vesiculosus* Linn. SEA WRACK or SEA OAK: a soft, very slippery, marine plant; common upon rocks that are left dry at the ebb tide; with the leaves somewhat resembling in shape those of the oak tree; the stalks running along the middle of the leaves, and terminated by warty bladders containing either air or a slippery fluid. The vesicles begin in March to fill with a thin juice; and about the end of July they burst, and discharge a matter as thick as honey.

DR. RUSSEL relates, that he found this plant an useful assistant to sea water in the cure of disorders of the glands: that he gave it in powder to the quantity of a dram, and that in large doses it nauseated the stomach: that by burning in the open air it was reduced into a black saline powder, which seemed, as an internal medicine, greatly to excel the officinal burnt sponge; which was used with benefit, as a dentifrice, for correcting laxities of the gums; and which shewed a notable degree of detergent virtue by its effect in cleaning the teeth: that the juice of the vesicles, after standing to putrefy, yielded, on evaporation, an acrid pungent salt, amount-

Æthiops vegetabilis
Dr. Russel.

(a) Med. Eff. Edinb. ii. 257.

ing to about a scruple from two spoonfuls: that the putrefied juice, applied to the skin, sinks in immediately, excites a slight sense of pungency, and deterges like a solution of soap: that one of the best applications for discussing hardness, particularly in the decline of glandular swellings, is a mixture of two pounds of the juicy vesicles, gathered in July, with a quart of sea water, kept in a glass vessel for ten or fifteen days, till the liquor comes near to the consistence of very thin honey: the parts affected are to be rubbed with the strained liquor twice or thrice a day, and afterwards washed clean with sea water.

* *RADIX LOPEZIANA.*

RADIX INDICA LOPEZIANA Pharm. Edinb. Radix Indica a Joanne Lopez denominata Gaubii Adversar. Cap. vi. Rais di Juan Lopez Lusitanis. The root of an unknown tree, growing, as some assert, at Goa, as others suppose, in Malacca, from whence it is sometimes brought to Batavia. It is met with in pieces of different thickness, some, at least, of two inches diameter. The woody part is whitish, and very light; softer, more spongy, and whiter next the bark, including a denser somewhat reddish medullary part. The bark is rough, wrinkled, brown, soft, and as it were woolly, pretty thick, covered with a thin paler cuticle.

NEITHER the woody nor cortical part has any remarkable smell or taste, nor any appearance of resinous matter. On boiling in water, no odour is emitted; and the strained liquor, which is of a yellow hue, is almost insipid, only impressing the tongue with a very light obscure bitterishness;

bitterishness; and without viscidty. The extract obtained by evaporating the decoction is equally void of sensible activity. Rectified spirit is tinged by the root of a brown colour, but acquires no particular taste. After drawing off the spirit from the tincture, a matter remains resembling balsam, which bubbles and inflames in the fire, and has a bitterish taste, like that of opium.

Though the preceding examination of this root is not favourable to the opinion of its medical powers, yet it is regarded in the East Indies as a medicine of extraordinary efficacy in diarrhœas; and the learned Gaubius, in his *Adversaria*, has published an account of some experiments made with it, which in some degree confirm its reputation. From his own trials, and those of his friends, it appeared most remarkably effectual in stopping colliquative diarrhœas which had resisted the usual remedies. Those attending the last stage of consumptions were particularly relieved by its use. It seemed to act not by any astringent power, but by a faculty of restraining and appeasing spasmodic and inordinate motions in the intestines. Gaubius compares its action to that of simarouba, but thinks it more efficacious than this medicine.

The mode of exhibiting it in India, is to levigate the root with water on a porphyry till reduced to a fine pulp. In Europe the powder of it has been given with any proper vehicle, in doses from fifteen to thirty grains, repeated three or four times a day: one practitioner found a tincture of it in common spirits equally effectual with the root in substance. Of this, a tea-spoonful was given thrice a day in red wine. The colleges of Edinburgh and Brunswick have

received this root into their catalogues; but it is scarcely yet to be met with in the shops.

RANUNCULUS.

CROWFOOT: a plant with pentapetalous flowers set in five-leaved cups; followed each by a round cluster of naked seeds. It is perennial.

1. **RANUNCULUS.** *Ranunculus pratensis radice verticilli modo rotunda* C. B. *Ranunculus bulbosus* Linn. Bulbous crowfoot, butter flower, gold cup: with a round tuberous root about the size of an olive; the leaves divided commonly into three segments, and these further subdivided; the stalks erect: the flowers of a bright glossy yellow, and their cups turned downwards. It is common in pasture grounds, and flowers in May.

2. **FLAMMULA;** *Ranunculus longifolius palustris minor* C. B. *Ranunculus Flammula* Linn. Smaller water crowfoot or spearwort: with fibrous roots, long narrow leaves acuminate at both ends, and leaning or procumbent stalks. It grows in watery places or moist meadows, and flowers in June.

THE roots and leaves of these plants are of no considerable smell, but in taste highly acrid and fiery. Taken internally, they appear to be deleterious, even when so far freed from the caustic matter, by boiling in water, as to discover no ill quality to the palate. The effluvia likewise even of the less acrid species or varieties cultivated in gardens, when freely inspired, have occasioned headaches, anxieties, vomitings, and spasmodic

spasmodic symptoms. The leaves and roots, applied externally, inflame and exulcerate or vesicate the part, and are liable to affect also the adjacent parts to a considerable extent(*a*): they have sometimes, particularly among empirics and the common people, supplied the place of the far safer and not less effectual vesicatory, cantharides, for procuring an ulcer and discharge of serum, in sciaticas and some fixt pains of the head. Their pungency is diminished by drying, and by long keeping seems to be dissipated or destroyed.

RAPHANUS.

RAPHANUS RUSTICANUS Pharm. Lond. & Edinb. & C. B. Cochlearia folio cubitali Tourn. Cochlearia Armoracia Linn. HORSE-RADISH: a plant resembling scurvygrass in the flowers and seeds, but differing in the leaves being very large and long, and indented about the edges. It is sometimes found wild about the sides of ditches and rivulets, but for medicinal and culinary uses is cultivated in gardens. It is perennial, flowers in June, rarely perfects its seeds, and is propagated from transverse cuttings of the roots.

HORSE-RADISH root affects the organs both of taste and smell with a quick penetrating pungency: it nevertheless contains in certain vessels a sweet juice, which sometimes exudes in little drops upon the surface. Its pungent matter is of a very volatile kind; being totally dissipated in drying, and carried off in evaporation or

(*a*) Willis, *Pharmaceutice rationalis*, P. II. sect. iii. cap. 3.

distillation both by water and rectified spirit: as the pungency exhales, the sweet matter of the root becomes more sensible, though this also is in great measure dissipated or destroyed. It impregnates both water and spirit, by infusion or by distillation, very richly with its active matter: in distillation with water it yields a small quantity of essential oil exceedingly penetrating and pungent. This root appears therefore to agree with scurvygrass and cresses, and to differ from mustard seed to which it is by some resembled, in the volatility of its pungent matter, and its solubility in spirit.

Horseradish is a moderately stimulating, aperient, and antiseptic medicine: it sensibly promotes perspiration, urine, and the expectoration of viscid phlegm, and excites appetite when the stomach is weakened or relaxed, without being so liable to produce immoderate heat, or inflammatory symptoms, as the stimulants of the aromatic kind. It is principally used in paralytic and rheumatic complaints, in scurvies and scorbutic impurities of the humours, in cachectic disorders, and in dropsies, particularly in those which follow intermitting fevers. Taken in considerable quantities, it provokes vomiting.

RAPUM.

RAPA sativa rotunda C. B. Brassica Rapa Linn. TURNEP; a plant with a round root; jagged leaves, rude to the touch; tetrapetalous flowers, commonly yellow; and small round smooth reddish or blackish seeds lodged in long pods. The garden turnep is supposed to be a variety produced by culture from the smaller sort which grows wild in sandy grounds in some parts of England. It is biennial.

TURNEPS

TURNEPS are accounted a salubrious food ; demulcent, detergent, somewhat laxative and diuretic ; but liable in weak stomachs to produce flatulencies, and prove difficult of digestion : the liquor pressed out from them after boiling, is sometimes taken medicinally, in coughs and disorders of the breast. The seeds have been accounted alexipharmac or diaphoretic : they have no smell, but discover to the taste a mild acrimony, seemingly of the same nature with that of mustard seed, though far weaker.

RHABARBARUM.

RHUBARB : a plant with large dock-like leaves, among which arises a single thick stalk bearing loose clusters of naked monopetalous bell-shaped flowers divided into six segments : each flower contains nine stamina (whereof the docks strictly so called have but six), and is followed by a triangular seed surrounded about the edges with a leafy margin.

I. RHABARBARUM *Pharm. Lond. Rheum Pharm. Edinb. Lapathum orientale folio latissimo undulato & mucronato Mill. dict. Rheum undulatum foliis subvillosis, petiolis æqualibus Linn.* Rhubarb : with the leaves somewhat heart-shaped, acuminate, and slightly hairy, and the pedicles plano-convex. It is a native of China and Siberia, and has lately been raised in some of our gardens, where it is found to grow with vigour in the open ground (a).

Two

(a) The plant above described is that which is generally reckoned the true rhubarb plant, having been produced from the seeds, sent from Russia, as those of the true rhubarb to Jussieu at Paris, Rand at Chelsea, and Linnæus at Upsal.

Two sorts of rhubarb roots are met with in the shops. The first is imported from Turkey and Russia, in roundish pieces, freed from the bark, with a hole through the middle of each, externally of a yellow colour, internally variegated with lively reddish streaks. The other, which is less esteemed, comes immediately from the East Indies, in longish pieces, harder, heavier, and more compact than the foregoing. The first sort, unless kept very dry, is apt to grow mouldy and worm-eaten: the second is less subject to these inconveniencies. Some of the more industrious artists are said to fill up the worm holes with certain mixtures, and to colour the outside of the damaged pieces with powder of the finer sorts of rhubarb, and sometimes with cheaper materials. The marks of the goodness of rhubarb are, the liveliness of its colour when cut; its being firm and solid, but not flinty or hard; its being easily pulverable, and appearing when powdered of a fine bright yellow colour; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth. Its taste is subacid, bitterish, and somewhat styptic; the smell, lightly aromatic.

Rhubarb is a mild cathartic, and commonly looked upon as one of the safest and most innocent of the substances of this class. Besides

Upsal. Dr. Hope received lately rhubarb seeds from the same country, which being sown in the open ground at Edinburgh, produced a different species, *Rheum palmatum Linnæi*, with the leaves deeply cut into pointed segments. He observes that the root of this plant, though taken up too young, and at an improper season, viz. in July, agreed perfectly with the best foreign rhubarb, in colour, smell, taste, and purgative quality. See *Philosoph. Transact.* vol. lv. for the year 1765.—Perhaps the roots of both species may be of the same quality, and taken promiscuously.

its

its purgative virtue, it has a mild astringent one, discoverable by the taste, and by its striking an inky blackness with chalybeate solutions: hence it is found to strengthen the tone of the stomach and intestines, to leave the belly costive, and to be one of the most useful purgatives in diarrhœas, dysenteries, and all disorders proceeding from a debility and laxity of the fibres: it is frequently indeed given with a view rather to this stomachic and corroborating virtue, than to its producing any considerable evacuation. It tinges the urine of a high yellow colour.

Rhubarb in substance purges more effectually than any preparation of it: the dose is from a scruple to a dram. By roasting it with a gentle heat, till it becomes easily friable, its cathartic power is diminished, and its astringency supposed to be increased. Rhabarb.
torrefactum.

In its habitude to menstrua, it differs remarkably from most of the other cathartic drugs, its purgative virtue being extracted far more perfectly by water than by rectified spirit: the root remaining after the action of water is almost, if not wholly, inactive; whereas, after repeated digestion in spirit, it proves still very considerably purgative: the colour of both tinctures is a fine deep yellow, that of the spirituous palest; when the rhubarb has given out to spirit all that this menstruum can extract, it still imparts a deep colour, as well as a purgative impregnation, to water. The watery infusion, in being inspissated by a gentle heat, has its virtue so much diminished, that a dram of the extract is said to have scarcely any greater effect than a scruple of the root in substance: the spirituous tincture looses less; half a dram of this extract proving moderately purgative, though scarcely more so than an equal quantity
of

of the powder. The spirituous extract dissolves almost wholly in water; and hence the tincture does not, like the spirituous infusions of most other vegetables, turn milky on being mixed with aqueous liquors: of the watery extract, scarce above one fourth is dissolved by rectified spirit, and the part that does not dissolve proves more purgative than that which does.

Infus. rhei
Pb. Ed.

Tinct. rha-
barb. comp.
Pb. Lond.

* A watery infusion is directed in the Edinburgh pharmacopœia, made by infusing half an ounce of rhubarb for a night in eight ounces of boiling water, and adding to the strained liquor one ounce of spirituous cinnamon water. The London has a more compound and warmer infusion, in which an ounce of rhubarb, with a dram of ginger, a dram of saffron, and two drams of liquorice root, are digested for a fortnight in half a pint of water and six ounces of proof spirit.

† Tinct. rha-
barb. vinum
Rhabarb.
Pb. Lond.

‡ Vinum rhei
Pb. Ed.

|| Tinct. rhei.

§ Tinct. rhei
dulcis.

Tinctures of this root are drawn in the shops with proof spirit and with mountain wine. The London college directs an ounce of rhubarb with two drams of cardamom seeds, and one of saffron (*a*), for a pint of each tincture†: that of Edinburgh, orders for the vinous tincture, two ounces of rhubarb and one dram of canella alba to be infused in fifteen ounces of mountain wine, and two of proof spirit‡; for the simple spirituous tincture, three ounces of rhubarb, and half an ounce of lesser cardamom seeds, to two pounds and a half of proof spirit||; in which, sometimes are dissolved, four ounces of fugar candy§; and a compound tincture, com-

(*a*) Saffron does not appear to be a vety proper ingredient in these preparations, as it renders the taste rather more unpleasant; nor indeed does rhubarb seem, for general use, to want any aromatic addition.

posed

posed of two ounces of rhubarb, half an ounce of gentian, one dram of snakeroot, and two pounds and a half of proof spirit ††. These preparations are used chiefly as mildly laxative corroborants, in weakness of the stomach, indigestion, diarrhœas, colicky and other like complaints. The last tincture is, in many cases, an useful assistant to the Peruvian bark in the cure of intermittents.

†† Tinct.
rhei amara
Ph. Ed.

The Turkey rhubarb is, among us, universally preferred to the East India sort, though this last appears to be for some purposes at least equal to the other. It is manifestly more astringent, but has somewhat less of an aromatic flavour. Tinctures made from both with equal quantities of rectified spirit, have nearly the same taste: on drawing off the menstrua, the extract left by the tincture of the East India rhubarb proves in taste considerably stronger than the other. Both sorts appear to be the produce of the same climate, and the roots of the same species of plant, taken up probably at a different season, or cured in a different manner.

2. RHAPONTICUM *Pharm. Paris. Rhabarbarum dioscoridis* & *antiquorum Tourn. Rhaponticum folio lapathi majoris glabro C. B. Rheum Rhaponticum Linn.* Rhapontic: with smooth roundish leaves, and somewhat channelled pedicles. It grows wild on the mountain Rhodope in Thrace, from whence it was brought into Europe by Alpinus about the year 1610: it bears the hardest winters of this climate.

The root of this plant, which appears to have been the true rhubarb of the ancients, is by some confounded with the modern rhubarb, though considerably different from that root in appearance as well as in quality. The rhapontic

tic is of a dusky colour on the surface, and a loose spongy texture; more astringent than rhubarb, and less purgative: in this last intention two or three drams are required for a dose.

* RHODODENDRON.

RHODODENDRON CHRYSANTHEMUM, Pharm. Edinb. *Rhododendron Chrysanthum* Linn. *syft. veg. ed. xiv.* This plant, which is a new species of the *rhododendron* of Linnæus, discovered by Professor Pallas, is a shrub growing near the tops of the high mountains named Sajanes, in the neighbourhood of the river Jenisea in Siberia.

It is called by the natives of the place *chei*, or tea, from their commonly drinking a weak infusion of it, as we do the Chinese plant of that name. A stronger preparation of it is, however, used by them as a powerful medicine in arthritic and rheumatic disorders. For this purpose, they take about two drams of the dried shrub, stalk and leaves together, and infuse it in nine or ten ounces of boiling water for a night, in the heat of an oven. This is drunk next morning for a dose; which occasions heat, a degree of intoxication, with a singular uneasy kind of sensation, and a sort of *vermiculation* in the affected parts. The patient is not permitted to quench the thirst this medicine occasions, as liquids, especially cold water, would produce vomiting, and diminish the effect of the remedy. In a few hours, all disagreeable symptoms go off, commonly with two or three stools; and the patient finds his disease greatly relieved. A repetition of the dose twice or thrice generally completes the cure. This is the substance of the account given in a letter from
Dr.

Dr. Guthrie, of Petersburg, to Dr. Duncan, *Med. Comment.* vol. v. p. 434.

The rhododendron has been since tried by Dr. Home in the infirmary at Edinburgh; and the result of his trials, as published in his *Clinical Cases and Experiments*, is, that it is a very powerful sedative, remarkably diminishing the frequency of the pulse; but that it was not peculiarly efficacious in removing the acute rheumatism.

RICINUS.

RICINUS & *ricinoides*: large plants, with small flowers in clusters, and the fruit growing at a little distance from, or succeeding only a few of, the flowers: the fruit consists of three capsules, containing each a single seed, flattened on one side, generally about the size of a small bean, composed of a thin skin or shell including an oily kernel.

1. *RICINUS Pharm. Lond. & Edinb. PALMA-CHRISTI Pharm. Paris. Cataputia major, cherva major, kiki, & granum regium quibusdam: Ricinus vulgaris C. B. Ricinus communis Linn.* Palma-christi, Mexico seed: with the fruit triangular, the seed furnished with a little knob at one end, externally variegated with blackish and whitish streaks, resembling both in shape and colour the insect *ricinus* or tick.

2. *RICINOIDES, seu pineus purgans, vel pinbones indici Pharm. Paris. Carcas, nux barbadensis, & faba purgatrix quibusdam: Ricinus americanus major semine nigro C. B. Jatropha Curcas Linn.* Barbadoes nut: with an oval walnut-like fruit, and oblong black seeds.

3. *AVELLANA*

3. AVELLANA PURGATRIX C. B. *Nuces purgantes* Ger. *Jatropha multifida* Linn. Purging nut: with oval fruit, and roundish, somewhat triangular, pale brownish seeds.

4. TIGLIUM, *grana tiglia*. *Pinus indica nucleo purgante*, & *lignum moluccense foliis malvæ, fructu avellanæ minore, cortice molliore & nigricante, pavana incolis* C. B. *Croton Tiglium* Linn. Grana tilia: with roundish fruit, and dark greyish seeds in shape nearly like those of the first species.

THE first of these plants is said to be found wild in some of the southern parts of Europe: it is biennial. The others are middling sized trees, natives of America and the East Indies, from whence the seeds are sometimes brought to us.

THE two first of these seeds are sweetish, nauseous, and acrid: the third has scarcely any acrimony, and tastes nearly like almonds: the fourth is intensely hot and acrimonious. They are all strong evacuants, operating, in doses of a few grains, both upwards and downwards; the sweet species not excepted. The grana tilia are the most violent, too much so to be taken with any tolerable safety; and indeed they all appear too drastic to be ventured on in substance.

They yield upon expression a considerable quantity of oil, impregnated more or less with the taste and the purgative quality of the seeds: of the oil of the grana tilia, Geoffroy limits the dose to one grain, which is probably an error of the press for one dram: that of the Barbadoes nut is said to be taken in America in larger quantities,

quantities, and to purge without much inconvenience.

The oil of the palma-christi, vulgarly called in America castor oil, has been often given from two to four spoonfuls, and found to act as a sufficient mild laxative: it is said to be particularly useful in the dry-belly-ach, and in other disorders where irritating purgatives cannot be borne, and where the common laxatives, on account of the large dose in which they require to be given, are apt to be rejected by the stomach. From such trials as I have made of this medicine, it did not seem to have any peculiar good qualities, or to produce any other effects than may be equally obtained by combining the more common purgatives, as tincture or infusion of senna, with common oil.—It is said that some, or all, of the above oils act as purgatives, when applied externally to the umbilical region.

The wood and leaves of the plants are likewise strong cathartics: Hermann relates, that the wood of the tilia, called *panava* or *pavana*, operates violently, when fresh, in the dose of a scruple or half a dram: that when dried and long kept, it is given to the quantity of a whole dram as a purgative, and in smaller doses as a sudorific. Among us, all these substances are entire strangers to practice (except that the oil of the first species has of late been sometimes made use of;) and, so far as can be judged from the accounts given of them, they have little claim to be received.

* Since the above was written, the *Oleum Ricini* has increased in reputation, and is now a common remedy in calculous, nephritic, bilious, and various other cases. It is, however, liable to the inconvenience of much uncertainty

in its operation, owing, probably, to the different modes of preparing the oil, or its different degrees of genuineness. One spoonful, or half an ounce, is the dose usually begun with.

Dr. Wright, in a paper containing an account of the medicinal plants growing in Jamaica, printed in the *London Medical Journal for 1787*, part iii. gives the following information concerning this oil.

“Castor oil is obtained either by expression or decoction. The first method is practised in England; the latter in Jamaica. It is best prepared in the following manner. A large iron pot or boiler is first prepared, and half filled with water. The nuts are then beaten in parcels in deep wooden mortars, and, after a quantity is beaten, it is thrown into the iron vessel. The fire is then lighted, and the liquor is gently boiled for two hours, and kept constantly stirred. About this time the oil begins to separate, and swims on the top, mixed with a white froth, and is skimmed off till no more rises. The skimmings are heated in a small iron pot, and strained through a cloth. When cold, it is put up in jars or bottles for use. Castor oil thus made is clear and well flavoured, and, if put into proper bottles, will keep sweet for years. The expressed castor oil soon turns rancid, because the mucilaginous and acrid parts of the nut are squeezed out with the oil.

As a medicine, castor oil purges without stimulus, and is so mild as to be given to infants soon after birth to purge off the meconium. All oils are noxious to insects, but the castor oil kills and expels them. It is generally given as a purge after using the cabbage-bath some days. In constipation and belly-ach this
oil

oil is used with remarkable success. It sits well on the stomach, allays the spasm, and brings about a plentiful evacuation by stool, especially if at the same time fomentations, or the warm bath, are used."

R O S A.

ROSE: a prickly bush; with oval serrated leaves, set in pairs along a middle rib, which is terminated by an odd one; producing large elegant flowers, whose cup is divided into five long segments, with a knob at the bottom, which becomes an umbilicated soft fruit full of hairy seeds.

I. ROSA DAMASCENA *Pharm. Lond.* *Rosa pallida Pharm. Edinb.* *Rosa purpurea C. B.* *Rosa centifolia Linn.* The damask rose: with double flowers, of the fine pale red called from them rose-colour.

The pleasant smell of damask roses is of a less perishable kind than that of many other odoriferous flowers, not being much diminished in drying, nor soon dissipated in keeping. They impart their odorous matter to watery liquors both by infusion and distillation: six pounds of the fresh roses impregnate, by distillation, a gallon or more of water strongly with their fine flavour. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyraceous oil, which liquefies by heat and appears yellow, but concretes in the cold into a white mass: an hundred pounds of the flowers, according to the experiments of Tachenius and Hoffman, afford scarcely half an ounce of oil. The oil and water, used chiefly as perfumes and flavour-

Aq. rosæ Pb. Lond.
— *rosar. pallid. Pb. Ed.*

ing materials, are recommended by Hoffman as excellent cordials, for raising the strength and spirits, and allaying pain. They appear to be of a very mild nature, and not liable to irritate or heat the constitution; even the essential oil discovering to the taste but little pungency.

These flowers contain likewise a bitterish substance; which is extracted by water along with the odoriferous principle; which, after this last has been separated by distillation or evaporation, is found entire in the remaining decoction; and which appears to be of a gently purgative nature. The decoction, or a strong infusion of the flowers, made into a syrup with a proper quantity of sugar, proves an useful laxative for children, in doses of a spoonful: of the extract obtained by inspissating the decoction, from a scruple to a dram is said to be sufficient for adults. The college of London directs the syrup to be made, by pressing out the liquor remaining after the distillation of six pounds of damask roses, and boiling it down to three pints; then, after it has settled for a night, adding five pounds of fine sugar, and boiling the mixture to the weight of seven pounds and a half: a spoonful of this syrup appears to be equivalent to about three drams of the fresh flowers. The solutive matter of the flowers is combined also in the same manner, for the purposes of glysters, with brown sugar and honey: towards the end of the boiling down of the strained decoction, an ounce of cummin seeds, bruised a little and tied in a linen cloth, is added; and the liquor afterwards boiled with four pounds of brown sugar and two of honey.

Rectified spirit extracts both the odoriferous and the purgative matter of the damask rose, equally

Syrup. rosæ
Pb. Lond.
 — rosar.
 pallid. *Pb.*
Ed.

Mel. solutiv.

equally with water, or rather more completely. The spirit, distilled off from the filtered tincture, proves lightly impregnated with the fragrance of the flowers, and the inspissated extract retains likewise a part of their flavour along with the bitterish matter. This extract, in quantity smaller, and in taste stronger, may be presumed to be more purgative, than that made with water.

2. *ROSA RUBRA Pharm. Lond. & Edinb.*
Rosa rubra multiplex C. B. *Rosa gallica Linn.*
 The red rose: with double flowers of a deep red colour.

The red rose has very little of the fine flavour admired in the pale sort: to the taste, it is bitterish and subastringent. The astringency is greatest before the flowers have opened, and, in this state, they are chosen for medicinal use as a mild corroborant: the full-blown flowers are probably as laxative as those of the foregoing species, for Poterius relates, that he found a dram of powdered red roses occasion three or four stools, and this not in a few instances, but constantly, in an extensive practice, for several years. The astringency of the buds is improved by hasty exsiccation in a gentle heat: by slow drying, both the astringency and the colour are impaired.

The fresh buds, clipt from the white heels, and beaten with thrice their weight of fine sugar, form an agreeable and useful conserve; which is given in doses of a dram or two, dissolved in warm milk, in weaknesses of the stomach, coughs, and phthysical complaints. Instances are mentioned in the German ephemerides, and in Riverius's praxis, of very dangerous phthysical disorders being cured by

Conserva rosarum Ph. Lond. & Ed.

Saccharum
rosaceum.

the continued use of this medicine: in one of these cases, twenty pounds of the conserve were taken in the space of a month, and in another upwards of thirty pounds. Mixtures of the roses with a larger proportion of sugar are made in the shops into lozenges: one part of the buds clipt from the heels and hastily dried, and twelve parts of fine sugar, are separately reduced into powder, then mixed, and moistened with so much water as will render them of a due consistence for being formed: or the conserve is mixed with as much fresh sugar as is sufficient to bring it to a like consistence, that is, about thrice its own weight.

These flowers give out their virtue both to water and rectified spirit, and tinge the former of a fine red colour, but the latter of a very pale one: the extract obtained by inspissating the watery infusion, is moderately austere, bitterish, and subsaline; the spirituous extract is considerably stronger both in astringency and bitterness. In the shops, seven ounces of the dried rose-buds are infused in five pounds of boiling water; and the infusion made into a syrup with six pounds of fine sugar†, or boiled to a syrupy consistence with seven‡ pounds of clarified honey: the syrup is valued chiefly for its gratefulness and fine red colour: the mixture with honey is used as a mild cooling detergent, particularly in gargarisms for inflammations and ulcerations of the mouth and tonsils. The infusions acidulated with a little vitriolic acid, and sweetened with sugar, make a grateful, cooling, restringent julep, which is sometimes directed in hectic cases and hemorrhagies, and along with boluses or electuaries of Peruvian bark, and sometimes is used as a gargarism: the college of London orders two pints and a half of

† Syrup. e
rosis ficcis
Ph. Ed.
Mel. rosæ
‡ *Ph. Lond.*

Infus. rosæ
Ph. Lond.

of boiling water, mixed with three drams of dilute vitriolic acid to be poured on half an ounce of the fresh buds, and an ounce and an half of fine sugar to be dissolved in the strained infusion: that of Edinburgh orders two pounds and a half of water, and half a dram of the acid, to half an ounce of the dry buds and an ounce of sugar.

Infusum
vulgo Tinct.
rosarum Ph.
Ed.

3. CYNOSBATUS Pharm. Lond. *Rosa silvestris vulgaris flore odorato incarnato C. B. Rosa silvestris inodora seu canina Park. Cynorrhodon. Rosa canina Linn.* Dog-rose, wild briar, hipp-tree: with single pentapetalous flowers, of a whitish colour mixed with various shades of red. It is one of the largest plants of the rose kind; grows wild in hedges; and flowers, as the garden forts, in June.

The flowers of this species, of an agreeable but weak smell, and in taste bitterish and roughish, are said to have a greater degree of laxative virtue than those of the damask rose, together with a mild corroborating or restraining quality. The fruit, the only part of the dog-rose made use of in medicine among us, is agreeably dulco-acid, and stands recommended as a cooling restraining, in bilious fluxes, sharpness of urine, and hot indispositions of the stomach: the fresh pulp is made in the shops into a conserve, by mixing three ounces of it with five of fine sugar. The pulp should be separated with great care from the rough prickly matter which incloses the seeds; a small quantity of which, retained in the conserve, is apt to occasion an uneasiness at the stomach, pruritus about the anus, and sometimes vomiting.

Conf. cynos-
bati Ph. Lond.

ROSMARINUS.

ROSMARINUS Pharm. Lond. & Edinb.
Rosmarinus hortensis angustiore folio C. B. *Libanotis coronaria quorundam*. *Rosmarinus officinalis* Linn. ROSEMARY: a large shrubby plant, clothed with long narrow stiff leaves, set in pairs, of a dark green colour above and hoary underneath; producing pale bluish labiated flowers, which stand in clusters round the stalk in the bosoms of the leaves. It is a native of the southern parts of Europe, common in our gardens, and seems to grow larger and more woody in this than in most other countries. It flowers in April and May, and sometimes again about the end of August.

ROSEMARY is a warm pungent aromatic; particularly useful in phlegmatic habits and debilities of the nervous system; of the same general nature with lavender, but with more of a camphorated kind of pungency, and of a stronger, and to most people less grateful, smell. The tender tops are the strongest both in smell and taste, and next to these the cups of the flowers; which last, though somewhat weaker than the leaves or tops, are nevertheless the most pleasant, and hence are generally preferred: it is chiefly, if not wholly, in the cup, that the active matter of the flower resides; for the bluish petalum, carefully separated, has very little smell or taste. The fragrance of these flowers is greatly diminished, or in great measure destroyed, by bruising or beating; and hence the officinal conserve, formerly made by beating them with thrice their weight of sugar, had very little of the flavour of the rosemary.

The

The leaves and tops of rosemary give out their virtues completely to rectified spirit, but only partially to water: the spirituous tinctures are of a yellowish green colour, the aqueous of a dark greenish brown. Distilled with water, they yield a thin, light, pale coloured essential oil, inclining a little to yellowish or greenish, of great fragrancy; though not quite so agreeable as the rosemary itself: from one hundred pounds of the herb in flower were obtained eight ounces of oil: the decoction, thus divested of the aromatic part of the plant, yields on being inspissated an unpleasant weakly bitterish extract. Rectified spirit likewise, distilled from rosemary leaves, becomes considerably impregnated with their fragrance, leaving however in the extract the greatest share both of their flavour and pungency. The active matter of the flowers is somewhat more volatile than that of the leaves, greatest part of it arising with spirit. The Hungary water, used as a perfume, and sometimes medicinally in nervous complaints, and which is said to have received its name from its being first made public by an empress of that nation who was cured by its continued use of a paralytic disorder, is a strong spirit distilled from fresh rosemary flowers: the college of Edinburgh directs a gallon of rectified spirit to be drawn over in the heat of a water bath from two pounds of the flowers as soon as they are gathered †: that of London takes the tops, and a spirit not quite so strong; putting a gallon of proof spirit to a pound and a half of the fresh tops, and drawing off in the heat of a water bath five pints ‡. The hungary water brought † *Sp. rorismar. Ph. Ed.* from France is more fragrant than such as is generally prepared among us. ‡ *Ph. Lond.*

RUBIA.

RUBIA.

RUBIA Pharm. Lond. & Edinb. Rubia tinctorum sativa C. B. Radix rubra, & erythrodanum quibusdam. Rubia tinctorum Linn. MADDER: a rough procumbent plant, with square jointed stalks, and five or six oblong pointed leaves set in form of a star at every joint: on the tops come forth greenish yellow monopetalous flowers, deeply divided into four, five, or six segments, followed by two black berries: the root is long, slender, juicy, of a red colour both externally and internally; with a whitish woody pith in the middle. It is perennial, and cultivated in different parts of Europe (in some of which it is said to be indigenous) for the use of the dyers: the roots have been brought to us chiefly from Zealand; but those which have for some years past been raised in England, appear superiour to the foreign, both as a colouring and a medicinal drug.

THE roots of madder have a bitterish, somewhat austere taste, and a slight smell, not of the agreeable kind. They impart to water a dark red tincture, to rectified spirit and distilled oils a bright red: both the watery and spirituous tinctures taste strongly of the madder. The root taken internally tinges the urine and milk red; and in the Philosophical Transactions, and the Memoirs of the French Academy of Sciences, there are accounts of its producing a like effect upon the bones of animals with whose food it had been mixed; all the bones, particularly the more solid ones, were changed both externally and internally to a deep red, though neither the fleshy nor the cartilaginous parts

parts suffered any alteration. The bones, so ringed, gave out nothing of their colour either to water or spirit of wine.

This root appears therefore to be possessed of great subtilty of parts, which may possibly render its medical virtues more considerable than they are now in general supposed to be. It has been chiefly recommended as a resolvent and aperient, in obstructions of the viscera, particularly of the urinary organs, in coagulations of blood from falls or bruises, in jaundices, and in beginning dropsies. * It has lately come into reputation as an emmenagogue, and is said to be a very efficacious medicine of this class (a). From a scruple to half a dram of the powder; or two ounces of the decoction, may be given three or four times a day in this intention.

RUSCUS.

RUSCUS C. B. Ruscus myrtifolius aculeatus Tourn. Bruscus oxymyr sine, myrtacantha, myacantha & scopa regia quibusdam. Ruscus aculeatus Linn. BUTCHERS-BROOM OR KNEEHOLLY: a low woody plant, with oblong stiff prickly leaves joined immediately to the stalks: from the middle ribs of the leaves, on the upper side, issue small yellowish flowers succeeded by red berries: the root is pretty thick, knotty, furnished with long fibres matted together, of a pale brownish colour on the outside and white within. It grows wild in woods and on heaths, is perennial and evergreen, flowers in May, and ripens its berries in August.

(a) Home's *Clinical Cases and Experiments*.

THE

THE root of butchers-broom has a sweetish taste, mixed with a slight bitterishness. It stands recommended as an aperient and diuretic, in urinary obstructions, nephritic cases, dropsies, &c. Riverius tells us of an hydropic person who was completely cured by using a decoction of butchers-broom for his only drink, and taking two purges of senna. The virtues of the root are extracted both by water and spirit, and on inspissating the liquors, seem to remain entire behind: neither of the extracts is very strong in taste; the watery the least so.

R U T A.

RUTA Pharm. Lond. & Edinb. Ruta hortensis latifolia C. B. Ruta graveolens Linn.

RUE: a small shrubby plant, with thick bluish green leaves divided into numerous roundish segments: on the tops of the branches come forth yellowish tetrapetalous (sometimes pentapetalous) flowers, followed each by a capsule, which is divided into four partitions full of small blackish rough seeds. It is cultivated in gardens, flowers in June, and holds its leaves all the winter. The markets are frequently supplied with a narrow-leaved sort, which is cultivated in preference to the other, on account of its appearing variegated during the winter with white streaks.

THIS herb has a strong unpleasant smell, and a penetrating pungent bitterish taste: much handled, it is apt to inflame and exulcerate the skin. It is recommended as a powerful stimulant, aperient, antiseptic, and as possessing some degree of an antispasmodic power; in crudities and indigestion, for preserving against contagi-
ous

ous diseases and the ill effects of corrupted air, in uterine obstructions and hysteric complaints, and externally in discutient and antiseptic fomentations. Among the common people, the leaves are sometimes taken with treacle, on an empty stomach, as an anthelmintic. A conserve, made by beating the fresh leaves with thrice their weight of fine sugar, is the most commodious form for the exhibition of the herb in substance.

The virtues of rue are extracted both by water and rectified spirit, most perfectly by the latter: the watery infusions are of a greenish yellow or brownish; the spirituous, made from the fresh leaves, of a deep green, from the dry of a dark yellowish brown colour: the leaves themselves, in drying, change their bluish green colour to a yellow. On inspissating the spirituous tincture, very little of its flavour rises with the menstruum; nearly all the active parts of the rue remaining concentrated in the extract, which impresses on the palate a very warm, subtile, durable pungency, and is in smell rather less unpleasant than the herb in substance. In distillation with water, an essential oil separates; in colour yellowish or brownish, in taste moderately acrid, and of a very penetrating smell rather more unpleasant than that of the herb: a very considerable part of the virtue of the rue remains behind; the decoction, inspissated, yielding, a moderately warm, pungent, bitterish extract. The active matter of this plant appears therefore to be chiefly of the more fixt kind: the essential oil itself is not very volatile, or at least is so strongly locked up by the other principles, as not to be readily elevated in distillation. The seeds and their capsules appear to contain more oil than

Extractum
rutæ Ph.
Lond. & Ed.

than the leaves: from twelve pounds of the leaves, gathered before the plant had flowered, only about three drams were obtained; whereas the same quantity of the herb with the seeds almost ripe yielded above an ounce.

S A B I N A.

SABINA Pharm. Lond. & Edinb. Sabina folio tamarisci dioscoridis C. B. Savina quibusdam. Juniperus Sabina Linn. SAVIN: an ever-green shrub or small tree, clothed with very short narrow leaves so stiff as to be prickly; producing small imperfect flowers, and sometimes, when grown old, bluish black berries like those of juniper, of which the modern botany reckons it a species. It is a native of some of the southern parts of Europe, and raised with us in gardens.

THE leaves and tops of savin have a moderately strong smell, of the disagreeable kind; and a hot, bitterish, acrid taste. They give out great part of their active matter to watery liquors, and the whole to rectified spirit; tinging the former of a brownish, and the latter of a dull dark green colour. Distilled with water, they yield a large quantity of essential oil: Hoffman says, that from thirty-two ounces he obtained full five ounces of oil, and observes that there is no other known vegetable substance, except some of the resinous juices, as turpentine, that affords so much. The oil smells strongly, and tastes moderately of the savin: decoctions of the leaves, freed from this volatile principle by inspissation to the consistence of an extract, retain a considerable share of their pungency and warmth along with their bitterishness, and have likewise some degree of smell,

Ol. essent.
sabinæ Ph.
Ed.

Extractum
sabinæ Ph.
Lond.

smell, but not resembling that of the plant itself. On inspissating the spirituous tincture, there remains an extract consisting of two distinct substances; one yellow, unctuous or oily, bitterish and very pungent; the other black, resinous, tenacious, less pungent, and subastringent.

Savin is a warm stimulant and aperient; supposed particularly serviceable in uterine obstructions, proceeding from a laxity or weakness of the vessels, or a cold sluggish indisposition of the juices. The distilled oil is accounted one of the most potent emmenagogues: it is likewise a strong diuretic, and, as Boerhaave observes, impregnates the urine with its smell. * The powdered leaves have been recommended as a very effectual escharotic for consuming warty venereal excrescences (a).

SACCHARUM.

SUGAR: a sweet substance, of a saline nature; prepared from the juice of an elegant large cane or reed, *arundo saccharifera* C. B. which grows spontaneously in the East Indies and some of the warmer parts of the West, and is cultivated in large plantations in several of the American islands. The expressed juice of the cane is clarified with the addition of lime water, and boiled down to a somewhat thick consistence: being then removed from the fire, the saccharine part concretes into brown coloured masses, *saccharum non purificatum Pharm. Lond.* leaving an unctuous liquid matter called melasses or treacle, from which a little more solid sugar, but of a coarser kind, is obtainable by a repetition of the boiling and clarification. The

(a) *Med. Ess. Edinb.* III. 395.

brown sugar is purified in conical moulds, by spreading, on the upper broad surface, some moist clay; whose watery moisture, slowly percolating through the mass, carries with it a considerable part of the remains of the treacly matter. The clayed sugar, imported from America, is by our refiners dissolved in water, the solution clarified with whites of eggs, and after due inspissation, poured as before into conical moulds, where, as soon as the sugar has concreted, and the fluid part is drained off by an aperture at the bottom, the surface of the loaf is again covered with moist clay. The sugar, thus once refined, *saccharum album* becomes, by a repetition of the process, the double-refined sugar of the shops, *saccharum purissimum Pharm. Lond. & Edinb.* Solutions of the brown or white sugars, boiled down till they begin to grow thick, and then removed into a very hot room, shoot, upon sticks placed across the vessels for that purpose, into brown or white crystals or candy, *saccharum crystallinum*.

SUGAR dissolves by the assistance of heat, in rectified spirit; but greatest part of it separates again in the cold, and concretes into a crystalline form: on this foundation, saccharine concretions are obtained from saturated spirituous tinctures of several of the sweet plants of our own growth; the saccharine part separating when the tincture is set in the cold, while the resinous or other matter extracted from the plant, remains dissolved in the spirit. Solutions of sugar mingle uniformly with those of other saline substances, whether acid, alkaline, or neutral; and make no visible alteration in the infusions of the coloured flowers of vegetables, or other
liquors,

liquors, in which acids or alkalies produce a change of colour or a precipitation. This sweet saline substance appears on all trials completely neutral^{*(a)}; and unites with most kinds of humid bodies, without altering their native qualities: it serves as an intermedium for uniting together some bodies naturally repugnant, as distilled oils and water. On the same principle it impedes the coagulation of milk, and the separation of its butyraceous part.

Sugar, in consequence of this property, is supposed to unite the unctuous part of the food with the animal juices. Hence some have concluded, that it increases corpulence or fatness; others, that it has a contrary effect, by preventing the separation of the oily matter, which forms fat, from the blood; and others, that it renders the juices thicker and more sluggish, retards the circulation, obstructs the natural secretions, and thus occasions or aggravates scorbutic, cachectic, hypochondriacal and other disorders. General experience, however, has not shewn, that sugar produces any of these effects in any remarkable degree: its moderate use appears to be innocent; and perhaps, of all that have yet been discovered, it is the most universally innocent and inoffensive, as well as the most simple, sweet.

Sugar preserves both animal and vegetable substances from putrefaction, and appears to possess this power in a higher degree than the common alimentary salt: I have seen animal flesh preserved by it untainted for upwards of three years. From this property it has been

^{*(a)} An acid of a peculiar kind has been separated from it in small proportion and by a laborious process, in which the nitrous acid is employed as the separating medium.

sometimes applied externally as a balsamic and antiseptic.

The impure brown sugars, by virtue of their oily or treacly matter, prove emollient and gently laxative. The crystals or candy are most difficult of solution, and hence are properest where this soft lubricating sweet is wanted to dissolve slowly in the mouth, as in tickling coughs and hoarseness. The uses of sugar in medicinal compositions, whether for their preservation, for procuring the intended form and consistence, or for reconciling to the stomach and palate substances of themselves disgusting, are too obvious to require being enlarged on.

SAGAPENUM.

SAGAPENUM Pharm. Lond. & Edinb. Serapinum quibusdam. SAGAPENUM: the concrete gummy-resinous juice of an oriental plant, of which we have no certain account, but which appears, from the seeds and pieces of stalks sometimes found among the juice as brought to us, to be of the ferulaceous or umbelliferous kind. The sagapenum comes immediately from Alexandria, either in distinct tears, or run together into large masses; outwardly of a yellow colour, internally somewhat paler and clear like horn; growing soft on being handled, so as to stick to the fingers. It is sometimes supplied in the shops by the larger and darker coloured masses of bdellium broken in pieces; which greatly resemble it in appearance, but may be distinguished by their much weaker smell.

SAGAPENUM has a strong disagreeable smell, somewhat of the leek kind, or like that of a
mixture

mixture of galbanum with a little asafetida; and a moderately hot biting taste. It is one of the strongest of the deobstruent gums, and frequently prescribed, either by itself, or in conjunction with ammoniacum or galbanum, in hysteric cases, uterine obstructions, asthmas, and other disorders. It may be commodiously taken in the form of pills, from two or three grains to a scruple or half a dram: in doses of a dram, it loosens the belly.

On boiling this gummy-resin in water, about three-fourths of it are resolved into a turbid yellowish white liquor, which smells and tastes weakly of the sagapenum. Rectified spirit scarcely takes up above one half, and receives very little colour: the solution smells weakly, and tastes pretty strongly. Both the watery and spirituous solutions lose much, in evaporation, of their taste as well as their smell; the watery loses most, the extract being very considerably weaker than the sagapenum in substance. It is probable that the more active parts are carried off by the watery vapour, but that in the spirituous extract they are only inviscated by the grosser resinous matter: for the water, collected by distillation, is notably impregnated with the flavour of the sagapenum, and discovers likewise a small portion of essential oil; whereas the distilled spirit is almost flavourless.

SALES ALKALINI.

ALKALIES, or ALKALINE SALTS: substances of a very pungent taste; dissoluble in cold water; changing the colours of the blue flowers of vegetables to a green; destroying the acidity of sour liquors, and forming with the acid a neutral compound; precipitating earthy bodies

dissolved in acids (*a*); producing no precipitation or turbidness in solutions of the lixivial salts of vegetables. These lixivial salts are themselves alkalies: and to mingle uniformly with these bodies of their own kind, in a liquid state, is the most commodious and sure mark I can recollect, for distinguishing alkalies, universally, from certain solutions of earthy bodies in acids; some of which have, in a greater or less degree, all the common characters of alkalicity; but on being examined by this criterion, readily betray their composition, by rendering the limpid lixivial liquor milky, and depositing their earth; the acid, which before held the earth dissolved, being absorbed from it by the lixivial salt.

I. SAL ALKALINUS FIXUS. Fixt alkaline or lixivial salt: obtained from the ashes of vegetables, by macerating or boiling them in water, and afterwards evaporating the lye till the salt remains dry. It is fixt and fusible in the fire* (*b*), deliquesces in a moist air, dissolves in equal

(*a*) To this character of alkalicity there is one exception or limitation. Volatile alkaline spirits made completely caustic by quicklime, on being mixed with a solution of calcareous earth in the nitrous or marine acids, occasion no precipitation or cloudiness. If the mixture be exposed for some time to the air, the alkaline spirit gradually loses its causticity; and then precipitates the earth: on blowing into it air from the lungs, through a glass pipe, the precipitation began immediately.

* (*b*) If in fusion a coal falls in, the alkali is resolved into dense white fumes, which act prodigiously on the brain and nervous system, rendering the head weak and benumbed, as in convalescence from some great disease, occasioning impatience and inquietude in every member. *Beaumé.*

its

its weight or less of water, and does not assume a crystalline form (*a*).

FIRST alkaline salts have an acrid fiery taste, and leave in the mouth a kind of urinous flavour. Saturated solutions of them in water corrode the solid parts of animals, dissolve fats and oils into saponaceous compounds, and liquefy almost all the animal humours, except perhaps only milk, which, when heated, they coagulate. Diluted largely with water, and drank warm in bed, they generally excite sweat: if that evacuation is not favoured by external warmth, they operate chiefly by urine, of which, in many cases, as in maniacal and hydropic ones, they frequently procure a copious and salutary discharge: they likewise loosen the belly, and in costive habits, where the direct purgatives or laxatives give only temporary relief, they render the benefit more lasting. They seem in general to act by stimulating and detaching the solids, and resolving the viscidities of the humours; and by these means opening obstructions, or promoting secretion, in all the organs through which they pass. The dose is from two or three grains to fifteen or twenty; in some cases it has been extended to a dram. That they may be given, and continued for some time, with safety, in very considerable doses, appears from the experience of those, who have taken the strong solution of them called soap-lyes for the relief of calculous complaints.

(*a*) Though these salts, as commonly prepared, are never found to shoot into crystals, they do crystallize in part when solutions of them have been exposed for a length of time to the open air. The crystals are far milder in taste, and effervesce more strongly with acids, than the alkali in its common state.

In putrid disorders, and a colliquated state of the humours, these salts have been generally, and I think justly, condemned : for though they have lately been discovered to resist putrefaction both in the fluids and solids of dead animals, yet in living ones they apparently increase the colliquation, with which all putrid diseases are accompanied.

Fixt alkaline salts are obtainable, in greater or less quantity, from almost all vegetables ; excepting perhaps only a few of the volatile acrid kind, as mustard seed. The salts of different plants, in the state wherein they are first extracted from the ashes, are found to differ in degree of strength, and in some other respects, from one another ; many of them containing a portion, and some a very considerable one, of neutral salts of the vitriolic or marine kind (*a*). Purified by calcination, so as that all remains of the oil of the vegetable may be burnt out; and by deliquiation

(*a*) The readiest way of discovering neutral salt in the lixivial salts of vegetables is, by shaking a strong solution of them in a vial with about an equal quantity of rectified spirit of wine. If the salt is purely alkaline, the two liquors, on standing for a moment, will separate from one another ; the spirit rising to the top, and the alkaline solution collecting itself at the bottom, both of them transparent as at first. If neutral salts are mixed with the alkali, though in very small proportion, the spirit produces instantly an opaque milkiness in the lye ; and on standing for a few minutes, a saline matter separates and falls to the bottom, in greater or less quantity, according as the alkali has a greater or less admixture of the neutral salt.

The exact quantity of pure alkali in any kind of lixivial salt or potash may be determined by means of acids. Some alkaline salt known to be pure, as good salt of tartar, is to be melted in an iron ladle, that all remains of watery moisture may be expelled : a certain quantity of this salt, as a dram, weighed out while warm, is to be dissolved in a
little

deliquiation in the air, by which only the alkali dissolves; they are all, except those of some marine plants (see *Natron*), so much alike, as not to be distinguishable, by any known method of trial, from one another.

The salts of the leaves and other herbaceous parts of plants are more difficultly brought to a state of perfect purity than those of the more woody and compact; a portion of oily matter being tenaciously retained, minute indeed, yet sufficient to give a brownish tinge. A salt of this kind is generally prepared, or expected to be prepared from wormwood, sometimes from broom, and sometimes from bean stalks, all which are sufficiently well adapted to this use, their ashes yielding as large a proportion as most of the common herbaceous matters, and their salt seeming to be almost merely alkaline, or free from any considerable quantity of the other kinds of saline matter, of which the ashes of some vegetables contain more than they do of alkaline salt. About London, the shops are usually supplied from the country with the ashes of wormwood ready burnt; but that more of the oil may be consumed than the simple burning

Sal abfinth.

little water, and saturated with any convenient acid, a diluted spirit of salt: the point of saturation is readily and accurately obtained by means of stained paper, as directed in page 19. For the greater facility in trials of this kind, a quantity of the spirit of salt may be so diluted, that sixteen drams of it for instance may exactly saturate the one dram of pure alkali. If then a solution of one dram of any given salt be saturated with the same acid liquor, so many drams or parts of a dram of the acid as are required for the saturation, so many sixteenths or parts of sixteenths of pure alkali does the given salt contain. This appears to be the most simple and commodious, as well as the most accurate way, that has yet been contrived, for determining the alkalicity, or degree of purity, of all kinds of lixivial salts.

of the herb has dissipated, they are further calcined with a red heat, and occasionally stirred, for some hours: the white ashes are then boiled in water, and the filtered lye evaporated to dryness.

Some have endeavoured to retain in the salt as much as possible of the oil, by burning the plant with a close smothering heat, continued no longer than till it is reduced fully to ashes: that is, till the alkaline salt is generated, for these salts do not appear to exist naturally in vegetables. The alkalies thus prepared are of a dark brown colour, and supposed to be much milder and less acrimonious, and more of a saponaceous nature, than those which have been farther divested of oil. But as we now have, in the soda or natron, an alkali as mild as can be wished for, this inelegant, precarious and unfrugal method of suppressing the acrimony of the common alkalies, becomes unnecessary.

Among all the known vegetables, or vegetable productions, there are none from which a pure alkaline salt is obtainable so easily, and in so large a quantity, as from tartar. If red or white tartar be burnt with a moderately strong fire, either in a proper vessel, or wrapped up in wetted brown paper, to prevent the smaller pieces from dropping down through the interstices of the coals on being first injected into the furnace, it soon turns to white ashes, which yield on the first elixation a strong fiery salt†, of a snowy whiteness, amounting to about one fourth the weight of the tartar. The strength of the salt is somewhat further increased, by keeping it melted for some hours in an intense fire; in which operation, if the crucible cracks or is left uncovered, so as that the flame may have any access to the salt, or if a minute portion

† Sal tartari
Pb. Ed.

tion of any inflammable matter is introduced, it assumes, in part at least, a greenish or blue colour, which is commonly looked upon as a mark of its strength.—A pure and strong alkaline solution is obtained, by exposing to the air, in a moist place, either the salt, or the white ashes† of tartar: the alkali imbibes in a few days † Lixivium tartari. so much of the aerial moisture, as to run wholly into a liquor, leaving, how highly soever the salt has been purified before, a considerable quantity of earthy matter. If the liquor be inspissated to dryness, and the dry salt again deliquated in the air or dissolved in pure water, an earthy matter is still left: and even if the filtered solution be kept for a length of time in a close stoppt glass vessel, an earthy substance gradually separates and falls to the bottom.

Alkaline salts are prepared for common uses, in the way of trade, chiefly from wood; of which, in the forests of Germany, Russia, and Sweden, large piles are burnt on purpose. To save the trouble of boiling down the lye, the finer part of the ashes unlixated is in some places tempered with it into the consistence of mortar, which is afterwards stratified with some of the more inflammable kinds of wood, and burnt a second time: in others, the lye is soaked up in dry straw, and this drained and burnt. The impure saline masses, obtained by these or similar methods, are called *Potashes*; the strongest of which has been generally reckoned that brought from Russia (*Cineres russici*) in dark-coloured hard masses, of a very pungent taste, yet containing so much earthy matter as not readily to liquefy or grow moist in the air. This potash is said to be prepared in the first of the ways above-mentioned: but it appears from some late experiments, that another ingredient

redient is made use of in the process; the masses, as brought to us, being found to contain more quicklime than alkaline salt (*a*), and on this depends the great strength and corrosiveness of the Russian potash. For a purer salt, the lye is boiled down in large iron vessels; and the dark-coloured dry salt, which concretes into a hard crust on the sides and bottom of the vessel, is beaten off with a mallet and chisel, and calcined in an oven, with a gradual fire, till it becomes white; in which state it is called, from its pearly appearance, *pearl-ash*. For some years past, we have been supplied chiefly from our American colonies, with compact alkaline masses, much more pure than the above *pot-ashes*, though less so than the *pearl-ash*; prepared by boiling down the lye to dryness, and then increasing the fire till

(*a*) See Dr. Home's *Experiments on bleaching*.—It has been suspected that the matter in Russian potash, which seemed from Dr. Home's experiments to be quicklime, is no other than the earth of the vegetable ashes themselves, which earth, by strong calcination, such as this kind of potash is said to undergo, assumes some of the most striking characters of true quicklime. Since the establishment of the American manufacture, the Russian sort has in this country fallen so much into disuse, that it is very difficult to procure a specimen that can be depended on as genuine. What has been sent to me as true Russian potash (and which indeed has greatly the appearance of what used to be sold under that name) on being elixated with water, leaves a large quantity of earthy matter, greatest part of which dissolves readily in aquafortis. This solution has exactly the same taste with a solution of chalk made in the same acid: on dropping into it a little vitriolic acid, the liquor grows instantly milky, and a copious precipitation ensues. This precipitability by the vitriolic acid is one of the properties of calcareous earths, which the earth of vegetables has not been found to acquire by any degree of calcination; and therefore we may conclude that in the making of this potash real quicklime is mixed, in very large proportion.

the

the salt becomes red-hot, and melts, so as to be conveniently laded out with iron ladles: the troublesome operation of getting off the indurated salt from the boiler is thus avoided; and the strong melting heat, though of short continuance, supplies in great measure the tedious calcination of the salt; for though the inflammable matter, on which the colour depends, is in fusion not consumed, it is burnt to an indissoluble coaly state, so that lyes made from these melted potashes with water are nearly as colourless as those of the whitest pearl-ashes. * The college of Edinburgh, which has discarded the oily alkalies of wormwood, broom, &c. now directs a pure incinerated alkali to be made from pearl-ashes, first burned with a red heat in a crucible, then dissolved in water, cleared by subsidence, and evaporated to dryness in an iron pot. This salt will dissolve in equal its weight in water, and the solution is analogous to the former *oleum tartari per deliquium*. The London college, in their last pharmacopœia, have given the specific appellation of *kali* to the fixed vegetable alkali, in all its varieties; and they order it to be got pure from pearl-ashes, or any other vegetable ashes, by lixiviation in water, colature, evaporation to a pellicle, separation of the neutral salts which will then crystallize, and lastly, evaporation to dryness. It is also allowed to be similarly prepared from burned tartar. For a liquid preparation, this pure salt is set apart in a moist place till it spontaneously deliquesces.

Sal alkalinus
fixus vegeta-
bilis purifi-
catus *Ph. Ed.*

Kali præpar.
Ph. Lond.

Quicklime remarkably increases the activity of all these salts; enabling them, in a liquid or dilute form, to dissolve oils, fats, &c. far more powerfully than either the lime or alkali by themselves; and in a solid or more concentrated one,

Aqua kali
Ph. Lond.

Aqua kali
Pb. Lond.

one, to act as caustics. For these purposes, the London college directs four pints of water to be poured to six pounds of quicklime, which are to stand together for an hour: then as much more water as will make the whole four gallons, with four pounds of alkaline salt, are to be added, and the whole boiled for a quarter of an hour, when it is to be suffered to cool, and strained off. The liquor is known by the name of soap lye, and ought to be of such a strength, that an exact wine pint may weigh just sixteen ounces troy. If it excites any fermentation with acids, more quicklime is to be added. The common lyes of our soft-soap makers are considerably stronger than this: Dr. Pemberton observes, that their lyes will be reduced to the strength here proposed, by diluting them with somewhat less than an equal measure of water. * In the Edinburgh pharmacopœia this preparation is thus directed. Eight ounces of fresh quicklime are put into an iron or earthen vessel with twenty-eight ounces of warm water. When the ebullition is over, six ounces of pure vegetable fixt alkali are added, and after perfect mixture, the vessel is covered and suffered to cool. The matter is then poured into a glass funnel, lined with a linen rag, and is set to drain into a glass bottle as long as any liquor will run. Some more water is then to be poured to the matter in the funnel, which will drain through it; and this is to be repeated till three pounds of liquor are procured, which is to be shaken together, and kept in a well stoppered phial. (a)

Lixivium
causticum
Pb. Ed.

The

(a) Pure alkaline salt requires commonly about twice its weight of quicklime to render it completely caustic. Complete causticity is known by the lye making no effervescence

The dry salt obtained by evaporating these lyes is a strong and sudden caustic: for the greater convenience of using, it is urged in a crucible with a strong fire, till it flows like oil, then poured upon a flat plate made hot, and whilst the matter continues soft, cut into pieces of a proper size and figure, which are kept in a glass vessel closely stopt. It deliquates much sooner in the air, and dissolves more readily in watery liquors, than the milder alkalies, and in this consists its principal inconvenience; being apt to liquefy so much upon the part to which it is applied, as to spread beyond the limits in which it is intended to operate. This inconvenience is avoided, by boiling down the soap lye only to one third† or fourth‡ part, and then, while the liquor continues boiling, sprinkling in, by little and little, so much powdered quicklime as will absorb it so as to form a kind of paste†: or, more accurately, in the proportion of five pounds four ounces, to sixteen pints of the original lye‡: the addition of the lime in substance renders the preparation less apt to liquefy, and hence more easily confinable within the intended limits, but at the same time proportionably more slow in its operation.

*Kali purum
Ph. Lond.*

*Causticum
commune
acerrimum
Ph. Ed.*

† *Causticum
commune
mitius Ph. Ed.*
‡ *Calx cum
kali puro Ph.
Lond.*

2. SAL ALKALINUS VOLATILIS. Volatile alkaline salt: obtainable, by distillation with a strong fire, from all animal matters, from foot, and in small quantity from most vegetables: producible also in animal substances, very plentifully in urine, by putrefaction, and in this

vescence with acids. A redundancy of lime is known, by the lye growing milky on dropping into it a little common alkaline lye, or on blowing into it with the breath through a glass pipe.

case

case separable by distillation with a gentle heat. When the salt is once formed, whether by ignition or putrefaction, it gradually exhales in moderately warm air; and rises sooner in distillation than highly-rectified vinous spirits, condensing about the sides of the recipient into crystalline concretions. It requires for its solution three or four times its weight of water.

These salts are in smell as well as taste very penetrating and pungent: they are the only concrete salts that in their pure state emit sensible effluvia. They dissolve oils, resins, fats, &c. more languidly than the fixt alkalies, on account perhaps of their not being susceptible of any considerable heat, by which their menstrual power might be promoted. In the bodies of animals, they operate more powerfully than the fixt, both as resolvents and stimulants; are more disposed to direct their force to the cutaneous pores, and less to the grosser excretories; and act more remarkably upon the nervous system. They are particularly useful in lethargic and apoplectic cases; in hysterical and hypochondriacal disorders, and the languors, head-achs, inflations of the stomach, flatulent colics, and other symptoms attending those distempers, especially in aged persons and those of a phlegmatic habit: in languors and faintings, their stimulating smell gives oftentimes immediate relief. In some kinds of fevers, particularly those of the low kind, accompanied with a cough, hoarseness, redundance of phlegm, and lentor of the blood, they are of great utility; liquefying the thick juices, raising the pulse, and exciting a salutary diaphoresis. In putrid fevers, scurvies, and wherever the mass of blood is thin and acrimonious, they are hurtful: for, though they powerfully resist the putrefaction

putrefaction of animal substances, that are detached from the vital œconomy, yet, in living animals, one of their primary effects is a colligation of the humours, which in its advanced state is very nearly allied to the advanced state of putrefactive colligation: their immoderate use has brought on high scorbutic symptoms, resembling those of the true putrid scurvy (*a*). These salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as wanted, the salt soon flying off. The dose is from two or three grains to ten, twelve, or more.

The volatile alkalies obtained from different substances appear, like the fixt, to be, in their state of perfect purity, one and the same thing. But as first distilled from the subject, they are largely impregnated with its oil rendered fetid or empyreumatic by the process in which the salt was generated; and as these oils differ from one another in degree of subtility and fetidness, the salts partake of the same differences, till repeated distillations or other processes have either separated the adhering oils, or subtilized and purified them to the same degree. By repeated distillations, all animal oils become limpid as water, lose their fœtor, acquire a penetrating fragrant smell, and a gratefully pungent taste: thus rectified, they are said, by Dippelius, Hoffman, and others, to act, in doses of half a drop, as diaphoretics, anodynes, and antispasmodics. The volatile alkalies used in medicine are expected to be either pure from oil, or to have their oil in this subtilized state.

Oleum animale vulgo.

The oily volatile alkalies have been chiefly prepared from hartshorn, by distillation in large

(*a*) See Huxham's *Dissertation on the malignant sore throat.*

iron pots, with a fire increased by degrees to a strong red heat. At first there arises an aqueous liquor, then the volatile salt, along with a yellowish and at length a dark reddish oil: if the aqueous liquor is not removed before the salt begins to come over, a part of the salt dissolves in it, and thus forms what is called spirit.

The oil, excepting so much of it as is incorporated with the alkali, may be separated from the spirit by filtration through wetted paper, which transmits the spirit and retains the oil. The salt and spirit are then distilled again together, with a very gentle heat, in a glass retort; and the distillation carefully repeated several times, till the salt becomes exceedingly white, and the spirit limpid as water, and of a grateful smell. The salt becomes the sooner pure, if it be separated from the spirit, and sublimed first from an equal weight of pure chalk and afterwards from a little rectified spirit of wine. If the whole of the volatile salt is required in a solid form, it may be recovered from the spirit by sublimation in a tall narrow cucurbit, the salt rising into the head, while the watery fluid remains behind. In all the distillations of the spirit, greatest part of the salt comes over before the phlegm; and the process should be continued no longer than till so much of the phlegm has followed as is nearly sufficient to dissolve it; that a part of the salt remaining undissolved may be a criterion, to the purchaser, of the saturation or strength of the spirit.—A spirit, salt, and oil, are sometimes distilled in the same manner from wood foot, but here more labour is required to render the salt and spirit pure.

Liquor volatilis, sal, & oleum cornu cervi Pb.
Lond.

Though

Though the whiteness and limpidity which the salts and spirits of hartshorn, foot, and other like substances, acquire by the above methods of purification, seem to shew that they are divested of oil; they are nevertheless found to participate still of that principle in no small degree. In long keeping they contract a yellow colour, and at length become again nauseous and foetid; the oil seeming to be more and more extricated, or to lose by degrees of the subtilty and gratefulness which it received from the rectification. The oftener the distillation is repeated, the more permanent is the subtilization of the oil.

The most effectual purification of these salts is obtained, by combining them with mineral acids, and afterwards separating the acid. It is not needful to make such a combination on purpose: for such a one is produced more compendiously, in the way of trade, and called in the shops sal ammoniac: see the following article.

If sal ammoniac be mingled with any fixt alkaline salt, either in the form of powder or solution; its acid will be absorbed by the fixt alkali; and the volatile alkali, thus set at liberty again, will immediately discover itself by its pungent odour, and may be collected perfectly pure by distillation. Eighteen ounces of fixt alkali, and one pound of sal ammoniac, may be distilled with four pints of water in a gentle heat, till two pints are drawn off†: or sixteen ounces each of the two salts may be distilled with two pounds of water, to dryness‡. The volatile alkaline salt may be extricated likewise by means of chalk, but with this difference, that the chalk does not begin to act upon the sal ammoniac, or absorb its acid, till the mixture is considerably heated: one part of the sal

Aqua ammono-
niæ *Ph. Lond.*
Spirit. sal.
ammoniac.
† *Ph. Ed.*

Ammonia
præp. *Pb.*
Lond.

Alcali vola-
tile ex fale
ammon. *vul-*
go fal ammon.
volat. *Pb. Ed.*

ammoniac may be mixed with two of chalk, and the mixture set to sublime in a retort with a strong fire.

Aqua ammo-
niæ puræ *Pb.*
Lond.

Alcali volat.
caust. *Pb. Ed.*

Quicklime, which heightens the pungency of fixt alkalies even to causticity, has a like effect upon the volatile: it renders the fixt more easily liquefiable, and the volatile permanently liquid, preventing their concretion into a solid form: the volatile alkali, like the fixt, in having its activity thus increased by quicklime, loses its power of effervescing with acids; from whence it may be presumed, that the lime acts, on one alkali as on the other, by absorbing their air (see page 255). This pungent volatile spirit may be prepared, by slaking two pounds of quicklime in two pints of water, letting it stand an hour, and then adding a pound of powdered fal ammoniac with six pints of warm water: immediately adapt a recipient, (for the pungent vapours begin to arise on the first contact) and with a gentle heat draw off one pint. *Or two pounds of quicklime may be slaked with one pound of water, and covered till it falls to a powder, which is then to be put in a retort with sixteen ounces of fal ammoniac dissolved in four times its weight of water. The vessels are to be very carefully luted, and with a very gentle heat twenty ounces are to be drawn off. This spirit is held too acrimonious for internal use, and has therefore been chiefly employed in smelling-bottles. It is an excellent menstruum for certain vegetable substances, as Peruvian bark, which the milder spirits extract little from; and when saturated with bodies of this kind, its pungency is so far sheathed, that it may be taken inwardly with as great safety as tinctures made in the other spirits. In long keeping, unless the bottle is quite full

full and very closely secured, it gradually imbibes air, as appears from the effervescence which it raises with acids; and loses proportionably of its pungency.

Some have mixed a quantity of this caustic spirit with the officinal spirits both of sal ammoniac and of hartshorn; which thus become more pungent, so as to bear an addition of a considerable proportion of water without danger of discovery from the taste or smell. This abuse may be detected, by adding to the suspected spirit a quantity of spirit of wine; which, if the volatile spirit is genuine, will precipitate a part of its volatile salt, but has no such effect either on the caustic spirit itself, or on such as is sophisticated with it.

Some have substituted to the spirit a solution of sal ammoniac and fixt alkaline salt: this liquor eludes the above method of trial, as it deposits a saline matter on the addition of spirit of wine, in the same manner as the genuine volatile spirit: it may be distinguished by the matter, thus deposited, being not volatile but fixt; or by a fixt salt being left upon evaporating a little of the liquor; or more compendiously, by adding a drop or two of solution of silver made in aquafortis, which immediately produces a milkiness in the counterfeit, but makes no apparent change in the genuine spirit.

The addition of spirit of wine to volatile alkaline spirit affords means of judging, in some degree, of their strength or saturation as well as of their purity. If the volatile spirit be fully saturated with salt, a quantity of highly-rectified spirit of wine, poured on it slowly down the sides of the glass, in a cool place, produces immediately an opaque dense coagulum on the surface where the liquors touch: on shaking

Offa alba
Helmontii.

them together, the whole becomes a consistent mass, which soon resolves by warmth into a fluid and a solid part. This is supposed by some to be a volatile soap, composed of the alkaline salt of the one spirit and the oily principle of the other; though in effect it is no more than the alkaline salt itself dislodged, by the vinous spirit from the watery fluid in which it was dissolved: the quantity of salt, thus separated, will be in proportion to the strength of the volatile spirit.

Though volatile alkalies, not caustic, appear from the above experiments to be averse to any union with vinous spirits; a solution of them even in rectified spirit is nevertheless obtainable, by adding it, along with water, in the process by which they are extricated from the sal ammoniac. For this purpose, three pints of proof spirit are put to four ounces of sal ammoniac, and six (or less) of any fixt alkaline salt, and one half of the liquor drawn off with a gentle heat†.

† Spirit. ammoniac. *Ph. Lond.*

Or sixteen ounces of quicklime and eight of sal ammoniac are powdered together, and put into a retort with thirty-two ounces of rectified spirit, and the distillation continued till all the spirit is come over‡. This preparation has lately come into esteem both as a medicine and a menstruum.

‡ Spiritus sal. ammon. vinosus *Ph. Ed.*

Mixtures of volatile and vinous spirits, flavoured with different aromatic oils, and other like materials, have long been in general use under the name of *sal-volatile*. The college of London orders a quart of the above dulcified spirit, two drams of essential oil of nutmegs, and the same quantity of essence of lemons, to be mixed together: that of Edinburgh directs a dram and a half of oil of rosemary, and a dram of essence of lemons, to be dissolved in eight ounces of the dulcified spirit. Volatile spirits are impregna-
ted

Spir. ammoniac. comp. *Ph. Lond.*

Spirit. volatil. aromat. *vulgo*
Spir. volatil. oleos. & Spir. salinus aromat. *Ph. Ed.*

ted also in the shops with asafetida, in the proportion of four ounces to five pints†, or one ounce to sixteen ounces‡.

Spir. ammon.
fœtid.

† Ph. Lond.

‡ — volat.

fœt. Ph. Ed.

These kinds of compositions may be made extemporaneously, by dropping any proper essential oils into the dulcified spirit of sal ammoniac, (as now directed above by the London and Edinburgh colleges) which will readily dissolve them without the assistance of distillation. By this method, a sal-volatile may be occasionally prepared, of any particular flavour, or adapted to particular purposes: thus, in hysterical disorders, where the uterine purgations are deficient, a preparation of this kind, made with the oils of rue or savin, proves an useful remedy: in weakness of the stomach, oil of mint may be used; and in flatulent cases, those of aniseeds or sweet fennel seeds: these last remarkably cover the pungency of the volatile spirit, and render it supportable to the palate. The dose of these compounds is from a few drops to sixty or more.

The caustic spirit made with quicklime appears in some cases preferable, for these kinds of compositions, to the other volatile spirits; as being perfectly miscible with rectified spirit of wine, in any proportions, without any separation of its volatile alkaline part; and as being a more powerful menstruum for some difficultly soluble oils. The very penetrating pungent volatile spirit, which has lately come into vogue under the name of *eau de luce*, is said to be made with this caustic spirit, and oil of amber that has been rectified or redistilled till it becomes limpid and loses its smell: one scruple of the oil, so rectified, and ten grains of soap, are directed to be dissolved in an ounce of rectified spirit of wine, and four ounces of the caustic

Spir. ammon.
iæ succinat.
Ph. Lond.

spirit added gradually to this solution: the mixture generally appears milky, and if required limpid may be rendered so by distillation: some tinge it of a fine blue colour, when designed only for smelling to, by adding a drop or two of solution of copper(*a*).

SAL AMMONIACUS.

SAL AMMONIACUS Pharm. Lond. & Edinb. SAL AMMONIAC: a neutral salt; volatile in a moderate heat, but not in that of boiling water; formed by the coalition of volatile alkaline salt with marine acid. On mixing it with a fixt alkaline salt or calcareous earth, and exposing the mixture to the fire, its ingredients are disunited: the volatile alkali exhales, and may be collected in proper vessels (see the foregoing article): and the acid remains combined with the fixt alkali or earth, forming therewith the same compounds as if the pure marine acid had been poured upon them. Hence, in the preceding operations, where the volatile alkali of the sal ammoniac is separated by the intervention of fixt alkalies, the residuum, dissolved and crystallized, is found to be the same with *regenerated sea salt*; and when chalk or lime is used for the intermedium, the residuum affords *calcareous marine salt*: see *Sal communis*.

The other mineral acids form likewise ammoniacal salts with volatile alkali; and it is said, that one made with the vitriolic acid is often substituted to the true officinal one with the marine.—The most obvious character of ammoniacal salts in general is, their yielding a pungent urinous odour on being ground with a

(*a*) Malouin, *Chimie medicinale*, i. 202. ii. 431.

little quicklime. The *marine* sal ammoniac may be distinguished from those made with the other acids, by its emitting white fumes on dropping upon it some oil of vitriol; and by a solution of it in purified aquafortis being able to dissolve gold leaf or a mark made with gold on a touchstone. The *nitrous* sal ammoniac is distinguished, by its deflagrating or flaming when thrown into a red-hot vessel, dissolving in spirit of wine, and yielding red fumes with oil of vitriol. The *vitriolic* is distinguished by a solution of it rendering solution of chalk in aquafortis milky; and by its not being acted upon by oil of vitriol.

SAL AMMONIAC has been hitherto prepared chiefly in Egypt: it is said, that the earth abounds there with marine salt; that grass and other vegetables are sensibly impregnated with this salt; that the dung of graminivorous quadrupeds is used as fuel, and the soot carefully collected; and that from this soot, sal ammoniac is extracted, by sublimation without addition. The salt is brought to us, sometimes in conical loaves, most commonly in large round cakes, convex on one side and concave on the other, appearing when broken of a needled texture, or composed of striæ running transversely and parallel to one another: the internal part is generally pure, and of an almost transparent whiteness; the outside for the most part foul and of a yellowish grey or blackish hue. It is purified, either by sublimation, with a gradual fire, in an earthen cucurbit having a blindhead adapted to it; or, perhaps more perfectly, by solution in water, filtration, and crystallization. It dissolves, in temperately warm weather, in about thrice its weight of

X 4

water,

water, and by the assistance of heat in a much smaller quantity; and crySTALLIZES into long shining spicula, or thin fibrous plates like feathers. In sublimation, especially if the fire is hastily raised, it remarkably volatilizes many kinds of bodies, perhaps all those that are soluble by the marine acid.

This salt has a very sharp penetrating taste. It is a powerful attenuant and deobstruent, seeming to liquefy the animal juices almost like alkaline salts: Boerhaave observes that its liberal and continued use renders the blood so thin as to burst through the vessels, particularly those of the lungs and the urinary organs. In doses of half a dram or a dram, dissolved in water, if the patient is kept warm, it generally proves sudorific: by moderate exercise, or walking in the open air, its action is determined to the kidneys: in larger doses it loosens the belly. It has by some been held a secret for the cure of intermittents; and is undoubtedly, in many cases, as an aperient, an excellent assistant to the Peruvian bark, where that astringent drug by itself would produce dangerous obstructions, or aggravate those already formed. This salt is employed likewise externally as an antiseptic, and in lotions and fomentations for œdematous tumours; as also in gargarisms, for inflammations of the tonsils, and for attenuating and dissolving thick mucus in the mouth and fauces. Saturated solutions of it are said to consume warts.

SAL CATHARTICUS.

PURGING SALT: a salt of a bitter taste; soluble in twice its weight or less of water, and shooting into long prismatic crystals like those
of

of nitre; liquefying and bubbling up in a moderate heat, emitting a large quantity of aqueous vapours, and changing to a white spongy mass, bitterer than the salt at first. It is of two kinds; one a combination of the vitriolic acid with the earth called *magnesia*; the other, a combination of the same acid with the fixt alkali called *natron*. The most obvious criterion of their acid being the vitriolic is, their precipitating chalk dissolved in aquafortis or in other acids.

I. SAL AMARUS *Pharm. Lond.* *Sal catharticus amarus Pharm. Edinb.* *Nitrum calcareum Listero & hydrologis quibusdam.* Purging bitter salt: composed of the vitriolic acid and *magnesia*; distinguishable from that whose basis is an alkali, by solutions of it being turned milky, and depositing their earth, on the addition of any alkaline salt.

This is the salt with which the purging mineral waters are principally impregnated, and on which their purgative quality depends. It was first extracted from the Epsom waters, and has been commonly distinguished, both in this and other countries, by the name of Epsom salt: but those waters yielding the salt very sparingly, and their quantity being insufficient for its great demand, it was sought for elsewhere, and found, in plenty, in the bitter liquor remaining after the crystallization of common salt from sea water; from which it is now generally prepared.

This salt is a gentle purgative, operating in general with ease and safety, yet with sufficient efficacy, and quickly finishing its operation: its passing off hastily, and not extending its action so far as most other purgatives, seems to
be

be its principal imperfection. For a full dose, eight or ten drams may be dissolved in a proper quantity of common water, or four or five drams in a pint or quart of the purging waters; to which may be added a little tincture of cardamom seeds, or some other grateful aromatic, to render the liquor more acceptable to the stomach. These liquors, in smaller doses, pass further into the habit, promote the secretions in general, and prove excellent aperients in sundry chronical disorders.

2. SAL CATHARTICUS GLAUBERI, *vulgo sal mirabile*. Glauber's cathartic salt: composed of the vitriolic acid and the mineral alkali *natron*, and hence suffering no change from an admixture of fresh alkali.

This salt was discovered, by the chemist whose name it bears, in extracting the acid spirit of sea salt by means of the vitriolic acid. When oil of vitriol is poured on sea salt, the marine acid, thereby disengaged from its own alkaline basis, begins immediately to exhale, and by applying heat may be totally expelled; the vitriolic acid remaining combined with the natron or marine alkali. This combination is still procured chiefly in the same manner: to the sea salt is added six tenths† or half‡ its weight of oil of vitriol diluted with water, and the marine acid being distilled off, the residuum is dissolved and crystallized. The smallest of these proportions of oil of vitriol appears to be sufficient for expelling the acid and saturating the alkali of the sea salt; but the larger is more eligible, as the Glauber's salt does not well crystallize unless the acid prevails in the solution.

This salt is nearly of the same medicinal qualities with the foregoing, which frequently supplies

Natron vitriolat. † *Pb.*

Lond.

Soda vitriolata *vulgo sal cath. glauberi*

‡ *Pb. Ed.*

supplies its place in the shops. The Glauber's salt, somewhat the least unpleasant to the taste, is supposed to be the mildest of the two, and to operate the most kindly.

SAL COMMUNIS.

COMMON or CULINARY SALT; called, from its most obvious source, sea salt; though found also, in immense quantities, in the bowels of the earth. It is a perfectly neutral salt, composed of a peculiar acid denominated from it the *marine acid*, and of the mineral alkali *natron*. It dissolves in less than thrice its weight of boiling water, and does not, like the other neutral salts, concrete again in the cold, so long as the evaporation of the fluid is prevented; cold water dissolving nearly as much of this salt as boiling water. By gentle continued evaporation it shoots into cubical crystals, several of which unite together into the form of hollow truncated pyramids. The crystals, exposed to the fire, burst and crackle,† soon after † Sal decre- melt, and appear thin and limpid as water: if pitatum. the salt be melted along with other fusible salts or with vitreous matters, it does not perfectly unite with them, but flows in part distinct upon the surface. After suffering a considerable heat, it liquefies in the air.

I. SAL GEMMÆ. Sal gem, rock salt, fossil common salt. This is met with in several parts of the world, but in greatest plenty in certain deep mines, of prodigious extent, near Cracow in Poland: some is likewise found in England, particularly in Cheshire. It is for the most part very hard; sometimes pure, transparent and colourless; more commonly mixed with earthy

earthy or stony matters, of an opaque whiteness, or of a red, green, blue, or other colours. These last sorts are purified, for the common uses of salt, by solution and crystallization.

2. SAL MURIATICUS *Pharm. Lond.* *Sal marinus hispanus Pharm. Edinb.* The salt extracted from sea water and saline springs. Sea waters yield from one fiftieth to about one thirtieth their weight of pure salt: from several springs much larger quantities are obtained: those in our own country at Nantwich, Northwich, and Droitwich, afford from one sixth to one third their weight. Sea water contains, besides the common salt, a portion of purging bitter salt, and of another saline substance which remains dissolved after the crystallization of the latter, of a very pungent taste, scarce reducible into a crystalline form, composed of marine acid and calcareous earth: from both these salts the spring waters are usually free. There are two general methods of extracting the common salt from these natural solutions of it: the one, a hasty evaporation, continued till the salt concretes and falls in grains to the bottom of the pan, from whence it is afterwards raked out, and set to drain from the bittern: the other, a slow and gradual evaporation, effected in the warmer climates by the sun's heat, by which the salt is formed, not into small grains, but into large crystals, called bay-salt. The salts obtained by these two processes differ in some respects from one another: that got by hasty evaporation, especially if a boiling heat, or one approaching to it, be continued during the time of the salts concreting, is apt to liquefy in a moist air; an inconvenience which the crystallized sort is not subject to: the crystals are found

found likewise to be stronger than the other, and to answer better for preserving provisions. Both sorts prove impure and brown-coloured if the solutions are evaporated directly, but of perfect whiteness if previously clarified by boiling with a little ox blood, or other like substances, which concreting by the heat, inviscate the unctuous matter, and carry it to the surface in form of scum. Both sorts generally retain a portion of the bitter salt; whose basis being an earth, solutions of them deposite this earth on the addition of any alkali.

COMMON SALT differs from other saline substances in occasioning drought, and tending, not to cool, but rather to heat the body. It prevents putrefaction less than most others, and in small quantities, such as are taken with food, promotes it: by this quality it probably promotes also the resolution of the aliment in the stomach, at the same time that it proves a mild stimulus to that viscus itself. Salted animal foods are generally, perhaps justly, accounted one of the principal causes of the scurvy at sea; not that the salt is of itself prejudicial, but on account of its being incapable of preserving the animal subjects, for a length of time, in a perfectly uncorrupted state. Pure sea salt, and sea water, are rather salubrious than hurtful, both in the true scurvy, and in impurities of the blood and humours in general. In considerable doses, they act as purgatives: Hoffman observes, that an ounce of the salt, dissolved in a proper quantity of water, occasions commonly six stools or more, without uneasiness; that this salt checks the operation of emetics, and carries them off by stool; that in glysters it is more effectual, though used only in the quantity of a dram,

dram, than any of the purgatives; and that where other glysters fail of opening the belly, a solution of common salt takes place.

* A remarkable instance of the efficacy of common salt given in very large doses in a worm case, is related in the *Medical Transactions of the London College*, vol. i. A person reduced to the utmost extremity with pain in the stomach, obstinate constipation, and contracted limbs, was advised, after many remedies had been used in vain, to drink salt and water. He drank within an hour two pounds of salt mixed in two quarts of water. It occasioned violent vomiting, which brought up a quantity of small worms, and its operation ended with purging and a profuse sweat. Great rawness and soreness of the gullet and stomach, with unquenchable thirst, and dysury, remained. These symptoms went off by free dilution; and he ventured the third day after to repeat the dose of salt, which had effects similar to the former. A perfect cure was the consequence of this singular practice.

THE common sorts of sea salt, contrary to other neutral ones, part with a little of their acid in the boiling down of solutions of them to dryness (*a*). To this cause are attributed the weakness of the salt prepared by that process,

(*a*) This acid appears to proceed, not from the pure marine salt, but from the calcareous muriatic salt, or a combination of marine acid with earth, which all the common sorts of sea salt are found to partake of. On dropping into a solution of common sea salt a little alkaline lye, the earth precipitates; and the acid, being thus saturated with alkali, is no longer disposed to evaporate on boiling down the liquor.

and

and its disposition to deliquiate in the air; both which imperfections are said to be corrected by a small addition of fresh acid when the salt begins to concrete. Hence also distilled sea water is manifestly impregnated with acid, so as to be unfit for drinking or for the common purposes of life; unless a little chalk, vegetable ashes, or other like substances, be added in the distillation, to absorb and keep down the acid extricated by the heat ^{*}(a): by this means the distilled fluid proves perfectly sweet.

The acid of sea salt is completely disengaged from its alkaline basis by the more powerful acid of vitriol; and may now be collected, in a concentrated state, by distillation; but as, in this concentrated state, its fumes very difficultly condense, a little water is commonly added to promote that effect. On ten pounds of dry sea salt, the college of London directs six pounds of oil of vitriol diluted with five pints of water, that of Edinburgh one pound of oil of vitriol diluted with equal its quantity of warm water, to be poured by little and little, under a chimney, that the operator may not be incommoded by the noxious fumes: the retort is placed in sand, and the distillation performed with a fire gradually increased till nothing more will arise. The spirit may be freed from its superfluous water, by a second distillation in a glass cucurbit; the phlegmatic part rising in a proper degree of heat, while the stronger acid

Acidum muriaticum *Ph. Lond.*
Acidum muriaticum *vulgo spir. sal. marin. Ph. Ed.*

^{*}(a) This assertion is contradicted by the success of some late attempts to supply ships with fresh water by the distillation of sea water. In these, good sweet water was obtained merely by fitting an apparatus to the ships' boilers in which salt water was used for common purposes. See, particularly, *Phipp's Voyage towards the North Pole*.

remains

remains behind. The distilled spirit proves nearly the same, whether the larger or smaller of the above proportions of oil of vitriol are used, the difference affecting chiefly the residuum: see the foregoing article. Its specific weight to that of water is stated by the London college at 1170 to 1000.

The marine acid is distinguished from the others, by its rising in white fumes; by its peculiar pungent smell; by its enabling the nitrous acid to dissolve gold, preventing its dissolving silver, and precipitating silver previously dissolved, but producing no precipitation in solutions of calcareous earths. It is sometimes given, from ten to sixty or seventy drops, properly diluted, as an antiphlogistic, diuretic, and for promoting appetite, and applied externally to chilblains, which are said by Linnæus to be radically cured by it in a short time, without fear of a return; but its principal use is in combination with other bodies.

Combined with volatile alkalies, it produces the officinal sal ammoniac. With the mineral fixt alkali, it regenerates common salt. With vegetable fixt alkalies, it forms a neutral salt of a sharper taste, and somewhat more difficult of fusion and solution, than common salt: this combination is prepared in the shops, by dropping into the marine spirit a lixivium of the fixt alkali till all effervescence ceases, and then evaporating the mixture to dryness: the same salt may be obtained from the matter which remains after the distillation of spirit of sal ammoniac with fixt alkali.

Sal marin.
regeneratus
vulgo.

Sal ammon.
fixum *vulgo.*
Sal muriatic.
calcareus.

With calcareous earths, it forms a very pungent saline compound, which difficultly assumes a crystalline form, deliquiates in the air, dissolves

solves not only in water but in rectified spirit of wine, and changes the colour of blue flowers of vegetables to a green. This salt is contained, in considerable quantity, in sea water, and remains fluid after the crystallization of its other saline matters: it is found also in sundry common waters, to which, like the calcareous nitre, it communicates, according to its quantity, a greater or less degree of hardness and indisposition to putrefy: it is far more antiseptic than the perfect marine salt. It is said to be diuretic and lithontriptic: the medicine commonly sold as a lithontriptic under the name of *liquid-shell*, appears to be no other than a combination of this kind, consisting of calcined shells dissolved in marine acid. These combinations have been chiefly prepared, by mixing the calcareous earth with sal ammoniac, and urging the mixture with a gradual fire, till the volatile alkali of the sal ammoniac is either dissipated in the air or collected by distillation, and only its acid left incorporated with the earth: so much of the earth, as is satiated with the acid, may be separated from the rest by elixation with water.

This acid dissolves, among metallic bodies, zinc and iron pretty readily; copper and tin languidly; bismuth and arsenic very difficultly and sparingly; lead, mercury, regulus of antimony, and silver, not at all, unless highly concentrated and applied in the form of fume: it dissolves, by digestion, all metallic bodies when reduced to a state of calx, gold not excepted. Though it difficultly unites with metals, it adheres to most of them more strongly than any other acid, and in part volatilizes them: it renders them likewise more fusible in the fire than the other acids do, and more disposed to solution in spirit of wine.

Of itself it is nevertheless the most averse of all acids to a perfect union with vinous spirits. If poured gradually into thrice its quantity of rectified spirit of wine, and the mixture, after digestion for some days, submitted to distillation in a sand heat; the spirit that comes over, appears to be little other than the acid simply diluted with the vinous spirit; whereas, when the nitrous or vitriolic acids are treated in the same manner, a new compound is formed by the intimate coalition of the acid spirit with the inflammable (*a*). The dulcified marine acid has by some been held in great esteem against weakness of the stomach, indigestion, and other like complaints brought on by irregularities.

S A L I X.

SALIX Pharm. Edinb. Salix vulgaris alba arborescens C. B. Salix Ger. Salix fragilis Linn.

COMMON WHITE WILLOW: a pretty large tree, frequent in moist woods and hedges; producing loose spikes or catkins, either of imperfect barren flowers, or of seeds inclosed in down: it is the largest of the willows; and differs from the others, in the oblong pointed serrated leaves

(*a*) It is said that the marine acid may be combined with vinous spirits as intimately as the others, and an ethereal fluid produced from the mixture, by applying the acid spirit to the vinous while both are resolved by fire into vapour; or more commodiously, by using the acid in a high degree of concentration, such as is obtained by distillation from a mixture of mercury sublimite with tin, commonly called the *smoking spirit of Libavius*, and proceeding with this spirit and spirit of wine, in the same manner as with the other acids. It is supposed that this acid, in distillation from metallic substances, takes up a portion of the inflammable principle of the metal, which promotes its union with the vinous spirit.

being

THE bark of this tree has lately been found an useful medicine in agues, of which many persons have been cured by taking a dram of the powdered bark every four hours during the intermissions, though in some cases it was necessary to join to it a little Peruvian bark (see the *Philosophical Transactions* for the year 1763). To the taste this bark discovers a pretty strong bitterness and astringency: with solution of chalybeate vitriol, it strikes an inky blackness. These observations serve therefore to confirm what has been remarked under the head of the Peruvian bark, that in the distempers where that valuable medicine takes place, other bitters and astringents are likewise useful, though in an inferiour degree. The astringency of the willow bark is extracted both by water and spirit; and the black matter, produced by adding vitriol to the watery infusion, is not disposed to precipitate.

SAGE: a low shrubby plant, with square stalks; obtuse wrinkled dry leaves set in pairs, and large bluish labiated flowers, in loose spikes on the tops of the branches: the upper lip of the flower is nipt at the extremity, the lower divided into three segments. It is a native of the southern parts of Europe, common in our gardens, and flowers in June.

1. SALVIA *Pharm. Lond. & Edinb.* *Salvia major C. B. Salvia officinalis Linn.* Common sage: with the leaves nearly oval, but acuminate, sometimes green and sometimes red: both

both the green and red sorts rise from the seeds of one and the same plant.

2. SALVIA HORTENSIS MINOR. *Salvia minor aurita* & *non aurita* C. B. Small sage, or sage of virtue : with narrower leaves, generally whitish, never red : most of them have at the bottom a piece standing out at each side in the form of ears. This is a variety of the former.

THE leaves and tops of sage are moderately aromatic and corroborant, and used in debilities and relaxations both of the nervous and vascular system. Their smell is pretty strong and not disagreeable ; their taste somewhat warm, bitterish, and subastringent : with solution of chalybeate vitriol, they strike a deep black colour. The second sort is both in smell and taste the strongest, the first most agreeable. Of both kinds, the flowers are weaker and more grateful than the leaves ; and the cup of the flower stronger, and obviously more resinous, than any other part.

The leaves of sage give out their virtue both to water and rectified spirit, most perfectly to the latter ; to the former they impart a brownish, to the latter a dark green tincture. The watery infusion is often used as tea, and often acidulated with a little lemon juice for a diluent in febrile distempers : the spirituous tincture is in taste stronger than the watery, but the smell of the sage is by this menstruum covered or suppressed. The leaves and flowery tops, distilled with water, yield a small quantity of essential oil, smelling strongly and agreeably of the herb, in taste very warm and pungent, when newly distilled of a fine greenish colour, by age turning yellow or brown : the remaining decoction, divested

vested of this aromatic and most active principle of the sage, yields an extract weakly bitterish, subastringent, and subsaline. The spirituous extract, in smell weak and somewhat different in kind from that of the herb itself, discovers to the taste a considerable aromatic warmth and pungency, resembling that of camphor, but milder.

SAMBUCUS.

ELDER: a plant, with finely serrated sharp-pointed leaves, set in pairs on a middle rib, with an odd one at the end; producing, on the tops of the branches, umbel-like clusters of small white flowers, followed each by a juicy berry, containing generally three seeds.

I. SAMBUCUS Pharm. Lond. & Edinb. *Sambucus fructu in umbella nigro C. B. Aste. Sambucus nigra Linn.* Elder tree: with nearly oval leaves, of which five or seven stand on one rib. It is a small tree or shrub, covered with an ash-coloured chapt bark, under which lies a thinner green one, and under this a white: it grows wild in hedges, flowers in May, and ripens its black berries in September.

The bark of this tree is recommended as a strong hydragogue in hydropic cases. Sydenham directs three handfuls of the inner bark to be boiled in a quart of milk and water till only a pint remains, of which one half is to be taken in the morning, and the other at night, and this repeated every day: he observes, that this medicine operates both upwards and downwards; and that if it does not vomit or purge at all, or but gently, it does no service. Boerhaave says, that the expressed juice of the middle bark,

given from a dram to half an ounce (some go as far an ounce), is the best of hydragogues where the viscera are sound; and that it so powerfully dissolves the humours, and procures so plentiful watery discharges from all the emunctories, that the patient is ready to faint from the large and sudden inanition. The decoction and juice are recommended also, in smaller doses, as useful aperients and deobstruents in different chronical disorders. This bark has scarcely any smell, and very little taste: on first chewing, it impresses a kind of sweetness, which is followed by a very slight but very durable acrimony, in which its medical activity seems to reside, and which it imparts both to watery and spirituous menstrea.

The leaves, of a faint unpleasant smell, and a strong, very nauseous, bitter kind of taste, are said to be purgative and emetic like the bark. They are celebrated externally against burns and inflammations, and for these purposes an ointment has been prepared for them in the shops: four ounces of the leaves, and the same quantity of the inner bark, fresh, were thoroughly bruised, and boiled in a quart of linseed oil till the watery moisture was consumed and the oil tinged of a green colour: the oil was then pressed out, and brought to the consistence of an ointment by melting in it six ounces of white wax.

The flowers of elder have an agreeable flavour, which they give over in distillation with water, and impart by infusion both to water and rectified spirit: on distilling with water a large quantity of the flowers, a small portion of a butyraceous essential oil separates. Infusions made from them while fresh are gently laxative and aperient; when dry, they are said to promote

mote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders. From these also an unguent ^{Unguentum sambuci Ph. Lond.} is prepared, probably of equal efficacy with the other, and preferred by some as being more elegant, by melting three pounds of mutton suet with a pint of oil-olive, and boiling in this mixture four pounds of the full blown flowers till they are almost crisp.

The berries, in taste sweetish and not unpleasant, yield on expression a fine purplish juice, ^{Succ. bacc. sambuci spissat. Ph. Lond. Rob baccar. sambuci Ph. Ed.} which inspissated to the consistence of honey, either by itself or with the addition of half a pound of fine sugar to two pounds and an half †, † proves an useful aperient and resolvent in recent colds and sundry chronical disorders, gently loosening the belly, and promoting urine and perspiration.

2. EBULUS. *Sambucus humilis* five *ebulus* C. B. *Chamaeacte*. *Sambucus Ebulus* Linn. Dwarf-elder or Danewort: an herbaceous plant, dying to the ground in winter; with longer leaves than those of the elder tree, and nine leaves on one rib. It grows wild in some parts of England, flowers in July, and produces ripe black berries in the beginning of September.

It is said that this species has the same virtues with the preceding, but differs somewhat in degree: that the bark (that of the root has been chiefly used) and the berries, are respectively more efficacious, and the leaves less so: that the rob or inspissated juice of the berries, in doses of half an ounce to an ounce, acts as a strong hydragogue, and in smaller doses as a powerful resolvent and deobstruent.

SANGUIS DRACONIS.

SANGUIS DRACONIS Pharm. Lond. & Edinb. Cinnabaris Græcorum. DRAGONS-BLOOD, so called: a resin, obtained from certain large palm-like trees (*Palmijuncus Draco Rumph. amb. Calamus Rotang Linn.*) growing in the East Indies; brought over in oval drops wrapt up in flag-leaves, or in large and generally more impure masses composed of smaller tears; of a deep dark red colour, which changes, in pulverization, to a crimson. Sundry artificial compositions, coloured with the true dragons-blood, or with brazil wood or other materials, have been sometimes sold in the room of this commodity: some of these dissolve like gums in water, and others crackle in the fire without proving inflammable; whereas the genuine dragons-blood readily melts and catches flame, and is scarcely acted on by watery liquors. It dissolves almost totally, by the assistance of heat, in rectified spirit, and tinges a large quantity of the menstruum of a deep red colour: it is likewise soluble in expressed oils, and imparts to them a red tincture, less beautiful than that which anchusa communicates.

THIS resin, in substance, has no perceptible smell or taste: when dissolved, whether in vinous spirits or in oils, it discovers some degree of pungency and warmth. It is usually looked upon as a gentle incrassant, desiccative, and restringent; and sometimes prescribed in these intentions against alvine and uterine fluxes, and ulcerations both internal and external.

SANICULA.

SANICULA officinarum C. B. *Sanicula europæa* Linn. SANICLE: an umbelliferous plant, with shining dark green roundish leaves, cut into five segments, serrated about the edges; and rough seeds, which stick to the clothes. It is perennial and evergreen, grows wild in woods on hilly grounds, and flowers in May.

THIS herb, recommended both externally and internally as a vulnerary or mild restraining, and supposed to have received its name from the sanative virtues ascribed to it, discovers to the taste a kind of bitterishness and roughness, followed by an impression of acrimony which affects chiefly the throat: in the fresh leaves, the taste is very weak; in the dry leaves, considerable; in the extracts made from them, by water and spirit, moderately strong.

SANTALUM.

SAUNDERS. Three different woods are brought under this name from the East Indies, in large billets: they are said to be the produce, chiefly, of the island Timor in the Indian ocean.

I. SANTALUM CITRINUM *Pharm. Edinb. Santalum album* Linn.* (a). Yellow saunders: of a pale yellowish or brownish colour, and a close even grain. This wood has a pleasant smell, and a bitterish aromatic taste accompanied with an agreeable kind of pungency.

*(a) The Santalum album, below, is said not to be a wood of a different species, but the *alburnum* of the trunk of the same tree, the medullary part of which is the citrinum.

Distilled

Distilled with water, it yields a fragrant essential oil, which thickens in the cold into the consistence of a balsam, approaching in smell to ambergris, or a mixture of ambergris and roses: the remaining decoction, inspissated to the consistence of an extract, is bitterish and slightly pungent. Rectified spirit extracts, by digestion, considerably more than water: the colour of the tincture is a rich yellow. The spirit, distilled off, is lightly impregnated with the fine flavour of the wood: the remaining brownish extract has a weak smell, and a moderate balsamic pungency. This wood therefore, though at present among us disregarded, promises to have a good claim to the corroborant virtues ascribed to it by Hoffman and others.

2. SANTALUM ALBUM. White saunders: of a close texture and straight fibres like the preceding, but of a paler whitish colour. This species, far weaker than the yellow, both in smell and taste, promises very little medicinal virtue: it has long been entirely neglected, and is now rarely to be met with in the shops.

3. SANTALUM RUBRUM. *Pharm. Lond. & Edinb.* *Pterocarpus Santalinus* Linn. *Suppl.* Red saunders: of a dull red almost blackish colour on the outside, and a deep brighter red within: its fibres are now and then curled, as in knots. This also, recommended as an astringent and corroborant, appears to be of very little virtue, as it has no manifest smell, and little or no taste: even of extracts made from it, with water or with spirit, the taste is inconsiderable. Its principal use is as a colouring drug. To watery liquors it communicates only a yellowish tinge, but to rectified spirit a fine deep red: a small quantity

quantity of an extract made with this menstruum tinges a large one of fresh spirit of the same elegant colour; though it does not, like most other resinous bodies, dissolve in expressed oils, or communicate its colour to them: of distilled oils, there are some, as that of lavender, which receive a red tincture both from the wood itself and from the resinous extract, but the greater number does not.

Geoffroy and others take notice that the brazil woods are sometimes substituted to red saunders, and the college of Brussels doubts whether all that is sold among them for saunders is not really a wood of that kind. According to the account which they have given of their red saunders, it is plainly the brasil wood of the dyers; the distinguishing character of which is, that it imparts its colour to common water. Of the same kind also is the wood examined by Cartheuser under the name of red saunders, the watery infusion and extract of which were both of a dark red.

SANTONICUM.

SANTONICUM SEMEN Pharm. Lond. & Edinb. Semen cinæ, semen sanctum, semen contra, sementina. WORMSEED: a small light oval seed; composed as it were of a number of thin membranous coats; of a yellowish-greenish colour with a cast of brown; easily friable, by rubbing between the fingers, into a fine chaffy kind of substance. The seeds have commonly mixed with them a considerable quantity of this chaffy matter, and small bits of stalks and leaves. They are brought from the Levant, and supposed to be the produce of a species of *artemisia*, resembling in its general appearance our fine-leaved

leaved mugwort, called by Linnæus *Artemisia* (*Santonicum*) *foliis caulinis linearibus pinnato-mul-tifidis, ramis indivisis, spicis secundis reflexis*; the *Artemisia austriaca* of Jacquin.

THESE seeds have a moderately strong, not agreeable smell, somewhat of the wormwood kind; and a very bitter subacid taste. They have been chiefly recommended as anthelmintics; and commonly taken, in this intention, either along with melasses, or candied with sugar. They might be used also for other purposes; as they appear (at least the specimens which I examined) to be a not inelegant strong bitter. They give out their virtue both to water and spirit, together with a brownish hue, which in the watery tincture has an admixture of reddish, in the spirituous of yellow: the spirituous is less ungrateful in taste, and discovers less also of the ill smell of the *santonicum* than the watery infusion. In evaporation, water carries off greatest part of the disagreeable flavour of the seeds, the inspissated extract being little other than simply bitter. An extract made by rectified spirit retains a considerable share of the flavour: this extract appears to be the most eligible preparation of the *santonicum* for the purposes of an anthelmintic; and the watery extract, or a tincture drawn from it, for the more general intentions of bitter medicines.

S A P O.

SOAP: a composition of oils or fats with alkaline salts, incorporated so as to dissolve together in water into a milky semitransparent liquid.

I. SAPO

1. SAPO DURUS. Hard soap. The finest hard soap is prepared with fresh-drawn oil of almonds, by digesting it with thrice its measure of the soap-lyes, formerly described (see *Sales alka-* Sapo amygdalini) in such a heat that they may just simmer. dalinus. In a few hours they unite into a turbid fluid, which, on being boiled a little, becomes more transparent, and ropy, so that if a little be suffered to cool, it will concrete like jelly. Some sea salt is now thrown in, till the boiling liquor loses its ropiness; and the coction continued till, on receiving some drops upon a tile, the soap is found to coagulate, and the water to freely separate from it. The fire being then removed, the soap rises gradually to the surface; from whence it is taken off before it grows cold, and put into a wooden mould, or frame, with a cloth bottom: being afterwards separated from the mould, it is set by till it has acquired a due consistence. After the same manner a hard soap is made with oil-olive, which should be of the finest kind, that the soap may prove as little ungrateful as possible either to the palate or stomach. By the same or similar processes this Sapo Ph. Lond. mat. med. commodity is prepared for common uses in the way of trade. The finest of the common soaps Sapo albus hispanus Ph. Ed. mat. med. is that called Spanish or Castile soap, which is made with oil-olive, and the alkaline salt called soda or barilla: our soap-boilers find that this alkali gives a better consistence, or greater hardness to the soap, than the other potashes or common vegetable alkalies.

Hard soap, triturated with vegetable resins and thick balsams, incorporates with them into a compound, soluble, like the soap itself, in watery liquors: hence it proves an useful ingredient in resinous pills, which of themselves are apt to pass entire through the intestines, but by the

the admixture of soap become diffoluble in the stomach. It renders unctuous and thick mucous animal matters diffoluble in like manner in aqueous fluids, and hence may be presumed to act as a menstruum for these kinds of substances in the body, that is to attenuate viscid juices and resolve obstructions: such, in effect, are the virtues which it appears to exert in cachectic, hydropic, and icteric cases, in which last, particularly, its aperient and resolvent powers have been often experienced. Solutions of it have been found likewise to dissolve certain animal concretions of the harder kind, as the filaments which are sometimes seen floating in the urine of rheumatic and arthritic persons, the matter secreted in gouty joints, and the more compact urinary calculus: on these substances (at least on the latter) though soap of itself acts more languidly than lime-water, yet when joined to that menstruum it remarkably increases its activity, the dissolving power of a composition of the two being, according to Dr. Whytt's experiments, considerably greater than that of the soap and lime-water unmixed: of the good effects of these medicines in calculous cases there are several instances; but what their effects may be in gouty and rheumatic ones, is not yet well known.

The usual dose of soap, as an aperient, is half a dram or a dram: as a lithontriptic, half an ounce, or an ounce, or more, are taken in a day at proper intervals. It is given in the form of a bolus or pills; or made into an electuary with some grateful syrup, as that of orange peel; or dissolved in milk or other liquids. * It is excellently covered by chocolate: two drams in a pint are not in the least perceived;

perceived; the chocolate is thought by some better than without it. A little soap is always added in the composition of chocolate, to make it froth.

In watery liquors it dissolves only imperfectly, the solution being always turbid. Rectified spirit, though it has no action on the alkaline salt or oil separately, dissolves the soap into a limpid liquor. Proof spirit, free from acidity, dissolves it as perfectly, and in much larger quantity; rectified spirit not taking up one tenth its own weight, but proof spirit one third or more. The spirituous solutions bear to be largely diluted with pure water, without suffering any turbidness or separation of their parts: but on the addition of any acid, or of any combination of acids with earthy or metallic bodies, as the *sal catharticus amarus*, &c. the soap is resolved into its constituent ingredients; its alkaline salt being absorbed by the acid, and the oil rising to the surface. The oil, thus extricated from soap by acids, dissolves like essential oils, in rectified spirit.

Soap is employed externally for discussing rheumatic pains, arthritic tumours, the humours stagnating after sprains, &c. Some pretend that the indurated tophaceous concretions in arthritic joints have been resolved by the external use of soapy cataplasms. Several compositions for external purposes are prepared in the shops. One part of Spanish soap, shaved or cut in thin slices, is stirred into six parts of common plaster melted over the fire, and the mixture boiled till it acquires the consistence of a plaster; which is formed into rolls whilst hot, the soap disposing it to grow brittle as it cools†: some endeavour to promote the resolvent virtue of the soap, by adding to four

Emplastrum
saponis † *Ph.*
Lond.
parts

Emp. saponac. † *Ph. Ed.*

Linimentum saponis ‖ *Ph. Lond.*

vulgo Balf. saponaceum § *Ph. Ed.*

Linimentum anodynum *vulgo* Balf. anodyn. *Ph. Ed.*

parts of the common plaster, two of gum plaster, with one of soap†. But soap acts to much better advantage in the form of a cataplasm or liniment, than in the stiff one of a plaster. The officinal saponaceous liniments are made, by digesting three ounces of Spanish soap in a pint of spirit of rosemary till the spirit is saturated, and dissolving in this solution an ounce of camphor‖: or by digesting two ounces of soap in a pint of rectified spirit of wine, and afterwards adding an ounce of camphor, and two drams of oil of rosemary§. Sometimes opium is joined, by which the compound is supposed to be rendered more effectual for allaying violent pains: half an ounce of opium is digested with the soap in the last mentioned composition. This is given also internally, in nervous colics, jaundices, &c.

2. SAPO MOLLIS. Soft soap. The common soft soap used about London, generally of a greenish hue with some white lumps, is prepared chiefly with tallow: a blackish sort more common in some other places, is said to be made with whale oil. Both kinds are considerably more acrid than the hard soaps, and are employed only for some external purposes: a mixture of equal parts of our common soft soap and quicklime is used as a mild caustic.

3. SAPO VOLATILIS. Volatile soap. Of this there are three kinds: one composed of fixt alkalies and volatile oils; another, of volatile alkalies, and oils of the grosser or more fixt kind; and the third, in which both the alkali and the oil are volatile.

Fixt alkalies are very difficultly made to unite with distilled oils. The most commodi-
ous

ous method of obtaining the combination appears to be, by throwing the salt red-hot into a heated mortar, immediately reducing it into powder, then pouring on it, while it continues quite hot, by little at a time, an equal quantity or more of the oil, and continuing to grind them together, so as to form a smooth soft mass. Stahl reports that the union may soon be obtained also, by agitating the salt with a small proportion of the oil, and a quantity of phlegmatic vinous spirit; the spirit seeming to serve as a medium for joining them together.

This medicine, prepared with oil of turpentine, was formerly celebrated as a diuretic, in nephritic complaints, and as a corrector of certain vegetables, particularly of opium: its virtues have not been fully determined by experience, nor does the present practice pay any regard to it. Beaumé observes, that it consists of only the resinous part of the oil united with the alkali; that the more fluid and well rectified the oil is, the less soap is obtained; and that by adding a little turpentine in substance, the preparation is considerably expedited.

Sapo philosophicus tartareus, &c.

Combinations of volatile alkalies with expressed oils, and with the oily balsamic juices, are obtained more readily. One ounce of spirit of sal ammoniac, and three of oil of olives, shaken together in a wide-mouthed vial, unite perfectly, in a short time, into a white sapo-

Liniment. ammoniac Ph. Lond.

naceous liquid: or, for a more active preparation, one ounce of the volatile spirit with quicklime is shaken with two ounces of olive oil. Both these compositions are very acrimonious, and are used only externally, as stimulants, in rheumatic and ischiadic pains.

Linim. ammoniac fortius Ph. Lond.

Combinations of volatile alkalies with volatile oils, in a liquid form, have been already men-

tioned under the head of *sal alkalinus volatilis*: compositions of the same kind may be obtained in a solid state, by mixing the salt with the oil, and subliming them together. It may be observed, that in all these combinations made with volatile salts, though the pungency of the salt is more or less covered, it is never completely sheathed as that of the fixt alkalies is in the hard soaps; and that none of the compositions, in which either the alkali or the oil is volatile, are so perfectly saponaceous as those in which they are both of the more fixt kind.

SAPONARIA.

SAPONARIA major levis C. B. Saponaria officinalis Linn. SOAPWORT OR BRUISEWORT: a smooth herb, with plantain-like three-ribbed leaves set in pairs on short broad pedicles; producing, on the tops of the stalks, umbel-like clusters of red, purple, or whitish flowers, cut deeply into five segments nipt at the ends, standing in long cups, followed by pear-shaped capsules full of small seeds: the root is long, slender, spreading to a great distance, so as scarce to be extirpated, of a brownish colour on the outside, internally white, with a yellowish fibre in the middle. It grows wild, but not very common, in moist grounds, and flowers in July.

THE roots and leaves of saponaria discover to the taste a kind of glutinous softness or smoothness; accompanied, in the roots, with a sweetishness and slight pungency; in the leaves, with a degree of bitterness and roughness. The smoothness or soapiness, from which the plant received its name, is strongest in the leaves; which,

which, on being agitated with water, raise a slippery froth, and are said to impart a detergent quality approaching to that of solutions of soap itself. This matter is dissolved also by rectified spirit as well as water, and hence appears evidently of a different nature from gummy or mucilaginous substances: on inspissating the solutions, it remains entire in the extracts, and proves stronger in the spirituous extract than in the watery. This plant therefore, among us, disregarded, may be presumed to have some considerable medicinal virtues: by the German physicians, the roots are used in venereal maladies, and supposed to be similar, but superiour, to those of sarsaparilla. * A physician in Paris is said lately to have given the inspissated juice of this plant to the quantity of half an ounce in a day, to persons labouring under a gonorrhœa, with success.

SAPONARIÆ NUCULÆ.

NUCULÆ saponariæ non edules C. B. Saponariæ sphaerulæ arboris filicifoliæ J. B. Bacca bermudenses Marloe. SOAP-BERRIES: a spherical fruit, about the size of a cherry; whose cortical part is yellow, glossy, and so transparent, as to shew the spherical black nut, which rattles within, and which includes a white kernel. It is the produce of a small tree, growing in Jamaica and other parts of the West Indies, called by Sir Hans Sloane *prunifera racemosa, folio alato, costa media membranulis utrinque extantibus donata, fructu saponario*; by Linnæus, *Sapindus Saponaria*.

It is said that this fruit, at least its cortical part, has a very bitter taste, and no smell: that

it raises a soapy froth with water, and has similar effects with soap in washing: that it is a medicine of singular and specific virtue in chloroses: and that a tincture or extract are preferable to the berry in substance, from whence it may be presumed that its soapy matter, like that of the saponaria, is dissoluble in spirit. Its medicinal virtue was first published by Marloe in a letter to Mr. Boyle; but the fruit having been concealed under the fictitious name of Bermudas berries, its use died with the author. That Marloe's Bermudas berries were the same with the soap-berries of America, had been suspected by some, and was confirmed by Dale in examining the Bermudas berries which Marloe had left under that title behind him. They are still, however, unknown in practice, and in the shops.

SARCOCOLLA.

SARCOCOLLA Pharm. Lond. A concrete gummy-resinous juice, brought from Persia and Arabia, in small, spongy, crumbly, whitish-yellow grains, with a few of a reddish and sometimes of a deep red colour mixed with them: the tears, when entire, are about the size of peas: the whitest tears or fragments are preferred, as being the freshest. The plant which produces this juice, and the place of its production, are unknown.

SARCOCOLLA has a bitterish subacid taste, followed by a nauseous kind of sweetishness. It softens in the mouth, bubbles and catches flame from a candle, dissolves almost wholly in water, and greatest part of it in rectified spirit. Its medicinal qualities are not well known: it is
said,

said, when taken internally, to act as a slow and dangerous purgative; externally, to cleanse and promote the cicatrization of ulcers: dissolved in breast-milk, to be an useful collyrium for defluxions on the eyes.

SARSAPARILLA.

SARSAPARILLA Pharm. Lond. & Edinb.
Zarza quibusdam: the root of a species of bindweed, *smilax aspera peruviana sive sarsaparilla* C. B. *Smilax (sarsaparilla) caule aculeato angulato, foliis inermibus retuso-mucronatis* Linn. growing in the Spanish West Indies, and scarcely bearing the winters of our climate without shelter. The root consists of a number of strings, of great length, about the thickness of a goose-quill or thicker, flexible, free from knots, composed of fibres running their whole length, so that they may be stript in pieces from one end to the other. They are covered with a thin, brownish, or yellowish ash-coloured skin, under which lies a thicker, white, friable substance, and in the middle runs a woody pith.

THIS root has a farinaceous somewhat bitterish taste, and no smell. To water it communicates a reddish brown, to rectified spirit a yellowish red tincture, but gives no considerable taste to either menstruum. An extract, obtained by inspissating the spirituous tincture, has a weak, somewhat nauseous, balsamic bitterishness, which is followed by a slight but durable pungency: the watery extract is much weaker, and in larger quantity.

Sarsaparilla was first brought into Europe by the Spaniards, about the year 1563, with the

character of a specific for the cure of the lues venerea, which made its appearance a little before that time. Whatever good effects it might have produced in the warmer climates, it was found to be insufficient in this, insomuch that many have denied it to have any virtue at all, and supposed that it could do no more than, by its farinaceous softness, to obtund the force of the gastric fluid, and thus weaken the appetite and digestion. It appears however, from experience, that though greatly unequal to the character which it bore at first, yet, in many cases, strong decoctions of it, drank plentifully and duly continued, are of very considerable service, for promoting perspiration, and what is called sweetening or purifying the blood and humours. In the medical observations published by a society of physicians in London, there are several instances of its efficacy in venereal maladies, as an assistant to mercury, or when mercury had preceded its use: it oftentimes answered, and that speedily, after mercurial unctions, and long continued courses of strong decoctions of guaiacum, had failed. Three ounces of the root are boiled in three quarts of river water, till the liquor when strained amounts to about one quart, which is taken at three or four doses, either warm or cold, every twenty-four hours. Dr. Harris says, that infants who have received the infection from the nurse, though full of pustules and ulcers, and sometimes troubled with nocturnal pains, are cured by sarsaparilla without mercurials: he directs the powder of the root to be mixed with their food.

Decoct. sarsapar. *Pb.*
Land.

* The London college have now admitted as officinals a simple decoction of sarsaparilla, made by boiling (after maceration) six ounces of the
root

root in eight pints of water to four; and a compound one, in which, to six ounces of *sarsaparilla* are added one ounce each of *sassafras*, *Decoct. sarsapar. comp.* *Ph. Lond.* *guaiacum* wood, and liquorice, and three drams of the bark of *mezereon* root, to be boiled in ten pints of water to five.

SASSAFRAS.

SASSAFRAS Pharm. Lond. & Edinb. The root of a large American tree of the bay kind, (*laurus (sassafras) foliis integris trilobisque Linn. Arbor ex florida ficulneo folio C. B.*) brought over in long straight pieces, very light and of a spongy texture, covered with a rough fungous bark, outwardly of an ash-colour, inwardly of the colour of rusty iron.

THIS root has a fragrant smell, and a sweetish subastringent, aromatic taste: the bark is much stronger than the internal woody part; and the small twigs than the larger pieces. It gives out its virtues, together with a reddish colour, totally to spirit, less perfectly to water: the spirituous tincture smells weakly and tastes strongly, the watery smells stronger and tastes weaker of the root. Distilled with water, it yields a fragrant essential oil, of a penetrating pungent taste, so ponderous as to sink in water, limpid and colourless when newly distilled, by age growing yellowish and at length of a reddish brown colour: the remaining decoction, inspissated, yields a bitterish subastringent extract. Rectified spirit, distilled from the tincture made in that menstruum, brings over with it nothing considerable: the inspissated extract retains, along with the bitterness and subastringency, nearly all the aromatic matter

*Ol. essentielle
rad. sassafr.
Ph. Lond. &
Ed.*

matter of the root, though the smell is in great part suppressed in the extract as well as in the tincture.

Sassafras is used as a mild corroborant, diaphoretic, and sweetener, in scorbutic, venereal, cachectic, and catarrhal disorders. For these purposes, both the volatile and the fixt parts, the distilled oil and the watery extract, have been given with success: the spirituous tincture or extract, which contain both, appear to be the most elegant preparations. Infusions made in water, from the cortical or the woody part rasped or shaved, are commonly drank as tea: in some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head; an inconvenience, which is generally got the better of on continuing their use for a little time, and which neither the watery nor spirituous extracts are at all subject to.

SATUREIA.

SATUREIA hortensis sive cunila sativa plinii
C. B. Thymbra. Satureia hortensis Linn.
 SUMMER SAVOURY; a low, shrubby, somewhat hairy plant: with small oblong narrow leaves, narrowest at the bottom, set in pairs; and small clusters, in the bosoms of the leaves, of pale purplish labiated flowers, whose upper lip is nipt at the extremity, the lower cut into three segments. It grows wild in some of the southern parts of Europe, and is sown annually in our culinary gardens.

THE leaves of savoury are a warm aromatic; of a grateful smell, like that of thyme but milder; and a penetrating pungent taste. To
 rectified

rectified spirit, they give out the whole of their active matter, together with a dark green tincture: water receives from them a reddish brown colour, and a considerable smell, but very little of their taste. In distillation with water, they yield a small quantity of a fragrant essential oil, very pungent, and of great subtilty and volatility: the remaining decoction, inspissated, leaves a weakly bitterish, subastringent, ungrateful extract. Rectified spirit elevates in distillation much less than might be expected from the remarkable volatility of the oil: the extract smells agreeably, though weakly, of the savoury, and has a very warm, pungent, aromatic taste.

SATYRION.

SATYRION Pharm. Edinb. Orchis morio mas foliis maculatis C. B. Cynosorchis ♂ testiculus caninus quibusdam. Orchis mascula Linn.

ORCHIS: a plant with six or seven long smooth narrow leaves, variegated with dark-coloured streaks or spots, issuing from the root; and one or two embracing the stalk, which is single, roundish, and striated: on its top appears a long loose spike of irregular, naked, purplish red flowers, consisting each of six petals; one of which is large, cut into three sections, hanging downwards; the others smaller, forming a kind of hood above it, with a tail behind: the root consists of two roundish whitish tubercles, about the size of nutmegs, one plump and juicy, the other fungous and somewhat shrivelled, with a few large fibres at the top. It is perennial, grows wild in shady grounds and moist meadows, and flowers in the beginning of May or sooner.

THE

THE plump roots or bulbs (the only part directed for medicinal use) have a faint somewhat unpleasant smell, and a viscid sweetish taste. They abound with a glutinous slimy juice, in virtue of which they have been found serviceable, like althea root and other mucilaginous vegetables, in a thin acrid state of the humours and erosions of the intestines. They have been celebrated also for aphrodisiac virtues, to which they appear to have little claim.

The substance brought from the eastern countries under the names of *Salep*, *falleb*, and *serapias*, and recommended, like our orchis root, in bilious dysenteries, defluxions on the breast, and as a restorative, appears to be no other than the prepared roots of some plants of the orchis kind, of which different species are said to be taken indiscriminately. The salep comes over in oval pieces, of a yellowish white colour, somewhat clear and pellucid, very hard and almost horny, of little or no smell, in taste like gum tragacanth. The common orchis root, boiled in water, freed from the skin, and afterwards suspended in the air to dry, gains exactly the same appearance: the roots thus prepared do not grow moist or mouldy in wet weather, which those, that have been barely dried, are very liable to: reduced into powder, they soften or dissolve as it were in boiling water into a kind of mucilage; which may be diluted, for use, with a larger quantity of water, or with milk.

* The following process for the preparation of salep from the English orchises, by Mr. Moulst, of Rochdale, is published in the *Philos. Transact.* vol. lix. "The new root is to be washed in water, and the fine brown skin which covers it is to be separated by means of a small brush, or by dipping the root in hot water,

water, and rubbing it with a coarse linen cloth. When a sufficient number of roots have been thus cleaned, they are to be spread on a tin plate, and placed in an oven heated to the usual degree, where they are to remain six or ten minutes, in which time they will have lost their milky whiteness, and acquired a transparency like horn, without any diminution of bulk. Being arrived at this state, they are to be removed, in order to dry and harden in the air, which will require several days to effect; or by using a very gentle heat, they may be finished in a few hours."

SAXIFRAGA.

SAXIFRAGA rotundifolia alba C. B. *Saxifraga granulata* Linn. WHITE SAXIFRAGE: a plant with kidney-shaped crenated yellowish-green leaves, and round slender purplish branched stalks, on the tops of which grow short loose spikes of pentapetalous white flowers, followed each by a two-horned capsule full of small seeds: the root is composed of small fibres, with a number of little tubercles among them, about the size of pepper-corns, containing under a chaffy covering, irregular whitish bodies somewhat brittle like the kernels of fruits. It is perennial, grows wild in sandy pasture-grounds, and flowers in May: the leaves and stalks wither soon after flowering, and by degrees the tubercles of the roots also disappear.

THE leaves of this plant, of little or no smell, and of a weak unpleasant taste; and the tubercles of the roots, improperly called seeds, of no smell, and in taste sweetish with a very slight acrimony; are recommended as aperients
and

and diuretics, in obstructions of the menses, stranguries, and nephritic cases. Among us, they have long been disused, and unknown in the shops; a more common plant, of the same name, but of a different genus, and of more activity, having generally supplied their place, viz.

SAXIFRAGA VULGARIS.

SAXIFRAGA vulgaris sive anglica, Hippomarathrum anglicum, Faniculum erraticum: Seseli pratense, silaus forte plinio C. B. Angelica pratensis apii folio Tourn. Peucedanum Silaus Linn.

ENGLISH OR MEADOW SAXIFRAGE: an umbelliferous plant, with winged leaves subdivided into oblong narrow sharp-pointed segments: the flowers are of a yellowish white colour, the umbel naked, but its subdivisions have several little leaves at their origin; the seeds are short, brownish or reddish, plano-convex, with three deep furrows so as to appear winged: the root is long, about the thickness of the finger, brownish or blackish on the outside, and white within. It is perennial, common in meadows and pasture grounds, and flowers in June.

THE roots, leaves, and seeds of this plant have been commended as aperients, diuretics, and carminatives; and appear, from their aromatic smell, and moderately warm pungent bitterish taste, to have a better claim to these virtues than the preceding saxifrage. They are rarely or never used.

SCAMMONIUM.

SCAMMONIUM Pharm. Lond. & Edinb. Diagrydium. SCAMMONY: the concrete gummy

my-resinous juice of the roots of a species of convolvulus (*convolvulus (scammonia) foliis sagittatis postice truncatis, pedunculis bifloris* Linn.) distinguished by the leaves being shaped like an arrow-head and having two semicircular notches at the bottom on each side of the footstalk, the flowers being of a pale yellowish colour and standing two on one stem: it is a native of Syria, and has been lately found to bear the colds of our own climate. The scammony is extracted in Syria, by baring the upper part of the root in June, cutting off the top obliquely, and placing a shell or some other receptacle at the depending part to receive the milky juice, which on standing concretes into solid masses.

The best scammony is brought from Aleppo, in light spongy masses, easily friable, glossy, of different shades of colour from a grey or yellowish white almost to black, when reduced to powder of a brownish white colour. An inferior sort comes from Smyrna, in compact hard ponderous pieces, full of sand and other impurities. Such should be chosen as crumbles the most easily betwixt the fingers, grows instantly white on the contact of watery moisture, and leaves little or no feces on being dissolved. Its colour in the mass affords no criterion of its purity or goodness.

Scammony has a slight unpleasant smell, and a weak bitterish subacid taste. It consists of about equal parts of resinous and gummy matter, and hence dissolves almost totally in a mixture of equal parts of rectified spirit and water, that is, in proof spirit. Rectified spirit takes up the resin, with some part of the gum: if the tincture be inspissated a little, and then mixed with water, the gum continues dissolved, and the pure resin precipitates. By trituration
with

with water, or by bare maceration, the scammony is resolved into a milky liquor verging to greenish; which on standing deposits some portion of the resin, but retains its milkiness.

This gummy-resin is one of the strong stimulating cathartics; more kindly in operation, and hence in more general use, than most of the other substances of that class: the dose is from two or three grains to twelve. Sundry ill qualities have been ascribed to it, which it is not found to possess: and sundry correctors have been devised, which it does not appear to want. In cold indolent ferous habits, scammony itself procures generally a plentiful evacuation with great ease and safety: in inflammatory cases, and the more irritable dispositions, it is indeed dangerous; but no otherwise so than the rest of the strong purgatives; and no otherwise than by virtue of that power on which its efficacy in the opposite circumstances depends.

By the smallness of the dose of this medicine, its easy solubility, and its having little taste, it is fitted for being commodiously taken in almost any form. It is made in the shops into a powder, with the addition of an equal weight of hard extract of jalap, and a fourth of its weight of ginger†; or with equal its weight of crystals of tartar‡. It is likewise combined with aloes, and also with calomel, in different officinal powders. A scammoniate electuary is composed of one ounce of scammony, aromatised with half an ounce of cloves, half an ounce of ginger, and a scruple of the essential oil of caraway-seeds made up with syrup of roses; of which composition, one dram and a half contain fifteen grains of the scammony§. Agreeable purging troches, for those who are not easily

Pulvis e
scammonio
comp. † *Ph.*
Lond. † *Ph.*
Ed.

Pulv. e scam-
mon. cum
aloe *Ph. Lond.*
Pulv. e scam-
mon. cum
calom. *Ph.*
Lond.

§ Electar. e
scammonio
Ph. Lond.

easily prevailed upon to take medicines of this kind in other forms, are prepared, by grinding together three drams of scammony, four drams of crystals of tartar, four drops of oil of cinnamon, and eight ounces of fine sugar, and moistening the mixture with so much rose-water as will render it of a due consistence for being formed: each tablet is made to weigh about a dram†, and consequently contains two grains and a half of scammony. One of the most elegant liquid preparations is a solution of the scammony in a strong infusion or decoction of liquorice, poured off from the feces, and aromatised with some grateful distilled water or aromatic tincture; as those of cardamom-seeds.

† Morfili
purgantes
Ph. Branden-
burgh.

The dried root of the plant, as well as its juice, may perhaps deserve some notice. Dr. Russel, to whom the public is obliged for an accurate history of this drug, relates that a decoction of half an ounce of the root procured five stools, without gripes, sickness, or any manner of uneasiness, and, on repeating the trial several times, had the same effect: and that the decoctions are entirely without smell, and in taste rather sweetish than disagreeable. Neither the stalks, leaves, flowers, or seeds, seemed to have any purgative virtue (a).

SCILLA.

SCILLA Pharm. Lond. & Edinb. *Scilla radice alba*, & *scilla vulgaris radice rubra* C. B. *Ornithogalum maritimum* Tourn. *Scilla maritima* Linn. SQUILL or SEA-ONION: a plant with a

(a) Medical observations and inquiries, by a society of physicians in London.

large

large bulbous onion-like root; from which rise, first a naked stalk bearing several hexapetalous white flowers, and afterwards large green lily-like leaves with a remarkable rib in the middle of each. It grows spontaneously on sandy shores in Spain and in the levant, from whence we are annually supplied with the roots. They should be chosen large, plump, fresh, and full of a clammy juice: some are of a reddish colour, and others white, but no difference is observed in the qualities of the two sorts, and hence the college allows both to be taken promiscuously.

THIS root is to the taste very nauseous, intensely bitter, and acrimonious: much handled, it exulcerates the skin. Taken internally, it acts as a powerful attenuant and aperient: in doses of a few grains it promotes expectoration and urine: in somewhat larger ones, it proves emetic and sometimes purgative. It is one of the most certain diuretics in hydropic cases, and expectorants in asthmatic ones, where the lungs or stomach are oppressed by tenacious phlegm, or injured by the imprudent use of opiates.

This medicine, on account of its ungrateful taste, is most commodiously taken in the form of pills; into which the dried root may be reduced, by beating it with thrice its weight each of ammoniacum and lesser cardamom-seeds in powder, and extract of liquorice, and a sufficient quantity of simple syrup† or one dram of dried squills may be mixed with three drams each of powdered ginger and soap, and two drams of ammoniacum, making up the mass with syrup of ginger‡. In whatever form squills are given, unless when designed to act as

Pil. scilliticæ
Ph. Ed. †

Pil. e scilla
Ph. Lond. †

an

an emetic, the addition of some grateful aromatic material is of use, to prevent the nausea which of themselves they are very apt, even in small doses, to occasion.

The fresh root loses in drying about four fifths of its weight, without any considerable loss of its taste or virtue; the vapour which exhales appearing to be little other than merely aqueous. Hence four grains, which are the mean dose of the dry root in powder, are equivalent to near a scruple of the fresh squill. The most convenient way of drying it is, after peeling off the outer skin, to cut the roots transversely into thin slices (not to separate the coats, as has been usually directed) and expose them to a gentle warmth.

*Scilla exsic-
cata Ph.
Lond. & Ed.*

The ancients, in order to abate the acrimony of the squill for certain purposes, inclosed it (after separating the skin, and the fibres at the bottom with the hard part from which they issue) in a paste made of flour and water, and then baked it in an oven, till the paste became dry, and the squill soft and tender throughout. The squill, so prepared, was beaten with two-thirds its weight of flour, the mixture formed into troches, and dried with a gentle heat. These troches were supposed to be alexipharmac, and in this light were made an ingredient in the-riaca. The virtues of the fresh squill may be preserved by beating it with sugar into a conserve, in the proportion of one ounce of the squill to five ounces of fine sugar.

Scilla costæ.

*Troch. e
scilla.*

*Conf. scillæ
Ph. Lond.*

Water, wine, proof spirit, and rectified spirit, extract the virtues both of the fresh and the dry root. The London college have directed a tincture in which two ounces of fresh dried squills are digested for eight days in a pint of proof spirit. Nothing rises in distillation with

*Tinct. scillæ
Ph. Lond.*

any of these menſtrua, the entire bitterneſs and pungency of the ſquill remaining concentrated in the inſpiſſated extracts: the ſpirituous extract is in ſmaller quantity than the watery, and of a proportionably ſtronger almoſt fiery taſte.

Alkalies conſiderably abate both the bitterneſs and acrimony of the ſquill: vegetable acids make little alteration in either, though the admixture of the acid taſte renders that of the ſquill more ſupportable. Theſe acids extract its virtue equally with watery or ſpirituous menſtrua; and, as an expectorant in diſorders of the breaſt, excellently coincide with it.

Acetum ſcillit.
Ph. Lond.

Acetum ſcillit.
Ph. Ed.

Oxym. ſcillit.
Ph. Lond.

Syr. ſcillit.
Ph. Ed.

The college of London directs an acetous tincture to be prepared, by macerating a pound of the dry roots in ſix pints of vinegar, with a gentle heat: to the liquor preſſed out, and after ſettling poured off from the feces, one twelfth its quantity of proof ſpirit is added, to prevent its growing ſoon foul. The college of Edinburgh for the ſame preparation directs the proportions of two ounces of dried ſquills, two pounds and a half of diſtilled vinegar, and three ounces of rectified ſpirit. A ſcillitic oxymel is obtained by boiling a quart of the acetous tincture with three pounds of clarified honey, till the mixture acquires the conſiſtence of a ſyrup: and a ſyrup of ſquills, by diſſolving three pounds and a half of fine ſugar in two pounds of the vinegar. Theſe preparations are uſed, as expectorants, in doſes of one, two, or three drams, along with cinnamon or ſome other grateful water: where the firſt paſſages are overloaded with viſcid phlegm, an ounce or more is given at once, to procure a more ſpeedy and effectual evacuation by vomit.

SCINCUS.

SCINCUS seu crocodilus terrestris Raii. The SKINK : a small amphibious animal, of the lizard kind, clothed with greyish scales, caught about the Nile, &c. and thence brought, dried, to us, remarkably smooth and glossy as if varnished. The flesh of this animal, particularly of the belly, has been said to be diuretic, alexipharmac, aphrodisiac, and useful in leprous disorders. Whatever virtues it may have when used fresh, as food, it is not expected to be of any importance as it comes to us, and serves only to increase the number of the articles of which mithridate is composed.

SCORDIUM.

SCORDIUM Pharm. Lond. & Edinb. C. B. Chamædrys palustris & triffago palustris quibusdam. Teucrium Scordium Linn. WATER-GERMANDER : a trailing plant, with oblong, oval, indented, soft hoary leaves, set in pairs, without pedicles : in their bosoms issue purplish monopetalous flowers, not above four or five together, each cut into five segments and followed by four small seeds lodged in the cup. It is sometimes found wild in watery places, but the shops are supplied chiefly from gardens : it is perennial, and flowers in June.

THE leaves of scordium, rubbed betwixt the fingers, yield a moderately strong smell, somewhat of the garlic kind : to the taste they discover a considerable bitterness and some pungency ; but the astringent power, which some ascribe to them, could not be distinguished,

either by the taste, or by solution of chalybeate vitriol. They are recommended as alexipharmacs and corroborants, in malignant and putrid disorders, and in laxities of the intestines: they enter several officinal compositions in those intentions, and are sometimes employed externally in antiseptic cataplasms and fomentations.

On keeping the dry herb for some months, its smell is dissipated; and the bitterness, thus divested of the flavouring matter, proves considerably less ungrateful than at first. The leaves, moderately and newly dried, give out their smell and taste both to water and to rectified spirit; and tinge the former of a brownish, the latter of a deep green colour. In distillation, their peculiar flavour arises with water; but the impregnation of the distilled fluid is not strong, nor could any essential oil be obtained on submitting to the operation several pounds of the herb: the remaining decoction, inspissated, leaves a very bitter mucilaginous extract. Rectified spirit brings over little or nothing: the inspissated extract partakes in a considerable degree of the flavour of the scordium, and proves in bitterness also far stronger than the watery.

SCORZONERA.

SCORZONERA latifolia sinuata C. B. *Viperaria* & *serpentaria hispanica quibusdam*. *Scorzonera hispanica* Linn. VIPERS-GRASS: a plant with large sharp-pointed leaves, slightly sinuated about the edges, having a large prominent rib in the middle, joined to the stalks without pedicles: on the tops of the branches grow yellow flosculous flowers, set in scaly cups, followed by oblong roundish striated seeds winged with down: the root is long, single, from the size of
a goose

a goose-quill to that of the little finger, of a dark colour on the outside and white within. It is perennial, a native of Spain, and common in our culinary gardens.

THE roots of scorzonera have been employed medicinally as alexipharmacs, and in hypochondriacal disorders and obstructions of the viscera; but at present are more properly looked upon as alimentary articles, in general salubrious, and moderately nutritious. They abound with a milky juice, of a soft sweetish taste, but which in drying contracts a slight bitterness. Extracts made from them by water are considerably sweet and mucilaginous: extracts made by rectified spirit have a less degree of sweetishness, accompanied with a slight grateful warmth. In Cartheuser's experiments, the spirituous extract amounted to one third the weight of the root, and the watery to above one half: as his watery extract, though in larger quantity than the spirituous, was nevertheless, like mine, sweeter, it should seem that the sweet matter of scorzonera is somewhat different, in regard to its solubility, from that of most of the other vegetable sweets that have been examined, the spirituous extracts having generally much the greatest sweetness.

SCROPHULARIA.

FIGWORT: a plant with square stalks; the leaves set in pairs, at distances, in opposite directions; the branches terminated by loose spikes of irregular, purple, helmet-shaped flowers; each of which is followed by a roundish pointed capsule, containing numerous small seeds in two cells. It is perennial.

1. SCROPHULARIA *nodosa fœtida* C. B. *Mille-morbia quibusdam*. *Scrophularia nodosa* Linn. Common figwort or kernelwort : with the leaves somewhat heart-shaped and serrated about the edges ; the roots long, thick, and full of knots and tubercles. It grows wild in woods and hedges, and flowers in July.

The roots and leaves of this plant have been celebrated both internally and externally, against inflammations, the piles, scrophulous tumours, and old ulcers. Their sensible qualities are, a rank smell somewhat like that of elder leaves but stronger, and a disagreeable bitterish taste. The anodyne and anti-inflammatory virtues, which they are reckoned to exert in external applications, are attributed in great part to the odorous matter, which is supposed to be somewhat of the narcotic kind : the root, which has less of this smell than the leaves, has been generally preferred for internal use. At present, they are both among us disregarded.

2. SCROPHULARIA *aquatica major* C. B. *Betonica aquatica*. *Scrophularia aquatica* Linn. Greater water figwort, water betony : with the leaves oblong, nearly oval, crenated about the edges ; the stalks winged at the angles ; the root composed of numerous white strings issuing from one head. It grows in watery places, and flowers in July.

The leaves of this species are recommended for the same purposes as those of the preceding, to which they have by some been preferred : in taste and smell, they are similar, but weaker. Mr. Marchant reports, in the Memoirs of the French Academy, that this plant is the same with the *iquetaia* of the Brazilians, celebrated as a specific corrector of the ill flavour of senna : on his

his authority, the Edinburgh college, in their common infusion of that drug, directed two thirds its weight of the water of figwort leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use.

S E D U M.

SEDUM majus vulgare C. B. Aizoon & barba jovis quibusdam. Sempervivum tectorum Linn.

HOUSELEEK or SENGREEN: a plant with numerous, thick, stiff, fleshy, pointed leaves, lying over one another in form of a roundish cluster; in the middle of which rises a stiff stalk, covered with smaller leaves, divided at the top into several branches, bearing purplish flowers with twelve petals, which are followed by the same number of capsules full of small seeds. It is perennial and evergreen, grows on old walls and the tops of houses, and flowers in June.

THE leaves of houseleek, of no remarkable smell, discover to the taste a mild subacid austerity: their expressed-juice, of a pale yellowish hue when filtered, yields on inspissation a deep yellow, tenacious, mucilaginous mass, considerably acidulous and acerb: from whence it may be presumed, that this herb has some claim to the refrigerant and restringent virtues that have been ascribed to it. It is observable that the filtered juice, on the addition of an equal quantity of rectified spirit of wine, forms a light white coagulum, like creme of fine pomatum, of a weak but penetrating taste: this, freed from the fluid part, and exposed to the air, almost totally exhales. From this experiment it is concluded by some that houseleek

contains a volatile alkaline salt(*a*): but the juice coagulates in the same manner with volatile alkalies themselves, as also with fixt alkalies: acids produce no coagulation.

SELENITES.

SELENITES: an earthy or stony concrete; not dissoluble in acids; calcining in a gentle heat into a soft powder†, which forms a tenacious paste with water: composed of calcareous earth and vitriolic acid.

† Plaster of Paris.

THE vitriolic acid, poured on crude calcareous earths, as chalk, limestone, marble, does not dissolve or unite with them, at least in any considerable degree: but if the earth be previously dissolved in any other acid, the vitriolic acid, superadded to this solution, absorbs the dissolved earth, and forms with it a concrete no longer soluble, which of course renders the liquor milky, and on standing settles to the bottom, either in a powdery or crystalline form, according as the liquor was less or more diluted with water. Native mineral concretes of this kind, when pellucid and crystalline, are called *selenites*; when composed of a number of thin transparent coats or leaves, *lapis specularis*, *Muscovy glass*, or *isings*; when in large stony masses, of a granulated texture, *gypsum*; and when the masses are of a fibrous texture, *striated gypsum* or *English talc*. All these substances are made to discover their composition, by strongly calcining them in contact with the burning fuel: the inflammable principle of the coals absorbs their vitriolic acid, from which combination is produced common

(*a*) Burghart, *Medicorum Silesiacorum satyræ*, *specim.* IV. *lib.* ii. p. 11.

sulphur,

fulphur, greatest part of which exhales ; and the remaining calcined earth, thus deprived of the acid, is found to be a perfect quicklime.

This concrete, in its different forms, has been recommended as an astringent in fluxes and hemorrhagies ; a virtue which agrees but ill with its indissolubility and want of taste. It is often met with in the residua of waters, both of the common and medicinal springs.

S E N N A.

SENNA Pharm. Lond. & Edinb. Folium orientale. SENNA : the leaf of an annual, woody, pod-bearing plant (*senna alexandrina sive foliis acutis* C. B. *Cassia (senna) foliolis trijugatis quadrijugatisque* Linn.) brought dry from Alexandria in Egypt. It is of a lively yellowish green colour, an oblong somewhat oval figure, sharp-pointed at the ends, about a quarter of an inch broad, and not a full inch in length. Some inferior sorts are brought from Tripoli and other places : these may be distinguished by their being either narrower, longer, and sharper pointed ; or larger, broader, and round pointed, with small prominent veins ; or large, obtuse, and of a fresh green colour without any yellow cast.

SENNA is a moderately strong, and in general a safe cathartic : Geoffroy specifies hemorrhagies, inflammations of all kinds, and disorders of the breast, as being almost the only exceptions to its use. The dose in substance is from a scruple to a dram ; in infusion, from one dram to three or four. It gives out its virtue both to watery and spirituous menstrua : to water and proof spirit it communicates a brownish colour,
more

more or less deep according to the proportions; to rectified spirit, a fine green. There are two inconveniences often complained of in this medicine, its being liable in most constitutions, to occasion gripes; and its being accompanied with an ill flavour, which is apt to nauseate both the stomach and the palate. The first may be greatly obviated by dilution, the latter by aromatic and other additions; several compositions of this kind are prepared in the shops, both sufficiently palatable, and which operate for the most part with ease and mildness.

*Inf. fennæ
simpl. Pb.
Lond.*

The most simple infusion is that ordered by the London college, in which six drams of fenna with half a dram of powdered ginger are directed to be macerated during an hour in half a pint of boiling water. For the acidulated infusions, six drams of tamarinds, one of crystals of tartar, half a dram of coriander seeds, half an ounce of brown sugar, and one, two or three drams of fenna are infused in eight ounces of boiling water, in an unglazed earthen vessel, for four hours, and then strained. Or three drams of fenna are infused in a quarter of a pint of boiling water, till the liquor has grown cold, with a dram of coriander seeds bruised, and half a dram of crystals of tartar, which last are previously boiled in the water till dissolved; or with two drams of fresh lemon peel, and two drams by measure of lemon juice. The former committee of the London college observed, that this last was the most agreeable form, they had been able to contrive, for the exhibition of fenna to those who are more than ordinarily offended with its flavour; and that though acids are generally supposed to impede the action of water on vegetables, yet the infusions of fenna made with acids were found, from experience,

not

*Infusum ta-
marindorum
cum fenna
Pb. Ed.*

*Infus. fennæ
tartarifat.
Pb. Lond.*

*Infus. fennæ
limoniatum.*

not to fail in their intention. Indeed if the acids really weaken the dissolving power of the water, which it is probable they do in some degree, it should seem to be, on this account, rather of advantage than otherwise; for, as the committee further observed, in a medicine very nauseous to many, it is of primary consequence that only the lighter and least disgustful parts be extracted. On this principle, some macerate the fenna for a night in cold water, which becomes sufficiently impregnated with its purgative virtue, without extracting so much, as boiling water does, of the nauseous matter: if the liquor, poured off from the fenna, be boiled a little by itself, great part of its ill flavour will be dissipated; and the remains of its offensiveness may be covered by infusing in it some bohea tea. If the coction is continued for any considerable time, the purgative virtue of the fenna will be diminished; for the inspissated watery extracts are scarcely found to purge so much, as one fourth of the infusion or decoction they were made from, or so much as an equal weight of the leaves in substance. The London college have now admitted an extract of this kind.

Extr. fennæ
Ph. Lond.

The officinal spirituous tinctures of fenna are prepared by digestion for some days, in proof spirit. The proportions, in the London pharmacopœia, are three ounces of fenna to a quart of the spirit, to which are added four ounces of stoned raisins, three drams of caraway seeds, and one dram of lesser cardamom seeds husked: in the Edinburgh, two ounces of fenna to three pounds and an half of the spirit, with the addition of one ounce of jalap, half an ounce of coriander seeds, and four ounces of white sugar-candy in powder, which last is directed to be dissolved in the tincture after straining it from the

Tinctura fennæ
Ph. Lond.
Tinct. fennæ
comp. vulgo
elixir salutis
Ph. Ed.

the other ingredients. Both these tinctures are agreeable and useful carminative purgatives, especially to those who have accustomed themselves to spirituous liquors: the ill flavour of the fenna is in great measure covered, and its offending the stomach or producing gripes prevented, by the warm seeds and the sweets. Several compositions of this kind have been offered to the public, under different names; the two above are inferiour to none; and superiour to most of them.

SERPENTARIA.

SERPENTARIA VIRGINIANA Pharm. Lond. & Edinb. *Serpentaria virginiana* & *Viperina* & *Colubrina virginiana* Pharm. Paris.

VIRGINIAN SNAKEROOT; the root of a species of aristolochia growing in Virginia and Carolina, *aristolochia (serpentaria) foliis cordatis oblongis planis, caulibus infirmis flexuosis teretibus, floribus solitariis* Linn. The root is small, light, bushy, composed of a number of strings or fibres issuing from one head and matted together, of a brownish colour on the outside, and paler or yellowish within.

SNAKEROOT has an aromatic smell, approaching to that of valerian, but more agreeable, and a warm bitterish pungent taste, which is not easily concealed or overpowered by a large admixture of other materials. It gives out its active matter both to water and rectified spirit, and tinges the former of a deep brown, the latter of an orange colour. Greatest part of its smell and flavour is carried off in evaporation or distillation by both menstrua: along with water there arises, if the quantity of the root submitted

submitted to the operation be large, a small portion of a pale-coloured essential oil, of a considerable smell, but no very strong taste, greatest part of the camphorated pungency, as well as bitterishness of the root, remaining in the inspissated extract. The spirituous extract is stronger than the watery; not so much from its having lost less in the evaporation, as from its containing the active parts of the root concentrated into a smaller volume; its quantity amounting only to about one half of that of the other.

This root is a warm diaphoretic and diuretic. It is reckoned one of the principal medicines of the alexipharmac kind; and as such is in general use, in low malignant fevers and epidemic diseases, for raising the pulse, promoting a diaphoresis, and correcting a putrid disposition of the humours. It is given, in substance, from a few grains to a scruple or half a dram; in decoction or infusion, to a dram and upwards. Tinctures of it are prepared in the shops, by ^{Tinctura} macerating three ounces of the root in a quart ^{serpentariæ} of proof spirit †, or two ounces, with one dram † ^{Ph. Lond.} of cochineal, in two pounds and a half of the † ^{Ph. Ed.} same spirit †.

SESELI.

LIGUSTICUM quod seseli officinarum C. B.
Laserpitium Siler Linn. HARTWORT or SER-
MOUNTAIN: a tall umbelliferous plant, with
large leaves, composed of oblong pointed
sections set in pairs or three together: the
entire umbel, and its subdivisions, have a
circle of little leaves at their origin: the seeds
are large, of a pale brown colour, oblong,
flat on one side, convex and striated on the
other,

other, and edged with a leafy margin: the root is large, thick, and branched. It is perennial, grows wild in some of the southern parts of Europe, is raised with us in gardens, and flowers in June.

BOTH the seeds of this plant, which are the part directed in our pharmacopœias, and the roots, appear to be useful aromatics, though not regarded in practice; of an agreeable smell, and a warm glowing sweetish taste. The roots have the greatest warmth and pungency: the seeds, the greatest sweetness and the most pleasant flavour. A spirituous extract of the seeds is a very elegant aromatic sweet.

SESELI MASSILIENSE.

SESELI MASSILIENSE *feniculi folio* C. B.
Fœniculum tortuosum J. B. *Seseli tortuosum* Linn.

HARTWORT OF MARSEILLES: a large spreading branched umbelliferous plant; with the stalk and branches firm, woody, knotty, and variously bent; the leaves finely divided, like those of fennel, but somewhat thicker, shorter, stiffer, and more distant from one another; the seeds also in shape like those of fennel, and of a pale grey colour. It is perennial, and a native of the southern parts of Europe, from whence the seeds are sometimes brought to us.

THE seeds of this plant have an agreeable aromatic smell, and a very warm biting taste: they are more pungent than those of the foregoing seseli, but want their sweetness.

SIGILLUM SALOMONIS.

CONVALLARIA seu *Sigillum Salomonis* Pb. Edinb. (a) *Polygonatum latifolium vulgare* C. B. *Convallaria multiflora* Linn. SOLOMONS-SEAL : a plant with unbranched stalks, bearing oval narrow leaves ribbed like those of plantain, generally all on one side : on the other side hang oblong monopetalous white flowers, two or more together, on long pedicles, followed each by a black berry : the root is white, thick, fleshy, with several joints, and some flat circular depressions supposed to resemble the stamp of a seal. It is perennial, grows wild in woods, and flowers in May.

THE roots of Solomons-seal are recommended externally as restringents ; and internally as in-craffants and mild corroborants. They have little or no smell ; to the taste they discover a considerable sweetness and viscosity, followed by a very slight impression of bitterishness and acrimony, which is dissipated by boiling. It is said that they have been used with success in the hæmorrhoids (b). The flowers, berries, and leaves, are acrid and poisonous (c).

SIMAROUBA.

SIMAROUBA Pharm. Lond. & Edinb. the bark of the *Quassia Simarouba*, Linn. suppl. *Quassia dioica*, Pharm. Suec. *Evonymus fructu nigro tetragono* Barrer. *Æquin.* It is brought from Guiana, in long pieces, of a yellowish

(a) The Edinburgh college give the *Convallaria Polygonatum* of Linnæus as their species.

(b) Cullen, *Mat. Med.*

(c) Id.

white

white colour, light, tough, and of a fibrous texture.

Mr. de Jussieu reports, that this bark is of common use in Guiana, against dysenteric fluxes, and was brought from thence into Europe in the year 1713: that the fluxes which, in France, succeeded the excessively hot summer of 1718, and which not only resisted, but were aggravated by, purgatives, astringents, and ipecacoanha, happily yielded to simarauba: that decoctions of an ounce or half an ounce in a small quantity of water, the dose used by the natives of Guiana, occasioned often vomiting, almost always uneasy sweats, and sometimes an increase of the bloody and serous discharges by stool; but that a decoction of two drams in a quart of water, boiled to the consumption of one third, divided into four doses, and taken warm at intervals of three hours, abated the pain in one day, and when continued for a short time completed the cure, without producing any nausea or disturbance: that it is not accompanied with the ill effects of astringents: that it abates spasmodic and hysteric symptoms: that it answers best in fluxes of the seroso-bilious, bloody and mucous kind, supported by a convulsive motion of the intestines, where there is no fever; where the functions of the stomach are unhurt, and in *tenesmi* (a). Dr. Degner likewise made use of this bark in the above form, with good success, after proper evacuations, in an epidemic putrid dysentery, which raged at Nimeguen during the summer and autumn of 1736: he says it acted mildly

(a) *Mem. de l'acad. des scient. de Paris*, 1729. Geoffroy, *mat. med.* ii. 211.

and almost insensibly, and that its effects were speedier in bloody than in bilious discharges: he takes notice also that the barks procured under the name of *simaruba*, in different parts of Holland, from *Leipsick*, and from *Paris*, differed greatly in quality from one another; but does not mention what the differences were, nor the qualities of the genuine or best sort (*a*).

The *simaruba*, which I have met with in our shops, has a moderately strong, durable, not very ungrateful bitter taste, without smell, and without any manifest astringency. Macerated in water, or in rectified spirit, it quickly impregnates both menstrua with its bitterness, and with a yellow tincture. It seems to give out its virtue more perfectly to cold than to boiling water; the cold infusion being rather stronger in taste than the decoction; which last, of a transparent yellow colour whilst hot, grows turbid and reddish brown as it cools. The milky appearance, which *Jussieu* says it communicates to boiling water, I have not observed in the decoction of any of the specimens I examined.

SINAPI.

SINAPI Pharm. Lond. Sinapi album Pharm. Edinb. Sinapi rapifolio C. B. Sinapis nigra Linn. (b)*. MUSTARD: an annual plant; with long rough leaves divided to the rib into irregular segments, of which the extreme one is

(*a*) *Hist. dysentericæ biliofo-contagiosæ, in Append. ad act. nat. curios. vol. v.*

* (*b*) The *Sinapis alba Linn.* is the Edinburgh species, which differs little from the black, or common, except in being less pungent and bitter. It should seem therefore to be less proper for external use, at least.

largest; producing, at the tops of the branches, tetrapetalous yellow flowers, followed, each, by a short, smooth, quadrangular pod, divided longitudinally by a membrane which projects at the ends, containing small, roundish, reddish-brown or dark-coloured seeds. It is a native of England, but commonly cultivated for medicinal and dietetic use.

MUSTARD SEED is one of the strongest of the pungent, stimulating, diuretic medicines that operate without exciting much heat. It is sometimes taken, unbruised, to the quantity of a spoonful at a time; in paralytic, cachectic, and ferous disorders. In this manner of exhibition it generally opens the body; whereas the powder is apt to occasion vomiting, in which intention it is sometimes given diffused in warm water, of which repeated draughts must be drunk, to continue the effect. It is applied also, as an external stimulant, to benumbed or paralytic limbs; to parts affected with fixt rheumatic pains; and to the soles of the feet, in the low stage of acute diseases, for raising the pulse: in this intention, a mixture of equal parts of the powdered seeds and crumb of bread, with the addition, sometimes, of a little bruised garlick, are made into a cataplasm with a sufficient quantity of vinegar.

Mustard seed yields upon expression a considerable quantity of oil, which is by some recommended externally against rheumatisms and palsies, though it has nothing of that quality by which the seeds themselves prove useful in those disorders; the oil being mild and insipid as that of olives, and the pungency of the seed remaining entire in the cake left after the expression.

expression. Nor is any considerable part of the pungent matter extracted by rectified spirit; the tincture, which is of a pale amber colour, having very little taste; and the extract, obtained by inspissating it, being only bitterish and oily: the quantity of extract is about one sixteenth the weight of the seeds. The bruised seeds give out readily to water nearly the whole of their active matter: added to boiling milk, they curdle it, and communicate their pungency to the whey. Distilled with water, they yield a limpid essential oil, extremely pungent and penetrating both in smell and taste, and so ponderous as to sink in the aqueous fluid: the remaining decoction, thus divested of the principle in which alone the acrimony of the mustard resides, leaves on being inspissated a sweetish mucilaginous extract.

* *SIUM.*

WATER-PARSNEP. A genus of umbelliferous plants, growing in watery situations, with winged leaves, striated seeds, and a polyphyllous involucre. Of these, a species has of late years come into frequent use under the name of *Sium aquaticum*, but this appellation equally suiting the three English kinds, it was a matter of doubt which of them was intended, and different opinions were given by botanists. The London college have at length determined the point by admitting into their catalogue the

SIUM NODIFLORUM *Linn.* **CREeping WATER-PARSNEP**, which is distinguished from the others by the reclining position of the leaves, and by the manner in which the umbels of flowers come out, chiefly from the axillæ of the leaves.

It is a very common plant, often entirely covering the bottom of ditches. In cutaneous eruptions, and the cases termed scorbutic, the expressed juice of the water-parsnep has been given in the dose of three large spoonfuls twice a day to children, and three or four ounces every morning to adults, with great advantage. It is not nauseous, and is readily taken by children when mixed with milk. In these doses, it has no sensible effect on the head, stomach, or bowels. (a)

SOLANUM.

NIGHTSHADE: a plant with a monopetalous flower, divided into five segments, having its cup divided in the same manner, with the same number of stamina in the middle, and followed by a juicy berry.

1. BELLADONNA *Pharm. Edinb. & Paris. Solanum melanocerasos C. B. Solanum lethale. Atropa Belladonna Linn.* Deadly nightshade or dwale: with the leaves oval, pointed, somewhat hairy; the flowers solitary in the bosoms of the leaves, of a dull purplish colour, tubulous, slightly cut, with the stamina separate from one another; the berries of a glossy black. It is perennial, grows wild in some shady waste grounds, and flowers in July.

2. SOLANUM *Pharm. Paris. Solanum officinarum C. B. Solanum nigrum Linn.* Garden nightshade: with the leaves oval, pointed, having generally some irregular indentations; the flowers in clusters, white, not tubulous,

(a) Dr. Withering in the *Botan. Arrangement*, second edit. p. 293.

deeply

deeply cut, the segments spread out, and the tips of the stamina united into one button; the berries black. It is annual, grows spontaneously in cultivated grounds, and flowers in August.

The leaves of these plants have a faint smell, somewhat of the narcotic kind, which in drying is dissipated: on the organs of taste, whether fresh or dry, they make scarcely any impression. Their effects are nevertheless very powerful: in external applications, they are said to act as refrigerants, resolvents, and discutients: taken internally, in the quantity of not many grains, they are highly deleterious, the first somewhat the most so. In very small doses, as an infusion in boiling water of half a grain or a grain of the dried leaves, they occasion a warmth over the whole body; which is often followed by a sweat, or an increase of the urinary discharge, or some loose stools, or a sickness and vomiting; and often by a headach, giddiness, dimness of the sight, and other paralytic symptoms (*a*). In some cancerous, ulcerous, and hydropic cases, these infusions have been repeated, at bed-time, every two or three nights or oftener, and the quantity of the leaves in each dose increased gradually to five or six grains or more, with apparent benefit: but they are so variable and irregular in their operation, and so liable, not only

(*a*) Mr. Ray gives an account, from his own knowledge, of a pretty remarkable effect of a small piece (*particula*) of a fresh leaf of belladonna applied externally to a little ulcer, supposed cancerous, below the eye: the uvea became in one night so relaxed, that it lost all power of contracting the pupil, which, though exposed to the strongest light, continued dilated to four times its natural size, till the leaf being removed the parts gradually recovered their tone. The application was repeated three several times, and produced always the same effect. *Hist. plant.* 680.

to fail of giving relief, but to be productive of very alarming symptoms by strongly affecting the nervous system, that their use is deservedly laid aside. Their good effects, when they happen to prove medicinal, seem to depend, not on any alterative or peculiarly deobstruent power, but merely on the evacuations they produce: where they do not act as evacnants, they generally aggravate their complaints (*a*).

* In the *Med. Comment.* vol. i. p. 419, is a remarkable case of the efficacy of an external application of belladonna in discussing a scirrhous tumour in the rectum, near the anus, which almost totally blocked up the passage. The mode of application was a poultice of the root boiled in milk. This was applied to the anus and perinæum, and renewed morning and evening. In the space of a month it entirely dissolved the tumour, without any suppuration, or discharge of matter. The writer says that he could add more instances of the good effects of this plant externally applied.

The roots and berries appear to partake of the deleterious qualities of the leaves, though probably in different degrees: the berries in particular seem to be of much less activity. It is said that three or four of the berries of the deadly nightshade, which are reckoned more virulent than those of the other sort, have been sometimes eaten without injury: Gesner reports that there expressed juice, boiled with a little sugar to the consistence of a syrup, proves, in doses of a tea-spoonful, an effectual and safe anodyne, but gives a particular caution not to exceed this

(*a*) See Mr. Gataker's *observations* (and the supplement thereto) on the internal use of the nightshade, and Mr. Bromfield's account of the *English nightshades* and their effects.

dose. The Edinburgh college has directed the inspissated juice of the leaves to be kept as an officinal. Succus spissatus belladonnæ Ph. Ed.

3. DULCAMARA *Pharm. Edinb. Solanum scandens seu dulcamara C. B. Amaradulcis & glycyphycros quibusdam. Solanum Dulcamara Linn.* Woody nightshade or bitter-sweet: with several of the leaves, particularly the upper ones, cut deeply into three sections, or rather furnished with two smaller appendages at the bottom; the flowers in clusters, of a blue colour, with the segments spread out and the stamina united as in the second species; the berries red. It grows by the sides of ditches and in moist hedges, climbing upon the bushes, with winding, woody, but brittle stalks. It is perennial, and flowers in June and July.

The roots and stalks of this species impress, on first chewing them, a considerable bitterness, which is soon followed by an almost honey-like sweetness. They have been commended in different disorders, as high resolvents and deobstruents: their sensible operation is by sweat, urine, and stool; the dose from four to six ounces of a tincture made by digesting four ounces of the twigs in a quart of white wine. Experience has shewn, that they are by no means equally deleterious with the two preceding nightshades; that they act more regularly and uniformly: and that, without producing nervous complaints, they produce more considerable evacuations, especially by stool; but their virtues in particular cases have not yet been sufficiently ascertained.

* In a medical dissertation on this plant, printed at Upsal, a light decoction and infusion of the stalks is the preparation recommended,

and is said to have been frequently employed with success in violent ischiadic and rheumatic pains. The efficacy of the dulcamara in the jaundice, scurvy, suppressed menses, and the lues venerea, is also mentioned from other authors.

SPERMA CETI.

SPERMA CETI Pharm. Lond. & Edinb.
 SPERMACETI, improperly so called: a species of fat; found in certain wales, particularly in their heads; artificially purified, by boiling with alkaline lye, to a snowy whiteness; and afterwards broken into flakes. It differs from the other animal fats, in not being dissoluble by alkalies or combinable with them into soap; and in rising almost totally in distillation, not in form of a fluid oil, but in that of a butyraceous matter resembling, both in consistence and smell, the butter of wax. In long keeping, it is apt to turn yellow and rancid: the matter, very small in quantity, which has suffered this change, and which taints the rest, is found to have lost the discriminating characters of the spermaceti; being dissoluble both by alkaline lye and by vinous spirits, so as to leave the remainder white and sweet as at first.

THIS concrete, of a soft butyraceous taste and no remarkable smell, is given with advantage in tickling coughs, in dysenteric pains and erosions of the intestines, and in such cases in general as require the solids to be softened and relaxed, or acrimonious humours to be obtunded. It readily dissolves in oils, and unites by liquefaction with wax and resins; and in these forms is applied externally. For internal

nal use, it may be dissolved in aqueous liquors into the form of an emulsion, by trituration with almonds, the yolk or white of an egg, and more elegantly by mucilages; or made into a lohoch with proper additions.

* SPIGELIA.

SPIGELIA Pharm. Lond. & Edinb. Anthelmia D^{ris}. Lining. Spigelia marilandica Linn. Perichlymeni virginiani flore coccineo planta marilandica, spica erecta, foliis conjugatis Catesby carol.

INDIAN PINK: this plant has a perennial fibrous root, whence rise single stems, beset with opposite oval-lanceolate, entire leaves, and crowned with a spike of tubular monopetalous red flowers, with five stamina and one pistil. Each flower is succeeded by two round united byvalvular capsules, containing several small seeds. It grows spontaneously in South Carolina, and other southern provinces of North America.

The use of the root of this plant as an anthelmintic was communicated from the native Indians to the colonists, and it has since been much employed in that country. The first account of its virtues is to be met with in a paper of Dr. Lining's, in vol. i. of the *Essays Physical and Literary*; and Dr. Garden has confirmed it in vol. iii. of the same publication, and has given a figure and particular description of the plant.

The root is given both in powder and infusion; but the powder is esteemed most efficacious. The dose is not accurately ascertained, but extends from twelve to sixty or seventy grains of the powder. It is found to be most efficacious when it purges, which it does not always do without some additions. The exhibition

bition of a vomit previous to the use of the Indian pink has proved very serviceable. It sometimes produces disagreeable effects on the nervous system, such as giddiness, dimness of the sight, and convulsive motions of the muscles of the eye. These, according to Dr. Garden, are more likely to happen from a small dose than a large one, the latter more certainly proving purgative or emetic. Dr. Lining, on the other hand, represents these effects as consequent upon too large a dose. It is said to act powerfully as a sedative in abating the exacerbations of low remittent worm-fevers.

SPINA CERVINA.

SPINA CERVINA Pharm. Lond. Rhamnus catharticus five *Spina cervina Pharm. Edinb. Rhamnus catharticus C. B. & Linn. Spina infectoria et cervispina quibusdam.* BUCKTHORN: a prickly bush, or low tree, common in hedges: with oval pointed leaves; producing in June small greenish flowers; and about the beginning of October ripening its black berries, which contain a dark green juice, with four seeds in each. The berries of the black alder and dogberry tree, which are frequently, in our markets, mixed with or substituted for those of buckthorn, may be distinguished, by their juice having no greenness, and by their containing only one or two seeds.

BUCKTHORN BERRIES have a faint unpleasant smell, and a bitterish, acrid, nauseous taste. They operate briskly by stool; and occasion, at the same time, a thirst and dryness of the mouth and throat, and not unfrequently severe gripes, especially if water-gruel or other soft diluents

diluents are not freely drank soon after taking them. The dose is said to be, about twenty of the fresh berries in substance; twice or thrice that number in decoction; a dram, or a dram and a half, of the dried berries; an ounce of the expressed juice; or half an ounce of the rob or extract obtained by inspissating the juice. Among us they have been employed only in the form of a syrup, in which they seem to operate less unkindly than in any other, and which is given by itself in doses of three or four spoonfuls, or mixed in smaller quantities with other cathartics. The college of Edinburgh directs the syrup to be prepared by boiling the depurated juice with sugar to a due consistence: that of London adds a little ginger, and pimento, with a view to cover in some degree the ill flavour of the buckthorn: but notwithstanding this improvement of the medicine, it is still so unpleasant and so churlish, that it has now almost fallen into disuse.

Syrupus spinæ cervinæ
Ph. Lond. & Ed.

SPIRITUS VINOSUS.

VINOUS SPIRIT: an inflammable fluid, obtained by distillation from wines or other fermented liquors. As first distilled, it partakes both of the phlegm or watery part, and of the oil, of the fermented liquor; which oil, in the liquors commonly used for this purpose, is nauseous and fetid.

I. SPIRITUS VINOSUS RECTIFICATUS *Pharm. Lond. & Edinb.* Rectified spirit of wine: a vinous spirit purified as much as possible both from its phlegm and ill smell.

Spirits drawn from wine, such as French brandy, may be in great measure purified by simple

simple distillation, in tall vessels, with a gentle heat, the pure spirituous part rising before the phlegm: if French brandy be thus distilled to one half, the distilled spirit proves tolerably pure. But wine or brandy being in this country too dear an article for distillation; and all vinous spirits, when perfectly purified, being one and the same thing; this purification is chiefly practised, among us, on the cheaper spirits of melasses and malt liquors. These spirits, when freed by distillation from greatest part of their phlegm, are still found, particularly the latter, to abound with a very offensive oil. To separate this, they are mixed with equal their quantity of spring water, and the spirit gently drawn off again: a considerable portion of the oil is thus left behind in the water, which now proves turbid, and milky, and very nauseous both in smell and taste. By repeating this ablution with fresh quantities of water, the foulest and most offensive spirits may be purified from all ill flavour.

Though spirits, by this treatment, may be divested of their oil, they cannot be freed wholly from phlegm; the gentlest heat, in which they can be distilled, being sufficient to raise a little watery vapour. To complete the purification, therefore, a little fixt alkaline salt, thoroughly dried and powdered, is added; which, imbibing the phlegm, is thereby dissolved into a ponderous liquid, that does not mingle with the spirit, but settles at the bottom. If the spirit is very phlegmatic, four pints will require a pound of the alkali: if the distillation has been performed with due care, half this quantity, or less, will be sufficient: in either case, if all the salt dissolves, the spirit is to be digested with a little more, till at least a part
remains

remains undissolved. The spirit, now poured off, is to be again distilled, in order to separate from it a portion of the salt, which has united with it, and which, though extremely minute, is sufficient to vary, in some respects, its qualities. As some particles of the alkali are apt to be carried up with it even in the distillation, so as to communicate an ill flavour, it is advisable to previously add a small portion of calcined vitriol or burnt alum, which will completely absorb the alkali, without giving any new impregnation to the spirit. In this manner was prepared the spirit used in the experiments of the present work under the name of rectified or pure spirit of wine.

Vinous spirits, thus rectified, have a very hot pungent taste, without any particular flavour. They readily take fire, and burn totally away, without leaving any mark of an aqueous moisture behind; though on catching the vapour that exhales from the flame, a considerable quantity of mere water is collected. On distilling them with the gentlest heat, the last runnings prove as colourless, flavourless, and inflammable, as the first. They dissolve distilled vegetable and animal oils, and all the pure resins, into an uniform transparent fluid. They are the lightest of almost all known liquids: expressed oils, which swim on water, sink freely in these to the bottom: a measure which holds ten ounces by weight of water, will contain little more than eight and a quarter of pure spirit.

2. SPIRITUS VINOSUS TENUIOR *Pharm. Lond.*
& *Edinb.* Proof spirit: the same spirit containing an admixture of an equal quantity [by measure] of water. "The best proof spirit is
" that

“ that distilled from French wine; but for
 “ common uses, may be employed the spirit
 “ drawn from the syrupy matter which separates
 “ in the purification of sugar, commonly called
 † *Ph. Lond.* “ *melasses†.*” — The spirits usually met with,
 under the name of proof, are those distilled
 from different fermented liquors, freed from
 their phlegm and their flavour only to a certain
 degree. Their purity, with regard to flavour,
 may be judged by the taste, especially if the
 spirit be first duly diluted: of their strength, or
 the proportion of phlegm contained in them,
 the least uncertain criterion seems to be their
 gravity, which is estimated most commodiously
 by the hydrometer. For the nicer purposes, a
 pure flavourless proof spirit may be obtained by
 mixing the foregoing rectified spirit with an
 equal measure of pure water.

*Alkohol Ph.
 Lond.*

* The last London pharmacopœia has given
 three forms of vinous spirit. The purest is
 their *alkohol*, made by digesting rectified spirit
 of wine with hot fixed alkali, and then redif-
 stilling. Of this, the specific gravity to water is
 stated at 815 to 1000. Their rectified spirit has
 95 parts of alcohol, and 5 of water, in 100
 parts; and should have the specific gravity of
 835 to 1000. Their proof spirit contains 55
 parts of alcohol, to 45 of water, and weighs
 as 930 to 1000.

RECTIFIED SPIRIT coagulates all the fluids of
 animal bodies, that have been tried, except bile
 and urine. It hardens the solid or consistent
 parts, and preserves them from corruption.
 Applied externally to living animals, it strength-
 ens the vessels, contracts the extremities of the
 nerves, and deprives them of sensibility: hence
 its power of restraining hemorrhagies, abating
 superficial

superficial pains, &c. Received into the stomach, undiluted, it produces the like effects; thickening the fluid, and contracting all the solid parts which it touches, and destroying, at least for a time, their use and office: if the quantity taken is considerable, a palsy, or apoplexy, follows, and speedily proves mortal.

Proof spirits, and such as are diluted below the proof strength, have the same effects in a lower degree. Externally they are of use in corroborant, anodyne, and antiseptic fomentations. Taken inwardly, in small quantity, they strengthen lax fibres, incrassate thin fluids, and warm the habit: in larger quantity, they disorder the senses, destroy voluntary motion, and produce, like the rectified spirit, a mortal apoplexy or palsy.—Vinous spirits, therefore, in small quantity and properly diluted, may be applied to useful purposes in the relieving of some disorders; whilst in larger ones, or imprudently continued, they act as a poison of a particular kind. Their moderate use is the most serviceable to those, who are exposed to heat and moisture, to corrupted air, or other causes of colliquative and putrid diseases; the most pernicious in the opposite circumstances, and to those who are afflicted with hysterical or hypochondriacal complaints; for whatever temporary relief these spirituous cordials may afford in the lownesses to which hysterical and hypochondriacal persons are subject, we entirely agree with Dr. Pemberton, that there are none who feel so soon the ill effects arising from their habitual use.

SPONGIA.

SPONGIA.

SPONGIA Pharm. Lond. & Edinb. SPONGE: a soft, light, very porous and compressible substance, readily imbibing water; found in the sea, adhering to rocks, particularly in the Mediterranean, about the islands of the Archipelago. It has been commonly supposed a vegetable production, but is more probably, like the corallines, of animal origin. Chemically analysed, it yields, like animal substances, a volatile alkaline salt, and this even in larger quantity than I have obtained from any of the other animal matters except the bags of the silk-worm: the caput mortuum, incinerated, yields also a large proportion of fixt salt, not however an alkaline one like that of vegetables, but chiefly of the marine kind: a like salt is obtainable by boiling the sponge in water without burning.

Dry sponge, from its property of imbibing and swelling by moisture, is sometimes used as a tent for dilating wounds and ulcers: for this purpose, after being carefully freed from the small stones generally lodged in it, it is dipt in melted wax, and the wax squeezed out from it in a press†. * It has also been found to be the most efficacious of all those substances which have been employed to suppress hemorrhagies on the ground of their strong adhesion to the mouths of the wounded vessels; such as agaric, puff ball, &c. For this purpose, a very dry and solid piece, of a cubical or conical form, should be applied in close contact with the vessel, and retained by proper compression. It soon adheres with great force; and indeed its difficult removal is one of its chief inconveniences.

† *Spongia præparata Ph. Paris.*

encies. Very large arteries have been prevented from bleeding by this application (*a*).

Burnt in a close earthen vessel, till it becomes black and friable†, it has been given in doses of a scruple against scrophulous complaints and cutaneous defecations; in which it has sometimes been of service, in virtue, probably, of its saline matter, the proportion of which, after the great reduction which the other matter of the sponge has suffered in the burning, is very large. By virtue of this saline matter also, the preparation, if ground in a brass mortar, corrodes so much of the metal, as to contract a disagreeable taint and sometimes an emetic quality: hence the college expressly orders it to be powdered in a mortar of glass or marble. * The burned sponge is a principal article in what is called the Coventry method of cure in the bronchocele, and also in that published by Mr. Prosser (*b*).

STANNUM.

STANNUM Pharm. Lond. & Edinb. **TIN:** a silver-coloured metal, not liable to rust, but losing its brightness in the air; easily flexible, and making a crackling noise in being bent; little more than seven times specifically heavier than water; fusible in a heat far below ignition, and somewhat less than that in which lead melts. Heated till almost ready to melt, it proves extremely brittle, so as to fall in pieces from a blow. Melted, and nimbly agitated at the time of its beginning to congeal (as by shaking in a wooden box rubbed on the inside with chalk) it

Stannum
pulveratum
Ph. Lond.
Stanni pulvis
Ph. Ed.

(*a*) See White's *Cases in Surgery*.

(*b*) See Wilmer's *Cases in Surgery*, and Prosser on the *Bronchocele*.

is reduced partly, and by repetitions of the process totally, into powder. Continued in fusion for some time, and kept stirring with an iron rod, it changes into a dusky calx; which, urged longer in the fire, gains a perfect whiteness, a mark of the purity of the tin. It is corroded by vegetable acids, and renders them turbid and whitish: the nitrous acid pretty readily dissolves it, but soon deposits a part in form of a thick mucilage, especially if the acid has any admixture of the vitriolic: the vitriolic and marine acids are very difficultly made to act upon it: its most perfect menstruum is a mixture of the marine and nitrous.

THE principal use of this metal in the present practice is as an anthelmintic: even the flat worms, which too often elude the force of other medicines, are said to be effectually destroyed by powdered tin. The common dose of the powder is from a scruple to a dram, but Dr. Alston affirms, in the Edinburgh medical essays, that its success depends chiefly on its being given in much larger quantities, as half an ounce or an ounce. It is possible, that the anthelmintic virtues of tin may proceed, not so much from the pure metal, as from a certain substance of a different nature, which there are grounds to suspect that the purest sorts of tin usually met with, participate of; filings of tin, held in the flame of a candle, emit a thick fume smelling like garlick: Mr. Marggraf reports (*a*), that by gentle dissolution in aqua regis and slow evaporation, he obtained crystals, which on being exposed to the fire, with the addition of some fixt alkaline salt to absorb their acid, sublimed into a white concrete; and that this ex-

(*a*) *Memoires de l'acad. roy. des sciences de Berlin*, tom. iii.
haled

haled in the fire in fumes of a strong garlick smell, formed with sulphur yellow and red compounds, and whitened copper (see *Arsenicum*). It must be observed, however, that notwithstanding these strong presumptions, not to say proofs, of an arsenical impregnation in tin, the metal taken in substance has not been observed to be noxious, though the fumes which it emits in a red heat are undoubtedly so.

A sparkling gold-coloured preparation of tin, called mosaic gold, is prepared by adding six ounces of quicksilver to twelve of melted tin, pulverizing the mass when grown cold, mixing with it seven ounces of flowers of sulphur and six of sal ammoniac, and subliming in a matras: the mosaic gold is found under the sublimed matter, with some dross at the bottom. This preparation is chiefly valued for its beautiful appearance: as a medicine it is at present little regarded, though formerly held in considerable esteem against hysterical and hypochondriacal complaints, malignant fevers, and venereal disorders. It appeared, upon experiment, to be little more than a calx of tin: tin, calcined by itself, gains nearly as much in weight, as it does by being made into mosaic gold; and the mosaic gold, melted with inflammable fluxes, is revived into tin again without suffering much more loss than the simple calx. The volatile ingredients, sal ammoniac, sulphur, and quicksilver, sublime in the process, partly escaping, and partly forming the scoriæ: great part of the sulphur and mercury are found united together into the form of cinnabar.

A salt of tin is directed to be prepared, from Sal Jovis. twelve ounces of calx of tin and four of aqua regia diluted with twenty-four of water: after digestion for two days, the vessel is to be
C c 2 shaken,

shaken, the more ponderous part of the undissolved calx suffered to settle, the turbid liquor poured off and evaporated nearly to dryness, and the mass further exsiccated on brown paper: to the remaining calx, half the quantity of fresh menstruum is to be added, and the process repeated. Of the virtues of this salt I can say nothing from experience, except that it is in taste very sharp and almost corrosive. Nor do I apprehend the use of calcining the metal, as tin uncalcined dissolves much more easily and more plentifully: the solution is in both cases the same, the fire in the calcination dissipating only the inflammable principle of the tin, which the acid equally does in the solution and evaporation. Hoffman says, that solution of tin is a strong purgative.

STAPHISAGRIA.

STAPHISAGRIA Pharm. Lond. & C. B. Staphys, pedicularia, & herba pedicularis quibusdam. Delphinium Staphysagria Linn. STAVE-SACRE: a plant with large leaves, set on long pedicles, deeply divided into several segments; producing irregular blue flowers with a tail behind like those of larkspur, followed by pods containing large, rough, triangular, dark-coloured seeds. It is annual, a native of the southern parts of Europe, from whence the shops have been generally supplied with the seeds.

THE seeds of stavesacre have a disagreeable smell, and a very nauseous bitterish burning taste. They were formerly employed sometimes as a cathartic, in doses of from twelve grains to a scruple: but they operate with so much violence

violence both upwards and downwards, and are so liable not only to disorder the bowels, but likewise to inflame the throat, that their internal use has been long laid aside. They are now used only in external applications, for some kinds of cutaneous eruptions, and for destroying insects. Their acrimony is extracted partially by water, totally by rectified spirit, and not elevated in distillation by either.

STOECHAS.

STOECHAS purpurea C. B. *Lavandula Stæchas* Linn. FRENCH LAVENDER: a low shrubby plant, with small oblong narrow leaves, bearing on the tops of the branches short thick spikes or scaly heads, from which issue several small purple labiated flowers, followed each by four seeds inclosed in the cup. It is a native of the southern parts of Europe, common in our gardens, and flowers in May or June. The shops have been generally supplied, from Italy and the south of France, with the flowery tops, often mouldy, and never equal to those of our own growth.

THE best stechas which we receive from abroad has no great smell or taste; Pomet affirms, that such as is to be met with in the shops of Paris is entirely destitute of both; whereas ours, both whilst fresh and when carefully dried, has a pretty strong aromatic smell, and a moderately warm pungent bitterish taste. Distilled with water, it yields a considerable quantity of a pale-coloured fragrant essential oil: the remaining decoction is unpleasantly bitterish and subastringent. With rectified spirit, it gives over nothing considerable, greatest

part of the active matter of the stechas being left in the extract. Both the herb itself and its preparations are much less grateful than lavender, with which it is supposed to have some agreement in virtue.

* *STRAMONIUM.*

STRAMONIUM Pharm. Edinb. Solanum fatidum, pomo spinoso oblongo C. B. Datura Stramonium Linn. THORN-APPLE: an herbaceous plant, with a thick branched stalk, two or three feet high, large sinuated indented leaves, and long tubular white or purplish flowers, succeeded by large, prickly, green, fleshy seed-vessels, which open at the end in four divisions, and disclose numerous black seeds. It is sown in gardens, and sometimes found wild among rubbish. It flowers in July.

THIS plant, which has been long known as a narcotic poison, has been introduced into the catalogue of medicines by Dr. Stœrck. An extract made from the expressed-juice of the leaves is acrid and saline to the taste, and yields crystals of nitre on standing. This preparation given in doses of from one to five grains twice or thrice a day, is said to be a very powerful remedy in various convulsive and spasmodic disorders, epilepsy and mania. The accounts of other practitioners have confirmed that of the first introducer, and it has been received into some pharmacopœias.

An abridged account of its medicinal properties, with some instances of its efficacy, from a treatise printed at Upsal by Dr. Wedenberg, is to be met with in the *Med. Comment.* vol. iii. p. 18. An ointment prepared from the

the leaves has been found to give ease in external inflammations and hæmorrhoids.

Several instances are recorded of the bad effects of inadvertently eating the seeds of thorn-apple. Emetics and purgatives give the speediest relief in these cases, which it is sometimes necessary frequently to repeat, as some of the seeds have been found to lodge a considerable time in the stomach.

STYRAX.

STYRAP Pharm. Lond. Styra calamita Pharm. Edinb. SOLID STORAX: an odoriferous resin, exuding in the warmer climates from a middling-sized tree (*styrax folio mali cotonei C. B. Styra officinale Linn.*) with leaves like those of quince, flowers like those of the orange tree, and fruit like filberds; a native of Asia, and, as is said, of Italy. Two sorts of this resin have been commonly distinguished in the shops.

1. *Storax in the tear*: not in separate tears, or exceeding rarely, but in masses, sometimes composed of whitish and pale reddish brown tears, and sometimes of an uniform reddish-yellow or brownish appearance; unctuous and soft like wax, and free from visible impurities. This is supposed to be the sort which the ancients received from Pamphylia in reeds or canes, and which was thence named calamita.

2. *Common storax*: in large masses, considerably lighter and less compact than the foregoing, and having a large admixture of woody matter like saw-dust. This appears to be the kind intended by the London college, as they direct their *styrax calamita* to be purified, for medicinal use. *Styrax calamita Ph. Lond.*

dicinal use, by softening it with boiling water, and pressing it out from the feces betwixt warm iron plates; a process which the first sort does not stand in need of. And indeed there is rarely any other than this impure storax to be met with in the shops.

The writers on the materia medica in general prefer the pure storax in the tear, and reject that which is mixed with woody matter. It appears however, upon comparison, that this last, notwithstanding its large proportion of impurities, is the most fragrant of the two: nor is it difficult to assign a reason for this superiority, as the pure juice must have required, for its inspissation to a firm consistence, a longer exposure to the sun and air, and consequently lost more of its volatile parts, than when absorbed and thickened by the woody substance.

Common storax, infused in water, imparts to the menstruum a gold yellow colour, some share of its smell, and a slight balsamic taste. It gives a considerable impregnation to water by distillation, and strongly diffuses its fragrance when heated, though it scarcely yields any essential oil. Hence, in the purification of it by straining, it is apt to suffer a considerable loss of its finer matter, which is partly dissipated by the heat, and partly kept dissolved by the water: a part of the storax is likewise defended by the woody substance from the action of the press, and and left behind among the feces. It may be purified rather more elegantly by means of rectified spirit, which readily dissolves the fine resin, leaving only the impurities and a little inert gummy matter: the spirit gently distilled off from the filtered reddish-yellow solution, brings over with it very little of the fragrance of the storax; and the remaining resin is more fragrant

grant than the finest storax in the tear which I have met with. The pure resin, distilled without addition, yields, along with an empyreumatic oil, a portion of saline matter similar to the flowers of benzoine; I have sometimes also extracted from it a substance of the same nature by coction in water.

Storax is one of the most agreeable of the odoriferous resins, of a mild taste, of no great heat or pungency, nearly similar, in its medical as in its pharmaceutic qualities, to benzoine and balsam of Tolu. It is not, however, much used in common practice, unless as an ingredient in some of the old compositions.

STYRAX LIQUIDA.

LIQUID STORAX : a resinous juice; obtained from a large tree with angular leaves like those of the maple, and a round fruit composed of a number of pointed seed-vessels, called by Ray *styrax aceris folio*, by Linnæus *Liquidambar styraciflua*, a native of Virginia and Mexico, and lately naturalized to our own climate. The juice called liquidambar is said to exude from incisions made in the trunk of this tree, and the liquid storax to be obtained by boiling the bark or branches in water.

Two sorts of liquid storax are distinguished by authors: one, the purer part of the resinous matter that rises to the surface in boiling, separated by a strainer, of the consistence of honey, tenacious like turpentine, of a reddish or ash brown colour, moderately transparent, of an acrid unctuous taste, and a fragrant smell, faintly resembling that of the solid storax, but somewhat disagreeable: the other, the more
impure

impure part, which remains on the strainer, untransparent, in smell and taste much weaker, and containing a considerable proportion of the substance of the bark. What is most commonly met with under this name in the shops, is of a weak smell, and a grey colour, and is supposed to be an artificial composition.

Liquid storax has been employed chiefly in external applications. Among us, it is at present almost wholly in disuse.

S U C C I N U M.

SUCCINUM Pharm. Lond. & Edinb. Ambarum citrinum & electrum quibusdam. AMBER: a solid, brittle, bituminous substance, dug out of the earth or found upon the sea shores, most plentifully in Polish Prussia and Pomerania; of a white, yellow, or brown colour, sometimes opaque, and sometimes very clear and transparent; of very little taste; and scarcely any smell, unless heated or briskly rubbed, in which circumstances it yields a pretty strong one, to most people agreeable.

Boiled in water, it neither softens, nor undergoes any sensible alteration. Digested in rectified spirit, it imparts a yellowish or brownish colour, a fragrant smell, and a bitterish aromatic taste: by repetitions of the process with fresh quantities of spirit, a considerable part of the amber by degrees dissolves. The spirit, distilled off from the tinctures, is strongly impregnated with their smell; nevertheless the remaining balsam, or soft extract, is found to be very strong both in smell and taste.

By alkalies, fixt and volatile, the vegetable, nitrous, and marine acids, it is scarcely at all acted

acted upon: the vitriolic acid dissolves it into a deep purple liquor, from which the amber is precipitated on the mixture of any other acid, or of water, or spirit of wine (*a*).

The spirituous tincture and balsam are medicines of great efficacy in hysterical disorders, cachexies, the fluor albus, some rheumatic pains, and in debilities and relaxations in general: in some cases of this kind they have taken place, after bark and other corroborants of the vegetable kingdom had been given with little effect. The spirit, which distils in concentrating the tincture, may be reserved for extracting a fresh tincture, either from another parcel of amber, or from that which remained after the former extraction. It is said that if a little vitriolic acid be previously combined with the spirit, it will dissolve more of the amber than pure vinous spirits. The amber is sometimes given also in substance, levigated into an impalpable powder, but does not appear to act with so much advantage in this form as in a dissolved state.

Succinum
præparatum
Ph. Lond.

This concrete, exposed to the fire in open vessels, melts into a black mass, takes flame, emits a copious smoke, with a smell like that which arises from the finer kinds of pitcoal, and burns almost entirely away. Distilled in a retort, it yields first an acidulous phlegm intermingled with a thin limpid oil, which grows thicker and deeper coloured as the fire is increased: at length a brownish saline matter arises into the neck of the retort, succeeded by a grosser oil, and at last, in a great heat, by a black thick pitchy matter. About the time that the

(*a*) See Stockar's *Specimen inaugurale de succino*.

first oil begins to rise, the amber melts in the retort, and, unless the heat be cautiously regulated, is apt to boil over into the receiver: to prevent this accident, some previously mix with the amber an equal quantity of clean sand, which does not appear, however, to be of much use, for with due care, the process succeeds equally without as with it.

+ *Sal succini*
purif. *Ph.*
Lond. & Ed.

The salt is purified from its adhering oil, either by sublimation, or by repeated solution, filtration, and crystallization†. When perfectly pure, it is of a white colour, and of a penetrating gratefully acid subastringent taste. It dissolves in rectified spirit sparingly by the assistance of heat, not at all in the cold. Of cold water, in the common temperate state of the atmosphere, it requires for its solution above twenty times its own weight; of boiling water, only about twice its weight: in slow cooling, it shoots into triangular prismatic crystals, with the points obliquely truncated. In the heat of boiling water, it does not exhale, or suffer any visible alteration: in a greater one, it first melts, then rises in white fumes, and concretes again in the upper part of the glass into fine white flakes; leaving behind a small quantity of a dark coaly matter. It effervesces with alkalies and absorbent earths, and forms with them compound salts somewhat resembling those made with vegetable acids, its acid matter seeming to have a considerable analogy to the acids of the vegetable kingdom, and being essentially distinct from the three called mineral acids (*a*): mixed with acids, it makes no sensible commotion. By these characters this salt may be distinguished from all the other matters that have been mixed

(*a*) See Neumann's *chemical works*, p. 237, and Stockar's *specimen*.

with or vended for it. With regard to its virtues, it is accounted aperient, diuretic, and antihysterical: its great price has prevented its coming much into use, and probably its real virtues, though doubtless considerable, fall greatly short of the opinion that has been generally entertained of them.

The oil†, distilled again by itself, is divided into a thinner oil which arises‡, and a thicker part, which remains behind, called balsam of amber: some distil it from brine of sea salt, or from plain water||, by which it becomes purer than when distilled without addition. This oil has a strong bituminous smell, and a hot pungent taste; and approaches more to the nature of the mineral petrolea than of the vegetable or animal distilled oils, being very difficultly if at all, dissoluble in vinous spirits. It is sometimes given internally, in doses of ten or twelve drops, as an antihysterical and emmenagogue; and sometimes employed externally in antihysterical, paralytic, and rheumatic liniments or unguents.

Ol. succini

† *Pb. Ed.*‡ *Pb. Lond.*

|| Ol. succini

rectificatum

Pb. Ed.

SULPHUR.

SULPHUR Pharm. Lond. BRIMSTONE: a yellow concrete, of no taste, and scarcely any smell; melting in a small degree of heat into a viscous red fluid, and totally exhaling on an increase of the heat; readily inflammable, and burning with a blue flame and a suffocating acid fume.

It consists of the vitriolic acid combined with a small proportion of inflammable matter. If a combination of pure vitriolic acid with a pure fixt alkaline salt be melted in a close vessel with the addition of a little powdered charcoal, a true sulphur will be produced, and the compound

pound will be the same (excepting for the earthy part of the charcoal) as if the alkali had been melted with common brimstone. And contrariwise, if a combination of alkaline salt with common brimstone be reduced into powder, and roasted with a gentle heat, the inflammable principle exhales, and the remainder proves the same as if the alkali had been combined with the pure vitriolic acid: the diminution of weight, resulting from this avolation of the inflammable principle, does not exceed two drams upon sixteen ounces of the sulphur (*a*).

Greatest part of the sulphur met with in the shops is either extracted from certain ores by a kind of distillation (*b*); or prepared from minerals abounding with vitriolic acid, by stratifying them with wood, which being set on fire, the sulphur is collected in cavities made in the upper part of the pile (*c*). The largest quantities are brought from Saxony, in irregular masses, which are afterwards melted and cast into cylindrical rolls. Sulphur is found likewise native in the earth; sometimes in transparent pieces, of a greenish or bright yellow colour; more commonly in opaque grey ones with only some streaks of yellow: this last is the sort which is understood by the name *sulphur vivum*, though what is sold under this name in the shops is no other than the dross which remains after the sublimation of sulphur. The native sulphurs should never be employed for any internal use without purification: they almost

(*a*) Vide Stahl's *Methodus Julius, Experimenta & animadversiones* ccc, &c.

(*b*) Leopold, *Relatio de itinere suo Suecico*.

(*c*) Hoffman, *Observationes physico-chemicæ*, lib. iii. obs. 9.

always

always participate of arsenic, which is discoverable in some by their having naturally more or less of a red colour, and in the others by their exhibiting this colour after a part of the pure sulphur has been separated by sublimation.

Sublimation is the most effectual method of purifying sulphur from arsenical as well as earthy admixtures; and by the same process it is reduced into a fine powder, somewhat of a softer kind than that obtained by triture. Those who prepare the flowers in the way of trade, use for the subliming vessel a large iron pot, capable of holding two or three hundred weight: this is placed under an arched chamber, lined with glazed tiles, which serves for the recipient. Some small portion of sulphur that rises first, especially when the vessels are very large, or the air not sufficiently excluded, is apt to take fire, and give out its acid, which adhering to the flowers that sublime afterwards, communicates to them a sensible acidity or roughness; in consequence of which, they are sometimes found to coagulate milk, when taken internally to produce gripes, and to receive from some metalline vessels a disagreeable taint: hence the London college directed such of the flowers, as might happen to concrete or melt together from the vicinity of the receiver to the fire, to be reduced to powder, not with metalline instruments, but either in a wooden mill, or in a marble mortar with a wooden pestle. From this extraneous or superficial acid they are freed, by boiling them in water, and afterwards carefully washing them with cold water †.

Flor. sulph.
Ph. Lond. &
Ed.

† Flor. sulph.
loti Ph. Lond.

PURE SULPHUR, taken in doses of from ten grains to a dram or more, gently loosens the *belly* and promotes perspiration. It seems to pass *belly*, through

through the whole habit; and manifestly transpires through the skin, as appears from the sulphureous smell of persons who have taken it, and silver being stained in their pockets to a blackish hue as by the vapour of sulphureous solutions. In consequence of these properties, and of this subtilty of parts, it promises to be of great medicinal powers; but what its particular virtues are, experience has not as yet clearly determined. It is principally recommended against the piles, in disorders of the breast, and in cutaneous eruptions: in the itch indeed it is a certain remedy, whether internally or externally used, but in other kinds of eruptions it has not equally succeeded, and perhaps its efficacy against the first depends not so much on its purifying the blood, as on its fumes being destructive to the cuticular animalcules to which the present theory ascribes that distemper. It remarkably corrects or restrains the power of certain mineral substances of the more active kind: by the admixture of sulphur, mercury becomes inert, the virulent antimonial regulus mild, and arsenic itself almost innocent: hence though sulphur should contain a small proportion of arsenic, it possibly may not receive from that poisonous ingredient any very hurtful quality.

This concrete is not acted on by water, by acids, or by vinous spirits; but dissolves, by the assistance of heat, in oils both expressed and distilled, and in the mineral petrolea: when dissolved, it yields a very offensive smell, and discovers to the taste a nauseous pungency and heat. Expressed oils and petroleum dissolve it more readily and more plentifully than the distilled, taking up so much as to become thick and almost consistent: the college of London directs

directs one part of flowers of sulphur and four † Oleum sul-
 of oil-olive†, and the same proportions of the phurat.
 flowers and of petroleum ‡, and that of Edin- ‡ Petroleum
 burgh one ounce of the flowers and eight ounces sulphur.
 of oil-olive||, to be boiled together till they || Balf. sulph.
 unite into the consistence of a balsam. Essen- crassum.
 tial oils do not load themselves so much with
 the sulphur as to become thick. As soon as
 the sulphur begins to be strongly acted on either
 by expressed or essential oils, which happens
 nearly about the point of ebullition, or in such
 a heat as the sulphur by itself would melt in,
 the matter rarefies and swells up greatly, so as
 to require the vessel to be very large and occa-
 sionally removed from the heat; and at the
 same time throws out impetuously great quan-
 tities of an elastic vapour, which, if a free exit
 is not allowed it, produces violent explosions.
 The volatile flavour of the essential oils is in
 great measure dissipated in this process by the
 great heat requisite for effecting the solution: a
 more elegant composition of this kind might be
 obtained by adding to the essential oil a proper
 quantity of the balsam made with expressed oils,
 which will unite with it by a gentle warmth.
 The balsams of sulphur have been employed
 externally for cleansing and healing foul running
 ulcers. They are recommended internally in
 some cachectic and hydropic cases; as also in
 coughs and consumptions, in which they pro-
 mise, by their manifest heat and acrimony, to
 be oftener injurious than beneficial: they have
 been frequently observed to hurt the appetite,
 and excite febrile symptoms.---It may be ob-
 served, that in these solutions the component
 parts of the sulphur are in some measure disuni-
 ted from one another; insomuch that a consi-

derable quantity of sulphureous acid, but no actual sulphur, separates in distillation.

Kali sulphu-
rat. *Pb.*
Lond. †
Hepar sul-
phuris.

Tinctura
sulphuris.

Syrupus sul-
phuris.

Fixt alkaline salt, stirred by little and little into twice [or rather half] [or a fifth part†] its weight of sulphur in fusion, unites with it into a red mass called from its colour *liver* of sulphur. This compound has a fetid smell, and a nauseous taste: it dissolves in water, and deliquates in the air, into a yellow fluid: thrown, whilst hot from the fire, into rectified spirit of wine, in the proportion of about four ounces to a pint, and digested about twenty-four hours, it communicates a rich gold colour, a particular not ungrateful smell, and a hot somewhat aromatic taste. Solutions of the liver in water, made with sugar into a syrup; and a few drops of the tincture mixed with a glass of canary or other rich wine, to which it communicates a milky hue; have been sometimes given in the same intentions as the balsams, and seem to be accompanied with the same inconveniences.

Flowers of sulphur may be dissolved in water by boiling them with thrice their weight of quicklime, though not so readily as by alkaline salts. If the filtered solution be long exposed to the atmosphere, or if air from the lungs be blown into it for a short time through a glass pipe, the lime gradually separates, as it does from common lime-water; and the sulphur, which was dissolved by means of the lime, separates and precipitates along with it. Common alkalies, fixt or volatile, added to the solution of sulphur in lime-water, occasion a precipitation of the lime, the sulphur continuing dissolved; caustic alkalies make no precipitation.

On

On adding to the sulphureous solution, whether made by lime or by alkalies, some of the weak spirit of vitriol, (or any other acid) the liquor becomes milky, an extremely fetid and diffusive inflammable vapour arises, and on standing for some time the sulphur settles to the bottom in form of a white powder, which, when washed with fresh quantities of water, becomes insipid and inodorous, and is vulgarly called *lac* or milk of sulphur: the liquor after the precipitation retains still a sulphureous impregnation, which further additions of acid will not precipitate. The method of preparing the lac with fixt alkalies is the most expeditious and least troublesome, provided the sulphur has been thoroughly united with a sufficient quantity of the alkali†; and on the other hand, quicklime gives the preparation a more saleable whiteness. The medicine proves in either case nearly the same: it would be exactly the same if the precipitation was made with any other acid than the vitriolic; which forms with the dissolved lime a selenitic concrete, not separable from the lac by any ablution, but with the alkali a neutral salt, which by hot water may be totally dissolved and washed off; whereas the combinations of all the other acids, with lime as well as with alkalies, are easily dissoluble even in cold water. The pure lac is not different in quality from pure sulphur itself; to which it is preferred, in external applications, only on account of its colour. The whiteness does not proceed from the sulphur having lost any of its parts in the operation, nor from any new matter superadded: on being melted with a gentle fire, it resumes its yellow hue.

† Sulphur
præcipitat.
Ph. Lond.

A solution of sulphur in volatile alkaline spirits may be obtained, by boiling half a pound

Tinct. sulph.
volatilis *valge*

of flowers of sulphur with a pound of quicklime, in a gallon of water, till half the liquor is wasted; then putting the remainder into a retort, with eight ounces of powdered sal ammoniac, and distilling with a gradual fire. The spirit comes over loaded with the sulphur, and has a strong offensive smell, somewhat resembling that which rises in the precipitation of the lac. Hoffman says, a mixture of it with thrice its quantity of spirit of wine, given in doses of thirty or forty drops, proves a powerful diaphoretic; and that applied externally as a fomentation, with the addition of camphor, it alleviates gouty pains.

The flowers of sulphur in substance seem to be preferable for internal use to any of the preparations: they are certainly more safe, and and perhaps not less effectual; as they do not heat or irritate the first passages, and yet are evidently dissolved in the body and carried through the habit. They are most commodiously taken in the form of troches: the college of London directs for this purpose two ounces of the washed flowers, and four of double refined sugar, to be beaten together, and made up with mucilage of quince seeds; that of Edinburgh, one ounce of the flowers of sulphur, ten grains of flowers of benzoine, fifteen grains of factitious cinnabar, and two ounces of fine sugar, to be formed with mucilage of gum tragacanth: by the addition of the flowers of benzoine in this last prescription, the medicine is supposed to be rendered more efficacious in some disorders of the breast.

Trochisci e
sulphure *Ph.*
Lond.

Trochisci e
sulphure *five*
diasulphuris
Ph. Ed.

Unguentum
sulphuris
† *Ph. Lond.*
— e sulphure
five antip-
soricum † *Ph.*
Ed.

A sulphureous ointment, for the itch, is prepared, by mixing two ounces of the unwashed flowers, with three † or eight ‡ ounces of the simple ointment called pomatum †, or of hogslard ‡, and a scruple of essence of lemons. Half
this

this quantity is, in most cases, sufficient for a cure; though it may be proper to renew the application, and touch the parts most affected, for some nights longer, till the whole quantity is exhausted. Some have been of opinion, that this external use of sulphur is unsafe; that as sulphur taken inwardly promotes the expulsion of impure humours and the eruption of cutaneous efflorescences, it must act, when outwardly applied, by repressing them. This consequence, however, does not follow; nor is it by affecting the humours that it performs the cure: for it equally removes the itch, whether used internally or externally, by its vapours diffused through the skin. All the danger, that is to be apprehended from sulphureous unguents, is that which may arise from the obstruction of the cutaneous pores by the unctuous matter; and to prevent any disorders from this cause, only a part of the body is to be anointed at one time.

S U M A C H.

SUMACH five Rhus obsoniorum. Rhus foliolulmi C. B. Rhus coriaria Linn. SUMACH: a shrub or low tree; with oval, pointed, serrated, downy leaves, having each a red rib running along the middle, set in pairs without pedicles; producing clusters of small yellowish or greenish flowers, each of which is followed by a small, red, flattish berry, including a roundish reddish-brown seed. It is a native of the southern parts of Europe, and cultivated in some of our gardens.

THE berries of sumach have an acid austere taste: they were formerly used for restraining

bilious fluxes, and hemorrhagies, and colliquative hectic sweats: some direct an infusion of half an ounce of the berries, and others two or three drams of an extract made from them by water, for a dose. The leaves and young twigs are strong astringents, and have been directed in the same intentions.

TACAMAHACA.

TACAMAHACA. A resin; obtained from a tree, resembling the poplar, (*Populus balsamifera* Linn.) bearing, at the extremities of the branches, small roundish fruits including a seed like a peach-kernel; a native of the temperate parts of the continent of America, and in a sheltered situation enduring the winters of our own country.

Two sorts of this resin are sometimes to be met with. The best, called, from its being collected in a kind of gourd-shells, tacamahaca in shells, is somewhat unctuous and soft, of a pale yellowish or greenish colour, a bitterish aromatic taste, and a fragrant delightful smell approaching to that of lavender and ambergris. This sort is very rare. That commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, and of a less grateful smell than the foregoing. The first is said to exude from the fruit of the tree, the other from incisions made in the trunk. The tree, as raised among us, affords in its young buds, or the rudiments of the leaves, a resinous juice of the same kind of fragrance (*a*).

(*a*) See article *Populus*.

Tacamahaca is used chiefly as an ingredient in warm nervine plasters; though the fragrance and taste of the finer sort points out its being applicable to other purposes, as an internal balsamic corroborant. Both kinds dissolve in rectified spirit into a gold-coloured liquor, only a small quantity of impurities being left: they impregnate water also considerably with their smell and taste, but give out very little of their substance to this menstruum.

TALCUM.

TALC: an earthy concrete; of a fibrous or leafy texture; more or less pellucid, bright or glittering; smooth and slippery to the touch; in some degree flexible and elastic, so as scarce to be pulverable; soft, so as to be easily cut; suffering no change in an intense fire, or no other than a diminution of its brightness, flexibility, and unctuousity; not acted upon by acids, either in its crude state, or after vehement calcination. There are several different appearances of this earth; among which, the greenish foliaceous *Venice talc* has been selected for medicinal use; though it does not appear capable of answering any medicinal intention, as not being dissolved, or sensibly affected, by any known humid menstruum: on account of its unctuous softness, and the silver hue which it exhibits when reduced by rasping or otherwise into powder, it has been employed externally as a cosmetic. The fibrous flexible *amiantbus* or *asbestos*, and the more rigid fibrous *alumen plumosum*, seem to approach to the nature of the talcs, and made an equally insignificant addition to the articles of the materia medica in our former pharmacopœias.

TAMARINDUS.

TAMARINDUS Pharm. Lond. & Edinb. *Oxyphœnicon*. TAMARIND: the fruit of a pretty large tree, (*siliqua arabica quæ tamarindus* C. B. *Tamarindus indica* Linn.) growing in Arabia and in the East and West Indies. The fruit is a pod, somewhat resembling a bean-cod, including several hard seeds, together with a dark-coloured viscid pulp: the East India tamarinds are longer than those of the West, the former containing six or seven seeds each, the latter rarely above three or four: they nevertheless seem both to be the produce of one species of plant. The pulp, with the seeds, connected together by numerous tough strings or fibres, are brought to us freed from the outer shell: the oriental sort is drier and darker coloured than the occidental, and has more pulp: the former is sometimes preserved without addition, the latter has always an admixture of sugar.

THE pulp of tamarinds is an agreeable laxative acid; of common use in inflammatory and putrid disorders, for abating thirst and heat, correcting putrefaction, and loosening the belly. The dose, as a laxative, is two or three drams: an ounce or two prove moderately cathartic. It is an useful addition to the purgative sweets, cassia and manna, increasing their action, and rendering them less liable to produce flatulencies: the resinous cathartics are said to be somewhat weakened by it. Tournefort relates that an essential salt may be obtained from tamarinds, by dissolving the pulp in water, and setting the filtered solution, with some oil upon the

the surface, in a cellar for several months; that the salt is of a fourish taste, and difficultly dissoluble in water; and that a like salt is sometimes found also naturally concreted on the branches of the tree. The salt, as Beaumé observes, may be obtained more expeditiously, by clarifying the decoction of the tamarinds with whites of eggs, then filtering and evaporating it to a proper consistence, and setting it to cool: the salt shoots into crystals, of a brown colour, and very acid taste; but in dissolving and crystallizing them again, or barely washing them with water, they lose almost all their acidity, the acid principle of the tamarinds seeming not to be truly crystallizable.

TANACETUM.

TANACETUM Pharm. Lond. and Edinb.
Tanacetum vulgare luteum C. B. Tanasia, athanasia, & parthenium mas quibusdam. Tanacetum vulgare Linn. TANSY: a plant with large leaves, divided to the rib, on both sides, into oblong deeply indented segments; producing, on the tops of the stalks, several gold-coloured discous flowers, in umbel-like clusters, followed by small oblong blackish seeds. It is perennial, grows wild by road-sides and about the borders of fields, and flowers in June and July.

THE leaves and flowers of tansy have a strong, not very disagreeable smell, and a bitter somewhat aromatic taste: the flowers are stronger though rather less unpleasant than the leaves. They give out their virtue both to water and spirit, most perfectly to the latter: the tincture, made from the leaves, is of a fine green, from the flowers of a bright pale yellow colour.

Distilled

Distilled with water, they yield a greenish-yellow essential oil, smelling strongly of the herb: the remaining decoction, inspissated, affords a strong bitter subsaline extract. The spirituous tinctures give over also, in inspissation, a considerable part of their flavour ^{*(a)}; a part of it remaining, along with the bitter matter, in the extract.

This plant is used as a warm deobstruent bitter, in weakness of the stomach and in cachectic and hysteric disorders; and likewise as an anthelmintic. The seeds have been chiefly recommended in this last intention, and supposed by some to be the *santonicum* of the shops, from which they differ not a little in quality as well as in appearance, being much less bitter, and of a more aromatic flavour.

TARAXACUM v. DENS LEONIS.

TARTARUM.

TARTARUM vini albi vel rubri. TARTAR: an acid concrete salt thrown off from wines, after complete fermentation, to the sides and bottoms of the casks; of a red or white colour, and more or less drossy, according to the colour and quality of the wine. The white is generally purer than the red: both kinds, when purified, are exactly the same.

THIS salt is one of those which are most difficultly dissoluble in water, being scarcely affected by it in the cold, and requiring ten or

^{*(a)} Alcohol, distilled from tansy, proved, after standing for upwards of fifteen years, richly impregnated with the flavour of the plant, and sufficiently grateful. *M. S. of Dr. Lewis.*

twelve times its own weight when assisted by a boiling heat. From this saturated solution the tartar begins to separate almost as soon as the boiling ceases: if the quantity of water is greater, as about twenty times the weight of the salt, it continues long enough suspended to be passed, with due care, through a woollen strainer or a filter. The filtered liquor appears nearly colourless, whether the tartar made use of was red or white: if hastily cooled, the salt separates in small grains like sand, but if the vessel is closely covered, and the heat very leisurely diminished, it shoots into semitransparent whitish *crystals*: if the filtered liquor be kept boiling, a thick skin forms on the surface, which, being taken off with a perforated wooden skimmer, is succeeded by fresh cuticles, till the whole of the salt is thus formed into what is called *creme* of tartar. The refining of tartar is practised, in the way of trade, chiefly about Montpellier, from whence the shops are generally supplied both with the crystals and *creme*; the process being so troublesome, and requiring so large conveniences, that it is scarcely ever attempted here. A certain earth, of the argillaceous kind, is added in the process, the chief use of which seems to be, to promote the separation of the colouring matter; for the salt extracted from the coloured tartars by water only is seldom of perfect whiteness. It is said that the earth generally contains some small portion of chalky matter, soluble in acids, which of consequence will be taken up by the tartar; I have sometimes observed solutions of the crystals to deposit an earthy precipitate on adding alkaline lye. The purer sort of white tartar, unrefined, especially that of Rhenish wine, is, for many purposes, particularly for combina-

Crystalli tartari Ph. Lond. & Ed.

Cremor tartari.

tions

tions with other bodies, not inferiour either to the creme or cryftals.

Pure tartar, in dofes of half a dram or a dram, is a mild cooling aperient: two or three drams gently loofen the belly; and fix or eight prove moderately cathartic. Its acidity and laxative power are its medical characters.

* The difficult folubility of creme of tartar being an objection to its medical ufe, fome experiments were made by Dr. Peter Jonas Berg, for rendering it more foluble by certain additions, without altering its medicinal qualities. Borax was found to answer beft for this purpofe. To four parts of creme of tartar, one of borax was added. Thefe were diffolved in a fufficient quantity of water, and the liquor ftrained. About a fixteenth part of impurities were left behind. The pure folution evaporated yielded an acid and extremely foluble white falt(a).

Tartar, diffolved in water, effervesces with fixt alkaline falts, and faturates, of the vegetable alkalies, near one third its own weight. The compound falt, refulting from their union, is a neutral one, more purgative than the tartar itfelf, and far eafier of folution, whence its name foluble tartar. This falt is prepared, either by boiling the refined tartar in a fufficient quantity of water till it is diffolved, and then dropping in ftrong alkaline lye; or by diffolving the alkali in boiling water in the proportion of a pound to a gallon†, or to fifteen pounds‡, and then adding the tartar, till a frefh addition occafions no further effervescence; which generally happens before triple the weight of the

Kali tartari-
fat. † *Pb.*

Lond.

Alkali fixum
vegetabile
tartarifatum
vulgo tart.

folub. † *Pb.*

Ed.

Sal. vegeta-
bilis quibusd.

(a) *Nova Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum, tom. quart.*

alkali

alkali is thrown in: the liquor is then filtered while hot, and either crystallized or evaporated to dryness. As this salt difficultly crystallizes, inspissation to dryness is the most convenient method; and in this case, to secure the neutralization of the salt, the tartar may be made to prevail at first, and the liquor suffered to cool a little before filtration, that the redundant tartar may concrete and separate from it; or the neutralization may be more perfectly obtained by means of stained papers, as mentioned at the end of the article *Acetum*.

Of the mineral fixt alkali or soda, this acid saturates, according to the faculty of Paris, four fifths its own weight. The London college directs six parts of the acid to five of the alkali. The neutral salt resulting from its coalition with this alkali, is somewhat less dissoluble than that with the vegetable; and shoots much more easily, into pretty large, hard, multangular crystals, some columnar and flattish, others more irregular. It is milder in taste, and said to be less purgative, requiring to be given to the quantity of an ounce or an ounce and a half to purge effectually: eight drams are reckoned by some to be equivalent, in cathartic power, to six of the soluble tartar.

Natron tartarifatum *Pb.*
Lond.
Soda tartarifata *vulgo* sal
rupellenfis
Pb. Ed.
Sel de Seig-
nette, Ro-
chelle salt.

Tartar forms likewise soluble compounds with all the absorbent earths, and with some metallic bodies, but with these last it is difficultly made to satiate itself completely, the part that is first saturated seeming to impede the action of the rest; for after long boiling, a very considerable part of the tartar separates on crystallization unchanged.

It is observable, that if any of these combinations of tartar, with alkalies, with earths, or with metals, be dissolved in water, and any
other

other acid added, the pure tartar separates and falls to the bottom, as acid, and as difficult of solution, as at first; the substance, that was combined with it, being absorbed by the acid superadded. As the acids of the vegetable kingdom, whether native or fermented, vinegar, lemon juice, &c. have this effect of disuniting tartar from all the bodies that are combinable with it, equally with those of the mineral kingdom; it follows, that the tartareous acid, is of a kind essentially different from all the other known vegetable ones, and that no acid, unless it be tartar itself, can be joined in prescription to the *tartarum solubile*, the *sel de Seignette*, or the combinations of tartar with earths of metals.

*In the *Swedish Transactions*, part iii. for the year 1770, was published an analysis of creme of tartar by Mr. Scheele. By this it appears, that creme of tartar is not a pure acid, but a compound salt, containing the fixed vegetable alkali united with a superabundance of the tartareous acid. It differs, therefore, from soluble tartar, only in the proportion of acid it contains.

TELEPHIUM.

TELEPHIUM: a plant with unbranched stalks, clothed with thick fleshy oval leaves, but producing no leaves immediately from the root: the flowers stand in form of umbels on the top of the stalk, and are followed, each, by from three to six pods full of small seeds: the root is irregular and knobby. It is indigenous in England, and perennial.

I. CRASSULA. *Telephium vulgare* C. B.
Anacampseros, fabaria, & faba crassa quibusdam.
Sedum

Sedum Telephium Linn. Orpine: with the leaves very slightly or not at all serrated: growing in hedges and moist shady grounds, and producing reddish or whitish pentapetalous flowers in June. The leaves have been supposed to be possessed of an anti-inflammatory power; but their virtues appear to be very inconsiderable, as they have no smell, and only an herbaceous mucilaginous taste.

2. RHODIOLA *sive rosea*: *Rhodia radix* C. B. Rosewort: with serrated leaves; growing in mountainous places, and producing yellow tetrapetalous flowers in the spring. The root of this species, of little smell when fresh, has when dry a very pleasant one, resembling, when the root is in perfection, that of the damask rose: in this odorous matter consists the medical virtue of the rhodiola, and its principal medical difference from the preceding species. Linnæus observes, that when raised in gardens, it has not one hundredth part of the smell or virtue of that which is produced on its native mountains.

TEREBINTHINÆ.

TURPENTINES: the native balsams or resinous juices of certain trees. Four kinds are distinguished by medical writers.

1. TEREBINTHINA CHIA *Pharm. Lond.* Chio or Cyprus turpentine: generally about the consistence of thick honey, very tenacious, clear and almost transparent, of a white colour with a cast of yellow and frequently of blue, of a warm pungent bitterish taste, and a fragrant smell more agreeable than that of any of the other turpentine. It is the produce of the
common

common terebinth (*terebintbus vulgaris* C. B. *Pistachia terebinthus* Linn.), an evergreen bacciferous tree or shrub, growing spontaneously in the eastern countries and in some of the southern parts of Europe. The turpentine brought to us is extracted in the islands whose name it bears, by wounding the trunk and branches a little after the buds have come forth: the juice issues thin and clear as water, and by degrees thickens into the consistence in which we meet with it. A like juice, exuding from this tree in the east, inspissated by a slow fire, is said by Kæmpfer to be used as a masticatory by the Turkish women, for preserving the teeth, sweetening the breath, and promoting appetite.

2. TEREBINTHINA VENETA *Pharm. Edinb.*
 Venice turpentine: usually thinner than any of the other sorts, of a clear whitish or pale yellowish colour, a hot pungent bitterish disagreeable taste, and a strong smell, without any thing of the fine aromatic flavour of the Chian kind. The true Venice turpentine is said to be obtained from the larch (*larix* C. B. *Pinus larix* Linn.), a coniferous tree, with small cones, and short leaves standing in tufts, which fall off in the winter, growing in great abundance on the Alps and Pyreneans, and not uncommon in the English gardens. Though this kind of turpentine bears the name of Venice, it is not the produce of the Venetian territories: it is brought from some parts of Germany, and one greatly resembling it, as is said, from New England. In the shops this turpentine is often supplied by a composition of rosin and the distilled oil of common turpentine.

3. TEREBIN-

3. *TEREBINTHINA ARGENTORATENSIS*. Straßburg turpentine: generally of a middle consistence between the two foregoing, more transparent and less tenacious than either, in colour yellowish brown, in smell more agreeable than any of the other turpentines, except the Chian, in taste the bitterish yet least acrid. This juice is extracted, in different parts of Germany, from the silver and red fir, by cutting out, successively, narrow strips of the bark, from as high as a man can reach to within two feet of the ground. In some places, a resinous juice is collected from certain knots under the bark: this, called *lacryma abiegna* and *oleum abietinum*, is accounted superiour to the turpentine. Neither this turpentine, nor any thing under its name, is at present common in the shops.

4. *TEREBINTHINA VULGARIS Pharm. Lond.* Common turpentine: about the consistence of honey, of an opaque brownish white colour, the coarsest, heaviest, in smell and taste the most disagreeable, of all the kinds of turpentine. It is obtained from the wild pine (*pinus silvestris* C. B. & Linn.), a low coniferous tree, with the leaves longer than those of the firs and issuing two together from one tubercle, growing wild in the different parts of Europe. This tree is extremely resinous, insomuch that, if not evacuated of its juice, it often swells and bursts. The juice, as it issues from the tree, is received in trenches made in the earth, and afterwards freed from its grosser impurities by colature through wicker baskets. The cones of the tree appear to contain a resinous matter, of a more grateful kind than that of the trunk: distilled while fresh, they are said to yield a fine essential oil greatly superiour to that of the turpentines.

Carpaticum
oleum Ger-
manis.

All these juices dissolve totally in rectified spirit, but give out little to watery menstrua: they become miscible with water, into a milky liquor, by the mediation of the yolk or white of an egg, and more elegantly by mucilages. Distilled with water, they yield a notable quantity of a subtile penetrating essential oil† vulgarly called spirit; a yellow‡ or blackish resin remaining in the still: this is the common rosin of the shops. It is supposed that the official Burgundy pitch||, which is brought from Saxony, is a preparation of the same kind, only less divested of the oil, made by boiling the common turpentine till it acquires a due consistence. The essential oil, redistilled by itself in a retort, with a very gentle heat, becomes more subtile, and in this state is called ethereal, or rectified§; a thick matter remaining behind, called balsam of turpentine¶. A like balsam is obtained also by distilling, with a stronger fire, the common resin; from which there arises, first a thin yellow oil, and afterwards the thicker dark-reddish balsam, a blackish resin† remaining in the retort.

† Ol. terebinth. *Pb.*
Lond. & Ed.
 ‡ Resina flava
Pb. Lond.
 — alba *Pb.*
Ed.
 || Pix Burgundica *Pb.*
Lond. & Ed.

§ Ol. terebinth. rectific.
Pb. Lond.
 ¶ Balf. terebinth.

† Resina nigra seu colophonia.

All the turpentes are hot stimulating corroborants and detergents. They are given, where inflammatory symptoms do not forbid their use, from half a scruple to half a dram and upwards, for cleansing the urinary passages and internal ulcerations in general, and in laxities of the feminal and uterine vessels. They seem to act in a peculiar manner on the urinary organs, impregnating the water with a violet smell, even when applied externally, particularly the Venice sort. This last is accounted the most powerful as a diuretic and detergent, and the Chio and Strasburgh as corroborants: they all loosen the belly, and Venice most; and on this account

account they are supposed by Riverius and others to be less hurtful than such irritating diuretics, as are not accompanied with that advantage. Terebinthinate glysters, in obstinate costiveness, are said to be much preferable to saline, as being more certain and durable(*a*). The common turpentine, as being the most offensive, is rarely given internally: its principal use is in some external applications, among the farriers, and for the distillation of the oil.

The oil is a most potent stimulating detergent diuretic. It is sometimes given, in doses of a few drops, in rheumatisms and fixt pains of the joints; and some have ventured on much larger quantities. Cheyne recommends, as a perfect cure for sciaticas, though of many years standing, from one to four drams of the ethereal oil, to be taken with thrice its quantity of honey, in a morning fasting, with large draughts of sack whey after it, and an opiate at bed-time: this medicine is to be repeated, with the intermission of a day now and then, if daily repetitions cannot be borne, for four or five days, or eight at furthest(*b*). It appears, however, highly imprudent, to venture on such large doses at once of a medicine so very hot and stimulating. Boerhaave, after recounting, not without some exaggeration, its styptic, anodyne, healing, antiseptic, and discutient virtues when applied hot externally, and its aperient, warming, sudorific and diuretic qualities when taken internally, adds, that it must be used with great caution; that when taken too freely, it affects the head, excites heat and pain therein, and, violently urging a diabetes, brings on a flux of

(*a*) Cullen, *Mat. Med.*

(*b*) *Essay on the gout*, edit. 10. § lxxi. p. 119.

the semen and of the liquor of the prostates; and that in venereal runnings, in which it has by some been commended, it tends to inflame the parts and increase the disorder.

The balsam and the inspissated resins are used chiefly externally: the balsam is less pungent than the oil, and the resins much less so than the turpentine in substance. The common yellow resin, in taste considerably bitter, is sometimes given as an internal corroborant, in preference to the turpentine themselves, as being divested of the stimulating oil.

TERRA JAPONICA.

CATECHU vulgo *Terra Japonica Pharm.* Lond. *Terra japonica dicta Pharm.* Edinb. JAPAN EARTH, improperly so called. *The plant which yields the terra japonica, grows in the East Indies, and is called *coira*, or *caira*, by the natives of Bahar province. It appears to be the same with that mentioned by Cleyerus and Herbert de Jagur, from which the natives of Pegu prepare this extract: they name the tree *Kheir* or *Khadira*.

It is a species of the genus *mimosa* of Linnaeus, and called by him *mimosa catechu*. Its stem grows to about a foot in thickness, and from three to five feet high. It branches out into a thick spreading top, seldom above twelve feet high. The bark is thick and rough. The wood is extremely hard and heavy; its exterior part varies from a pale brown to a dark red, sometimes approaching to black, but always covered with one or two inches thick of white wood. The leaves are doubly pinnated, and have two prickles at the base. From the axillæ of the leaves, arise dense spikes of small flowers, succeeded by pods.

The

The *terra japonica* is an extract of the wood of this plant, prepared in the following manner. After the trees are felled, the exterior white wood is carefully cut off, and the interior coloured part is cut into chips, with which narrow-mouthed unglazed earthen pots are filled, and water poured upon them till it appears among the upper chips. When this is half evaporated by boiling, the decoction, without straining, is poured into a flat earthen pot, and boiled to one third part; this is set in a cool place for one day, and afterwards evaporated by the heat of the sun, stirring it several times in the day; when it is reduced to a considerable thickness, it is spread upon a mat or cloth which has previously been covered with the ashes of cow-dung; this mass is divided into square or quadrangular pieces by a string, and completely dried by turning them frequently in the sun.

This extract is called by the natives *cutt*; by the English *cutch*. In making it, the pale brown wood is preferred, as it produces the fine whitish extract. The darker the wood is, the blacker the extract, and of less value. From the slovenly manner in which the preparation is made, it generally contains a considerable quantity of earth, besides what may be designedly put in it for the purpose of adulteration (*a*).

THIS concrete is a mild astringent, more agreeable in taste than most of the other substances of that class, being accompanied with a considerable degree of sweetness. It is often suffered to dissolve leisurely in the mouth; both as a topical restringent for laxities and exulcera-

(*a*) From Mr. Kerr's account, in vol. v. of the *London Medical Observations*.

Trochisci e
terra japon.

Electuar. ja-
ponic. *vulgo*
confect, ja-
pon. *Pb. Ed.*

tions of the gums; and in alvine and uterine fluxes, and catarrhal coughs and hoarsenesses; medicines of this kind acting in general to much better advantage when thus gradually swallowed, than when taken in full doses at once. With this view the terra japonica is made in the shops into troches; beaten with equal its weight of gum-arabic, and four times the weight of both of sugar of roses, and so much water to be dropt in as will reduce them into a mass of a due consistence for being formed. The Edinburgh college directs a compound electuary, of which terra japonica is the basis, joined with other astringents and aromatics, and a small proportion of opium, which is a very elegant and efficacious medicine of the kind.

Japan-earth dissolves almost totally in water, excepting the impurities; which are usually of the sandy kind, and in considerable quantity, amounting, in the specimens I examined, to about one eighth of the mass. Of the pure matter, rectified spirit dissolves about seven eighths, into a deep red liquor: the part, which it leaves undissolved, is an almost insipid mucilaginous substance. In the shops a solution of it is made in proof spirit, with the addition of cinnamon, a spice the best adapted of any to the intention of this medicine; three ounces of the japan earth and two of cinnamon are digested in a quart† or two pounds and a half‡ of the spirit, and the strained tincture given commonly in doses of two or three tea-spoonfuls. It dissolves also in volatile alkaline spirits, in alkaline lye, in the mineral acids, partially and more difficultly in the vegetable acids, and not at all in oils: all the solutions are of a red or purplish colour,

Tinctura ca-
techu † *Pb.*
Lond.

— japonic.
‡ *Pb. Ed.*

* By

*By the natives where this extract is made, it is employed medicinally as a cooler in the diseases considered by them as of a hot nature. It is said, when profusely used, to destroy the venereal appetite. It is given at the rate of two ounces a day to tame vicious horses. It is a principal ingredient in one of their ointments of great repute, composed of blue vitriol four drams, Japan-earth four ounces, alum nine drams, white resin four ounces; these are reduced to a fine powder, and mixed by the hand with ten ounces of oil-olive, and water enough to give the mass a proper consistence. This ointment is used in every sore, from a fresh wound to a venereal ulcer; and has been found remarkably serviceable by European practitioners(a).

TERREA ABSORBENTIA.

ABSORBENT EARTHS: distinguishable from other earthy and stony substances by their solubility in acids. Such are, the mineral calcareous earths, as chalk: the animal calcareous earths, as crabs-claws, oyster-shells, egg-shells, pearl, coral, coralline: animal earths not calcareous, as crabs-eyes and burnt hartshorn. See the respective substances; which have been separately treated of, so far as concerned each in particular; and whose general and common qualities were reserved for this article.

THE obvious and immediate virtue of these bodies is, to obtund acid humours in the first passages, and thus to relieve the cardialgic and other complaints occasioned by them: the relief,

(a) *Kerr's Account, above quoted.*

E c 4

however,

however, which they afford, is oftentimes only temporary; from their acting only upon the acid already generated, without correcting the indisposition which tends to produce more. If no acid humours are contained in the first passages, these earthy bodies, not soluble by any other kind of fluid, can have no salutary operation; and, by concreting with the viscous contents of the stomach into indigestible masses, may prove injurious in a high degree (*a*).

Absorbents are of more general use in infancy than in adult age; acidities being very familiar to young children, being often in that tender age productive of alarming symptoms, and having a greater or less share in most of their diseases; whereas, in adults, they are much less frequent, accompanying chiefly hypochondriacal affections, cardialgiæ, and such disorders as happen in the first passages from the immoderate use of acid and fermentable food.

An hypothesis formerly obtained, which ascribed the acute diseases of adults to a morbid acid: against which the absorbent earths were introduced as the most direct alexipharmacs. This theory is now justly exploded; these diseases, instead of being produced, being in general most successfully controlled, by acids. The use of absorbents, in different kinds of fevers, is nevertheless still continued, and sometimes perhaps with advantage: for, though the earths of themselves are apparently rather injurious than beneficial, yet as acids are often given freely at the same time, the solution of the earth in the acid may prove a medicine more serviceable in particular cases than the

(*a*) Vide Tralles *Virium terreis remediis ascriptorum examen rigorosius*.

acid unobtunded. It is however, doubtless, more advisable, to use the earth previously dissolved in the acid, than to give them separately.

The college of Berlin, sensible of the advantage of having the earths, in these cases, previously dissolved, or reduced to a soluble saline form; as well as of the absurdity, retained in other German pharmacopœias, of precipitating them from their solutions by fixt alkaline salts, and thus rendering them wholly inert; directs them to be digested in distilled vinegar, with a gentle heat, till the menstruum ceases to act, and the filtered solution to be inspissated to dryness. This preparation is greatly preferable to the simple imbibition with vinegar or lemon juice recommended by some; as by this last management the earth is made soluble only in part, and in an undeterminable proportion.

Solutions of these earths in vegetable acids are in taste somewhat austere. The different earths differ somewhat from one another, both in the degree and in the species of the taste, and probably also in the medical effects, of the solutions: but whether these differences are such, that some of them, as crabs-claws, pearl, coral, and bezoar, are most disposed to promote a diaphoresis in fevers, while others, as egg-shells and oyster-shells, act rather by promoting urine, as seems to be generally supposed, has not been determined by fair experience, the earths having rarely been given in a dissolved or in a soluble state. It is most probable that they all act, when dissolved, as mild cooling restringents; for when given in substance, as absorbents, in cases of acidities, they all tend to restrain fluxes of the belly, or to bring on costiveness, an effect

*Magisterium
solubile, cor-
ralliorum,
perlarum, &c.
P. Brandenb.*

effect to which regard ought to be had in the use of them.

There are two soluble earths, not commonly ranked among the absorbents, whose effects, when combined with acids, are known with more certainty, as they have been used oftener, so combined, than otherwise; to wit, the aluminous earth and magnesia; of which the one is strongly styptic, and the other moderately purgative.

Combinations of the absorbent earths with the nitrous and marine acids are bitterish and of great pungency, particularly those with the marine: the medical effects of these solutions are little known. The vitriolic acid does not dissolve them into a liquid form, but precipitates them from all the others, and is thus combined with them into concretes nearly insipid.

Experiments have been made for determining the comparative strength of different absorbents, or the quantities of acid they are capable of satiating. Langius reports, that ten grains of crabs-claws destroyed the acidity of forty drops of spirit of salt; that egg-shells, crabs-eyes, and mother of pearl, taken in the same quantity, saturated fifty drops each; red coral, white coral, and fixt alkaline salt, sixty drops each; volatile alkaline salt and pearl, eighty drops each; chalk, an hundred drops; oyster-shells, an hundred and twenty; and some lime stones no less than an hundred and sixty (*a*). These experiments however (admitting their accuracy, and the acid to have been equally neutralized in all, which may be reasonably questioned) do not answer the end so perfectly as could be wished; for, to different acids, the earths have different

(*a*) *Vide* Langii *Opera omnia medica*, Lipsiæ 1704, p. 452 & seq.

habitudes: from a set of experiments made by Homberg, it appears that oyster-shells, for example, require for their solution more of the marine acid than coral does; whereas of the nitrous acid, contrariwise, the coral requires more than the oyster-shells (*a*). Neither the nitrous nor the marine acids are those which absorbents are destined to satiate in the human stomach, and by which their strength should be examined: the acids of the vegetable kingdom, and the acid of milk, may be presumed to be the most analogous to such as are generated in the bodies of animals. On trying, with these, the several substances enumerated at the beginning of this article, the differences in their absorbent powers appeared not to be very great: they all saturated pretty nearly the same quantities of the acids; and there remained, from all, quantities very considerable, but not very greatly different, of a matter which further additions of the acid would not dissolve.

T H E A.

TEA: the leaf of a Chinese shrub, *evonymo affinis arbor orientalis nucifera flore roseo Pluk. alm. Thea bohea & viridis Linn.* The leaves, carefully picked, are dried hastily on warm iron plates; whereby they are said to lose in great measure some noxious qualities which they have when fresh, and to preserve their admired flavour which by slow exsiccation would be lost. The several sorts of tea brought to us are supposed to be the leaves of the same plant, collected at different times, and cured in a

(*a*) Vide Memoires de l'acad. roy. des sciences de Paris, pour l'ann. 1700.

somewhat

somewhat different manner: Neumann suspects that the brown colour, and the flavour, of the bohea sorts, are introduced by art.

BOTH the green and bohea teas have an agreeable smell, and a lightly bitterish sub-astringent taste: with solution of chalybeate vi-triol, they strike an inky blackness. They give out their smell and taste both to watery and to spirituous menstrua: to water, the green sorts communicate their own green tincture, and the bohea their brown: to rectified spirit they both impart a fine deep green. On gently drawing off the menstrua from the filtered tinctures, the water is found to elevate nearly all the peculiar flavour of the tea, while rectified spirit brings over little or nothing, leaving the smell as well as the taste concentrated in the extract: both extracts are very considerably astringent, and not a little ungrateful; the spirituous most so.

Infusions of tea, as dietetic articles, have been extravagantly commended by some and condemned by others; and notwithstanding the frequency of their use, they real effects are scarcely as yet clear. They seem, when moderately used, to be for the most part innocent: in some cases, they seem to be salutary: in some, they are apparently prejudicial. They dilute thick juices and quench thirst more effectually, and pass off by the natural emunctories more freely, than mere watery fluids: they refresh the spirits in heaviness and sleepiness, and seem to counteract the operation of inebriating liquors. From their manifest astringency, they have been supposed to strengthen and brace up the solids, but this effect experience does not countenance: it is in disorders, and in constitutions, wherein
corroborants

corroborants are most serviceable, that the immoderate use of tea is peculiarly hurtful; in cold indolent habits, cachexies, chloroses, dropsies, and debilities of the nervous system.

THLASPI.

THLASPI: a plant with oblong narrow undivided leaves joined immediately to the stalks, on the tops of which grow numerous tetrapetalous flowers, each of which is followed by a short flat seed-vessel divided transversely into two cells.

1. *Tblaspi arvense filiquis latis* C. B. *Tblaspi arvense* Linn. Treacle-mustard: with roundish-pointed jagged leaves, and broad capsules containing about four seeds in each cell. It is annual, and grows wild in corn-fields.

2. *Tblaspi arvense, vaccariæ incano folio majus* C. B. *Tblaspi campestre* Linn. Mithridate mustard: with hoary sharp-pointed leaves shaped like an arrow-head; and only one seed in each cell. It is biennial, and grows in fields and open clayie grounds.

THE seeds of these plants have an acrid biting taste, approaching to that of the common mustard; with which they agree nearly in their pharmaceutic properties, their pungent matter being totally extracted by water, only partially by rectified spirit, and being elevated by water in distillation. They have, joined to their acrimony, an unpleasant flavour, somewhat of the garlick or onion kind; and this they give out to spirituous as well as watery menstrua. They are rarely made use of any otherwise than

as ingredients in the compositions whose names they bear: though some recommend them in different disorders, preferably to the common mustard.

THUS.

THUS Pharm. Lond. Frankincense: a solid brittle resin, brought to us in little glebes or masses, of a brownish or yellowish colour on the outside, internally whitish or variegated with whitish specks. It is supposed to be the produce of the pine that yields the common turpentine, and to concrete upon the surface of the terebinthinate juice soon after it has issued from the tree.

*Empl. thuris
Ph. Lond.*

THIS resin has a bitterish acrid unpleasant taste, and no considerable smell: it dissolves totally in rectified spirit, but is scarcely acted upon by watery menstrua. It may be looked upon as a mild corroborant; though at present it is little otherwise made use of than as an ingredient in theriaca, and externally in plasters. An officinal plaster, made with half a pound of frankincense and three ounces of dragons blood in powder stirred into two pounds of the common plaster melted, now takes its name which was formerly *roborans*, from this ingredient.

THYMELÆA.

THYMELÆA Pharm. Paris. A shrubby plant; with smooth uncut leaves; and monopetalous flowers set thick together: each flower is cut into four acute sections, and followed by an oblong, red, yellow, or black berry, containing one seed, which resembles a hemp-seed.

I. THYMELÆA

1. THYMELÆA: *Thymelæa foliis lini* C. B. *Daphne Gnidium* Linn. Spurge-flax: with the stalks and branches clothed with evergreen leaves like those of flax; and white flowers in clusters on the tops.

2. LAUREOLA seu *Chamælæa*: *Laureola sempervirens flore viridi, quibusdam laureola mas* C. B. *Daphne laureola* Linn. Spurge laurel: with evergreen shining bay-like leaves, standing several together, only at the tops of the branches; and greenish flowers on pedicles in their bosoms.

3. MEZEREUM *Pharm. Lond. Mezereon Pharm. Edinb. Laureola folio deciduo, flore purpureo, officinis laureola femina* C. B. *Daphne Mezereum* Linn. Spurge-olive, widow-wail: with pale purplish or white flowers clothing the branches; on the tops of which appear, after the flowers have fallen, bay-shaped leaves not shining.

The first of these plants grows on mountainous places in the southern parts of Europe: the second in moist woods in some parts of England: the third, a native of Germany (a), is cultivated in our gardens, on account of the elegance and earliness of its flowers, which sometimes appear in the end of January: the berries of all the sorts ripen in August or September.

The leaves of these plants have little or no smell, but a nauseous, acrid, very durable taste: taken internally, in small doses, as ten or twelve grains, they are said to operate with

(a) The mezereon has of late been observed to be a native of England also, being found plentifully in some woods near Andover in Hampshire.

violence,

violence, by stool, and sometimes by vomit, so as not to be ventured on with safety unless their virulence be previously abated by long boiling, and even then they are much too precarious to be trusted to.

The flowers are of a different nature, being in taste little other than mucilaginous and sweetish, and of a light pleasant smell.

The pulpy part of the berries appears also to be harmless; but the seeds, called *coccognidia* or *grana cnidia*, are as acrid, and as virulently purgative as the leaves.

*The bark of the spurge laurel, macerated in water, has of late been much employed in France as a topical application to the skin, for the purpose of excoriating and exciting a discharge. That of the mezereon has been recommended for the same purpose.

The root of the mezereon has lately been used with success in cases of venereal nodes. Dr. Russel, to whom the public is obliged for the communication of its efficacy in this frequently obstinate complaint, observes, in the medical inquiries above-mentioned, that the cortical part of the root, on first chewing, is not pungent, but after a little time proves greatly so; and that the disagreeable stimulus in the fauces lasts for many hours: that a decoction of an ounce of the fresh cortical part in a gallon and a half of water (the boiling being continued till half a gallon is wasted, and an ounce of sliced liquorice added towards the end) may be taken to the quantity of half a pint four times a day, is not nauseous to the taste, and has not been found to disagree with any stomach or constitution, or to remarkably increase any of the secretions; but that on doubling the quantity of the mezereon, the decoction proved so pungent,
that

that no stomach could bear it. He recommends the above decoction principally in those venereal nodes that proceed from a thickening of the membrane of the bones, which appears to be the cause of greatest part of these tumours, at least when recent: when there is an exostosis, nothing is to be hoped for from this medicine; and when the bone is carious, no cure is to be expected without an exfoliation, though even here it sometimes disperses the tumour, as appears from some of the cases which he relates. In a thickening of the periosteum from other causes, it has likewise had good effects.

THYMIAMA.

THYMIAMATIS cortex Officinarum Germaniæ: Thus judæorum quorundam. A bark, in small brownish-grey pieces, intermixed with bits of leaves, seeming as if the bark and leaves had been bruised and pressed together; brought from Syria, Cilicia, &c. and supposed to be the produce of the liquid-storax tree.

THIS bark has an agreeable balsamic smell, approaching to that of liquid-storax, and a subacid bitterish taste accompanied with some slight astringency. Infusions of it in water are of an orange colour, in taste and smell ungratefully balsamic: inspissated, they leave a dark reddish brown extract, retaining some of the smell of the bark, in taste austere, slightly bitter, and of a mild aromatic acrimony. To rectified spirit it communicates a dark colour like that of a solution of balsam of Peru: the spirit, distilled off from this tincture, is highly fragrant, inasmuch that a dram communicates an agreeable odour to some quarts of water: the remaining extract is likewise of a pleasant smell, and amounts to at least one eighth of the weight of the bark.

This bark, said to be common in the German shops, is in this country very rarely to be met with. Cartheuser and Hoffman, from whom the above account is extracted, report, that it affords an excellent fumigation for œdemas, rheumatisms, and catarrhs; and that the spirituous tincture and extract, and the distilled spirit, are useful anodynes or antispasmodics in convulsive coughs and other disorders.

THYMUS.

THYME: a low shrubby plant; consisting of numerous slender tough stalks, with little roundish leaves in pairs, and loose spikes, on the tops, of purplish or whitish labiated flowers, whose upper lip is nipt at the extremity, the lower divided into three nearly equal segments.

I. THYMUS *Pharm. Edinb. Thymum vulgare folio tenuiore C. B. Thymus vulgaris Linn.* Common thyme: with upright stalks, and dark brownish green somewhat pointed leaves; a native of the southern parts of Europe, common in our gardens, and flowering in June and July.

This herb is a moderately warm pungent aromatic. To water it imparts, by infusion, its agreeable smell, but only a weak taste, with a yellowish or brown colour: in distillation, it gives over an essential oil, in quantity about an ounce from thirty pounds of the herb in flower, of a gold yellow colour if distilled by a gentle fire, of a deep brownish red if by a strong one, of a penetrating smell resembling that of the thyme itself, but less grateful, in taste excessively hot and fiery: the remaining decoction, inspissated, leaves a bitterish, roughish, subline extract. The active matter, which by water is only partially dissolved, is by rectified spirit

spirit dissolved completely ; though the tincture, in colour blackish-green, discovers less of the smell of the thyme than the watery infusion : the spirit brings over in distillation a part of its flavour, leaving an extract of a weak smell and of a penetrating camphorated pungency.

2. SERPYLLUM *Pharm.-Edinb.* *Serpyllum vulgare minus* C. B. *Thymus Serpyllum* Linn. Mother-of-thyme : with trailing stalks, and obtuse leaves : growing wild on heaths and dry pasture grounds. This also is an elegant aromatic plant, similar to the foregoing species, but milder, and in flavour rather more grateful. Its essential oil is both in smaller quantity and less acrid, and its spirituous extract comes greatly short of the penetrating warmth and pungency of that of the other. It is said to afford an agreeable distilled water, more durable, but less active and penetrating than peppermint(*a*). Both the leaves themselves, and their spirituous tincture, are of a bright green colour, without any thing of the brown or blackish hue of those of common thyme.

3. THYMUS CITRATUS *Serpyllum foliis citri-odore* C. B. Lemon-thyme : in appearance differing little from the second sort, of which Linnæus makes it a variety, except that it is more upright and more bushy ; a native of dry mountainous places, common in gardens, and flowering as the others in July. This species is less pungent than the first sort, more so than the second, and much more grateful than either : its smell in particular is remarkably different, approaching to that of lemons. Dis-

(*a*) Cullen, *Mat. Med.*

tilled with water, it yields a larger quantity than the other sorts, of a yellowish very fragrant oil of the lemon flavour, containing nearly all the medicinal parts of the plant, for the remaining decoction is almost insipid as well as inodorous. It gives over also with rectified spirit its finer odorous matter; a less agreeable flavour, and a moderate warmth, remaining in the spirituous extract.

TILIA.

TILIA femina folio majore C. B. Tilia europæ Linn. LIME or LINDEN: a tall spreading-branched tree, with large heart-shaped, serrated, soft, somewhat hairy leaves: in the bosoms of these rise long narrow leafy productions, from the middle rib of which issue one or three pedicles bearing three flowers apiece, or one pedicle bearing nine: the flower is whitish, pentapetalous, and followed by a kind of dry berry about the size of a filberd. It is a native of England, flowers in July, and begins to lose its leaves in August.

THE flowers of the lime-tree are supposed to have an anodyne and antispasmodic virtue: Hoffman seems to entertain a great opinion of them in these intentions, and as his theory deduces most diseases from spasms and spasmodic strictures, they are accordingly very frequent in his prescriptions: he says he knew a chronical epilepsy cured by the use of an infusion of them drank as tea. The fresh flowers have a moderately strong smell, in which their virtue (whatever it may be) seems to consist, and which in keeping is soon dissipated: when divested of this odorous principle, they discover to the taste
only

only a strong mucilage, from which may be extracted, by rectified spirit, a slightly bitterish subastringent matter.

TITHYMALUS.

SPURGE: a plant with small smooth leaves, round stalks full of a milky juice, and umbel-like clusters of tetrapetalous flowers, whose cups are divided into four segments set alternately with the petala: the flower is followed by a roundish or three-square capsule containing three seeds.

I. TITHYMALUS PARALIOS: *Tithymalus maritimus* C. B. *Euphorbia Paralias* Linn. Sea spurge: with oblong narrow flax-like leaves, broadest in the middle, clothing the stalks, and lying over one another in an upward direction, like scales; and two roundish, heart-shaped, or kidney-shaped leaves encompassing each of the subdivisions of the umbel: found wild on sandy shores, and flowering in June. All the parts of this plant are extremely acrid irritating cathartics; apt to inflame the mouth, fauces, and stomach; operating with so great violence, that though some may perhaps have borne their operation without much injury to the constitution, yet common prudence forbids their being ever ventured on. Several correctors have been employed for them, but none with commendable success: maceration of the middle bark of the root in vinegar, directed by the faculty of Paris, renders it indeed less virulent, but of precarious operation: digestion of the milky juice with alkaline salts, recommended by others, leaves it still too acrid. For alleviating inflammatory symptoms produced by impru-

F f 3

dently

dently swallowing or tasting these acrid substances, milk, plentifully drank, seems the most effectual remedy. Gerard relates, that on taking but one drop of the milk of the sea spurge, it did so swell and inflame in his throat, that he hardly escaped with his life, and that on drinking milk, the extremity of the heat ceased.

2. TITHYMALUS CYPARISSIUS C. B. *Euphorbia Cyparissias* Linn. Cypress spurge: with numerous oblong slender leaves, not wider in the middle than at the ends; the umbel divided into numerous ramifications, each of which is divided and subdivided into two; the divisions perforating as it were the two roundish leaves which encompass them; a native of Germany, Switzerland, and some other parts of Europe. This species, though allowed by the faculty of Paris to be used indiscriminately with the preceding, is in all its parts less acrimonious. Poterius says he has found half a dram or a dram of the powdered root to act as a mild cathartic; and that the juice obtained from the bruised herb and root, depurated and exsiccated in the sun, is of the same operation with scammony (a).

SEVERAL other spurges are enumerated in catalogues of the materia medica, under the names of *esula*, *pityusa*, *cataputia*, *lathyrus*, *alypum*, *peplus*, *apios*, &c. among which there does not appear to be any one more virulent than the first above described, or less virulent than the second. None of them are among us ventured on for any internal use: the milky juice

(a) *Pharmacopœia spagyrica*, lib. iii. sect. 3.

of the wild spurges is sometimes applied externally by the common people for consuming warts.

TORMENTILLA.

TORMENTILLA Pharm. Lond. & Edinb. *Tormentilla sylvestris* C. B. *Heptaphyllum*. *Tormentilla erecta* Linn. TORMENTIL or SEPTFOIL: a plant with slender, weak, upright stalks; oblong leaves, indented towards the extremity, and converging from the indented part to their juncture with the stalk, standing generally seven at a joint; and small yellow tetrapetalous flowers on the tops of the branches, followed by naked seeds; the root is generally crooked and knotty, of a dark brown or blackish colour on the outside, and reddish within. It is perennial, grows wild in woods and on commons, and flowers in June.

TORMENTIL ROOT is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts, obtained by inspissation, are intensely styptic, the spirituous most so. It is generally given in decoction: an ounce and a half of the powdered root may be boiled in three pints of water to a quart, adding, towards the end of the boiling, a dram of cinnamon; of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

TRICHOMANES.

TRICHOMANES Pharm. Edinb. *Polytrichum* *five trichomanes* C. B. *Callitrichum*. *Asplenium* *Trichomanes* Linn. ENGLISH MAIDENHAIR: a small plant, without stalks: the leaves are long, narrow, composed of little roundish dark-green segments set in pairs along a shining black rib: the seeds are a fine dust lying on the backs of the leaves. It is perennial, and grows wild on shady grounds and old walls.

THIS herb has a mucilaginous somewhat sweetish and roughish taste, and little or no particular flavour. It is accounted serviceable in disorders of the breast, particularly in tickling coughs and hoarseness from thin acrid defluxions, and in these intentions has been long substituted among us to the *adiantum*, from which it appears to be very little, if at all, different in quality. It is usually directed in infusion or decoction, with the addition of a little liquorice: a pectoral syrup is prepared in the shops, from an infusion of five ounces of the dry leaves and four of liquorice root in five pints of boiling water.

Syrup. pectoralis.

TRIFOLIUM PALUDOSUM.

TRIFOLIUM PALUDOSUM Pharm. Lond. *Menyanthes* Pharm. Edinb. *Trifolium palustre* C. B. *Menyanthes* *Trifoliata* Linn. BUCKBEAN: a plant with large oval leaves, pointed at each end like those of the garden bean, set three together on long pedicles, which embrace the stalk to some height, and there parting leave it naked to near the top, where issues a short spike
of

of pretty large reddish white monopetalous flowers, each of which is cut into five segments, hairy on the inside, and followed by an oval seed-vessel. It is perennial, grows wild in marshy places, and flowers in May.

THE leaves of buckbean have a bitter penetrating taste, which they impart both to watery and spirituous menstrea; without any remarkable smell or flavour. They have of late years come into common use, as an alterative and aperient, in impurities of the humours, and some hydropic and rheumatic cases. They are usually taken in the form of infusion, with the addition of some of the acrid antiscorbutic herbs, which in most cases improve their virtue, and of orange peel or some other grateful aromatic to alleviate their ill taste: they are sometimes, among the common people, fermented with malt liquors, for an antiscorbutic diet drink. Their sensible operation is by promoting urine and somewhat loosening the belly.

TURPETHUM.

TURPETHUM *sive Turbith.* TURBITH: the cortical part of the root of a species of convolvulus (*Convolvulus Turpethum* Linn.), brought from the East Indies, in oblong pieces, of a brown or ash colour on the outside and whitish within: the best is ponderous, not wrinkled, easy to break, and discovers to the eye a large quantity of resinous matter.

THIS root, on the organs of taste, makes at first an impression of sweetness; but when chewed for some time, betrays a nauseous acrimony. It is accounted a moderately strong cathartic,

cathartic, but does not appear to be of the safest or most certain kind; the resinous matter, in which its virtue resides, being very unequally distributed; inasmuch that, as is said, some pieces taken from a scruple to a dram, purge violently, whilst others, in larger doses, have very little effect.

T U S S I L A G O.

TUSSILAGO Pharm. Lond. & Edinb. Tussilago vulgaris C. B. Farfara Bechium & ungula caballina quibusdam. Tussilaga Farfara Linn.
COLTSFOOT: a low plant, producing early in the spring single stalks, each of which bears a yellow flosculous flower followed by several seeds winged with down: the leaves which succeed the flowers, are short, broad, somewhat angular, slightly indented, green above, and hoary underneath. It is perennial, and grows wild in moist grounds.

THE leaves and flowers of coltsfoot, in taste somewhat mucilaginous, bitterish, and roughish, and of no remarkable smell, are ranked among the principal pectoral herbs. Infusions of them, with a little liquorice or with the other herbs of similar intention, are drank as tea, and sometimes with considerable benefit, in catarrhus disorders and coughs threatening consumptions. They have been found serviceable in hectic and colliquative diarrhœas (a).

T U T I A.

TUTIA Pharm. Lond. & Edinb. Tutia alexandrina. TUTTY: an argillaceous ore of

(a) Percival, *Ess. Med. and Exp.* II. 224.

zinc,

zinc, found in Persia; formed on cylindrical moulds into tubulous pieces like the bark of a tree, and baked to a moderate hardness (*a*); generally of a brownish colour and full of small protuberances on the outside, smooth and yellowish within, sometimes whitish, and sometimes with a bluish cast. Like other argillaceous bodies, it becomes harder in a strong fire; and after the zinc has been revived and dissipated by inflammable additions, or extracted by acids, the remaining earthy matter affords, with oil of vitriol, an aluminous salt (see *Bolus* and *Calaminaris*).

TUTTY, levigated into an impalpable powder, is, like the lapis calaminaris and calces of zinc, an useful ophthalmic, and frequently used as such in ointments and collyria. Ointments for this intention are prepared in the shops, by mixing the levigated tutty with so much spermaceti ointment as is sufficient to reduce it to a due consistence†; or by adding one part to five parts of a simple liniment made of oil and wax‡.

Tutia præparata Pb.
Lond. & Ed.

Ung. tutiæ
† Pb. Lond.
‡ Pb. Ed.

VALERIANA.

VALERIANA silvestris Pb. Lond. & Edinb.
Valeriana silvestris major montana C. B. *Valeri-*

(*a*) The above account of the origin of tutty is supported by the authority of Teixeira and Douglas, and by its chemical properties. That the common opinion, of its being a sublimate produced in the European founderies where zinc is melted with other metals, is erroneous, appears from hence; that tutty is not found, upon strict inquiry, to be known at those founderies; and by its consisting in great part of an earth not capable of rising in sublimation. Thus much, however, is probable, that sublimes or the common ores of zinc are often mixed with argillaceous earths and baked hard, in imitation of the genuine oriental tutty.

ana

ana officinalis Linn. WILD VALERIAN: a plant with channelled stalks; the leaves in pairs; each leaf composed of a number of long narrow sharp-pointed segments, indented about the edges, of a dull green colour, set along a middle rib, which is terminated by an odd one; producing, on the tops of the stalks, umbel-like clusters of small monopetalous flowers, each of which is divided into five segments, set in a very little cup, and followed by a single naked seed winged with down: the root consists of tough strings with numerous smaller threads, matted together, issuing from one head, of a dusky brownish colour approaching to olive. It is perennial, and grows wild in dry mountainous places.

Another species, or variety, of wild valerian, is met with in moist watery grounds, distinguishable by the leaves being broader and of a deep glossy green colour. Both sorts have been used indiscriminately; but the mountain sort is by far the most efficacious, and is therefore expressly ordered for the officinal species by the London college.

THE mountain valerian root has a strong not agreeable smell, and an unpleasant warm bitterish subacid taste: the strength of the smell and taste is the only mark to be depended on of its genuineness and goodness. It is a medicine of great esteem in the present practice against obstinate hemicrania, hysterical, and the different kinds of nervous disorders, and is commonly looked upon as one of the principal antispasmodics. Columna reports, that he was cured by it of an inveterate epilepsy after many other medicines had been used in vain: on more extensive trials it has been found, in some epileptic

epileptic cases, to effect a cure, in several to abate the violence or frequency of the fits, and in many to prove entirely ineffectual: oftentimes, it either purges, or operates by sweat or by urine, or brings away worms, before it prevents a fit. The dose of the root in powder is from a scruple to a dram or two, which may be repeated, if the stomach will bear it, two or three times a day. * A remarkable instance of its efficacy in a catalepsy is given by Mr. Mudge (a): doses of half an ounce of the powder were exhibited twice a day, and a less quantity was found ineffectual.

The powdered root, infused in water or digested in rectified spirit, impregnates both menstrua strongly with its smell and taste, and tinges the former of a dark brown, the latter of a brownish red colour. Water distilled from it smells considerably of the root, but no essential oil separates, though several pounds be submitted to the operation at once: the extract obtained by inspissating the watery infusion, has a pretty strong taste, disagreeably sweetish and somewhat bitterish: the spirituous extract is less disagreeable, and more perfectly resembles the root itself: the quantity of watery extract is about one fourth the weight of the root; of the spirituous, about one eighth. Tinctures of it are prepared in the shops, by digesting four ounces of the powdered valerian in a quart of proof spirit†; in the same quantity of the volatile aromatic spirit‡; or of the dulcified spirit of sal ammoniac||. The root in substance, however, is generally found to be more effectual than any preparation of it. Among the mate-

Tinct. valer.

simp. † Ph.

Lond.

—volat. † Ph.

Lond.

|| Ph. Ed.

(a) On the *Vis Vita*, &c.

rials

rials I have made trial of for covering its flavour, mace seemed to answer the best.

VANILLA.

VANILLA seu *Banilia* Pharm. Paris. *Aracus aromaticus*. VANELLOE: the fruit of a climbing plant (*volubilis filiquosa mexicana foliis plantaginis Raii hist. Epidendrum Vanilla Linn.*) growing in the Spanish West Indies. It is a long flattish pod, containing, under a wrinkled brittle shell, a reddish brown pulp, with small shining black seeds.

VANELLOES have an unctuous aromatic taste, and a fragrant smell like that of some of the finer balsams heightened with musk. They are used chiefly in perfumes; scarcely ever, among us at least, in any medical intention; though they should seem to deserve a place among the principal medicines of the nervous class. By distillation, they impregnate water strongly with their fragrance, but give over little or nothing with pure spirit: by digestion, spirit totally extracts their smell and taste, and in great measure covers or suppresses the smell.

VERBASCUM.

VERBASCUM Pharm. Edinb. *Verbascum mas latifolium luteum C. B. Thapsus barbatus Candelaria & lanaria quibusdam. Verbascum Thapsus Linn.* MULLEIN: a large plant, all over white and woolly; with a single woody stalk, clothed with oblong oval leaves joined to it without pedicles, bearing on the top a long spike of large yellow monopetalous flowers cut into five segments, and followed by conical
seed

feed-vessels. It is biennial, grows wild by road-sides, and flowers in July.

THE leaves of mullein, recommended as mild astringents, have a roughish drying kind of taste, and very little smell. The flowers have also a slight roughishness, with a considerable sweetness. A decoction of the leaves has lately been used with some success in diarrhoeas (a).

VERBENA.

VERBENA communis flore cæruleo C. B. Hierobotane, herba sacra, herba cephalalgica & peristerium quibusdam. Verbena officinalis Linn.

VERVAIN: a plant with wrinkled, oblong, obtuse leaves, deeply jagged and indented, set in pairs on the stalks, the upper ones divided into three segments: on the tops of the branches appear irregularly labiated blue flowers, in long spikes, without any leaves among them, followed each by four seeds inclosed in the cup. It is annual, grows wild in uncultivated places, and flowers in July or August.

This herb has been celebrated for abundance of virtues, for which its sensible qualities afford little or no foundation. It has no remarkable smell, and hardly any taste.

VERONICA.

VERONICA: a low, somewhat hairy, trailing plant, with firm leaves set in pairs: from the joints arise slender pedicles, bearing spikes of blue monopetalous flowers, each of which is divided, as is the cup, into four segments, and

(a) Home's Clin. Cas. and Exp.

followed

followed by a flat bicellular capsule, which opens at the upper broad part and sheds small brown seeds.

1. VERONICA MAS *sive* *Betonica pauli*. *Veronica mas supina* & *vulgatissima* C. B. *Thea Germanica quibusdam*. *Veronica officinalis* Linn. Male speedwell: with crenated leaves of a roundish oval figure; those on the flowering twigs, long, narrow, and not crenated. It is perennial, and grows wild on sandy grounds and dry commons.

The leaves of veronica have a weak not disagreeable smell, which in drying is dissipated, and which they give over in distillation with water, but without yielding any separable oil. To the taste they are bitterish and roughish: an extract made from them by rectified spirit is moderately bitter and subastringent: the watery extract is weaker, though the quantity of both is nearly the same; whence spirit seems to extract their virtue more completely than water. This herb is of great esteem among the Germans; in disorders of the breast both catarrhus and ulcerous, and for purifying the blood and humours: infusions of the leaves, which are not unpalatable, are drank as tea, and are found to operate sensibly by urine.

2. TEUCRIUM *Act. med. berolinens.* *Chamædryis spuria major angustifolia* C. B. *Veronica Teucrium* Linn. Mountain speedwell: with sharply serrated leaves of a long oval figure; the lower embracing the stalk by a broad basis. It is a native of Germany.

The leaves and flowers of this species have been greatly commended for dietetic infusions; and said to promote perspiration and urine, to
be

be in general salubrious, and medicinal in several disorders(*a*). Cartheuser observes, that they impart to boiling water a greenish colour, a pleasant balsamic smell, and a much more agreeable taste than the preceding veronica. Among us they have not yet been introduced, nor is the plant common: what has usually been called *teucrium* is a plant of another genus, a large species of germander.

VINCETOXICUM.

VINCETOXICUM, Asclepias, Hirundinaria. Asclepias albo flore C. B. Asclepias Vincetoxicum Linn. Swallow-wort, tame-poison: a plant with unbranched stalks; smooth oblong acuminate leaves set in pairs, and clusters of white monopetalous flowers, each of which is divided into five sections, and followed by two long pods full of a white cottony matter with small brownish seeds: the root is large, composed of a great number of slender strings hanging from a transverse head, externally brownish, internally white. It is perennial, grows wild in gravelly grounds in some parts of England, and flowers in July.

THE root of vincetoxicum has, when fresh, a moderately strong not agreeable smell, approaching to that of wild valerian, which in drying is in great part dissipated; chewed, it impresses first a considerable sweetness, which is soon succeeded by an unpleasant subacid bitterness: an extract made from it by water, is moderately sweetish, balsamic, and bitterish; the spirituous extract is stronger in taste, proportionably smaller in quantity, and retains a

(*a*) Gohl, *Acta medica Berolinens.* dec. I. vol. ii. n. 5.

part of the specific flavour of the root. It is recommended as resolvent, sudorific, and diuretic; in catarrhal, cachectic, and scrophulous disorders, and in uterine obstructions; in doses of from a scruple to a dram or more in substance, and three or four drams in infusion. It has been employed by some of the Germans as an alexipharmac, and hence received the name of *contrayerva Germanicum*. Some have however suspected it to possess noxious qualities, and observe that when fresh it excites vomiting. Among us it is scarcely ever made use of in any intention.

VINUM.

WINE: the fermented juice of the grape. It differs in colour, flavour, and strength, partly from differences in the grape itself, but chiefly from different managements or additions. Five sorts are employed in the shops as menstrua for medicinal substances: *Vinum album*, Mountain: *Vinum album gallicum*, French white wine: *Vinum canarinum*, Canary or sack: *Vinum rhenanum*, Rhenish: *Vinum rubrum*, Red Port.

ALL wines consist of an inflammable spirit, and water, separable by distillation; an unctuous viscid substance, which abounds particularly in the sweet wines, as Canary, and impedes their dissolving power; and an acid, obvious in some to the taste, as in Rhenish, which hence becomes an useful menstruum for some bodies of the metallic kind, particularly iron and the antimonial regulus. In distillation, after the inflammable spirit has arisen, they all yield more or less of a peculiar grateful acid; a grosser tartareous acid remaining in the still, along with

with the unctuous and mucilaginous matter. In long keeping, a part of the tartar is thrown off from the wine, and incrustates the sides of the cask.

Wine, considered as a medicine, is a valuable cordial in languors and debilities; more grateful and reviving than the common aromatic infusions and distilled waters, particularly useful in the low stage of malignant or other fevers, for raising the pulse and supporting the vis vitæ, promoting a diaphoresis, and resisting putrefaction. Dietetically, its moderate use is of service to the aged, the weak, and the relaxed, and to those who are exposed to warm and moist, or to corrupted air: in the opposite circumstances, it is less proper, or prejudicial. Externally, it is used as a corroborant, antiseptic, and antiphlogistic fomentation.

The acid obtained from wine by distillation, apparently of a different nature from the acetous as well as from the native vegetable acids, seems to deserve some regard, both as a medicine, and as a more elegant menstruum, for iron and some other bodies, than the common acids.

With regard to the medical differences of wines, it may be observed, that the effects of the full-bodied are much more durable than those of the thinner: that all sweet wines are in some degree nutritious; the others not at all, or only accidentally so, by promoting appetite and strengthening the organs concerned in digestion: that sweet wines in general do not pass freely by urine, and that they heat the constitution more than an equal quantity of any other, though containing full as much spirit: that those which are manifestly acid pass freely by the kidneys, and gently loosen the belly; and

that most of the red ones are subastringent, and tend to restrain immoderate excretions.

V I O L A.

VIOLA Pharm. Lond. & Edinb. Viola martia purpurea flore simplici odoro C. B. Viola-ria. Viola odorata Linn. VIOLET: a low creeping plant, without any other stalk than the pedicles of the leaves and flowers: the leaves are roundish, somewhat heart-shaped, obtusely crenated about the edges: the flower consists of five irregular petala, of the deep purplish blue called, from the name of the plant, violet colour: the fruit is a little capsule divided into three cells, full of small roundish seeds. It is perennial, grows wild in hedges and shady places, and flowers in March.

The flowers of a different species, greatly inferior to the above, are frequently substituted in our markets. This sort may be readily distinguished; the herb, by its having stalks, which trail on the ground, and bear both leaves and flowers, and by the young leaves being hairy; the flower, by the three lower petala being spotted with white, and by their want of smell.

THE officinal violet flowers have a very agreeable smell, and a weak mucilaginous bitterish taste. Taken to the quantity of a dram or two, they are said to be gently laxative or purgative; and the seeds, which have more taste than the flowers, to be more purgative, and sometimes emetic. The flowers give out to water both their virtue and their fine colour, but scarcely impart any tincture to rectified spirit, though they impregnate the spirit with their fine flavour, and probably also with their purgative quality.

quality. An infusion of two pounds of the fresh flowers in five† or eight‡ pints of boiling water, passed through a fine linen cloth without pressure, is made in the shops into a syrup, which proves an agreeable laxative for children. Both the flowers themselves and the syrup lose their colour in being long kept: acids change them instantly into a red; alkalies, and sundry combinations of acids with earthy and metallic bodies, to a green: perfect neutral salts, or those compounded of an acid and alkali, make no alteration. Some have been accustomed to communicate to syrups a violet colour with materials of greater durability than the violet itself, or than any other blue flower: these sophisticated preparations may be distinguished by their colour withstanding alkalies and acids, or being affected by them in a different manner.

*VIOLA TRICOLOR *Linn.* Pansies, or hearts-ease: this well known plant has lately been recommended by a German physician, Dr. Strack, as a specific in the *crusta lactea* of children. He directs a handful of the fresh, or half a dram of the dried leaves to be boiled in half a pint of milk, which is to be strained for use. This dose is repeated morning and evening. He observes, that when it has been administered eight days, the eruption usually increases considerably, and the patient's urine acquires a smell like that of cats. When the medicine has been taken a fortnight, the scurf begins to fall off in large scales, leaving the skin clean. The remedy is to be persisted in, till the skin has resumed its natural appearance, and the urine ceases to have any particular smell.

VIPERA.

VIPERA Pharm. Edinb. Coluber Berus Linn. THE VIPER OR ADDER, a viviparous reptile, about an inch or less in thickness, and twenty or thirty in length, with a small sharp-pointed tail. It is found in the heat of summer, under hedges in unfrequented places; and in winter retires into holes in the earth.

The poison of this serpent is confined to its mouth. At the basis of the phangs, or long teeth which it wounds with, is lodged a little bag containing the poisonous liquid; a very minute portion of which, if mixed immediately with the blood, proves fatal; though it does not appear to be pernicious when swallowed, provided there is no solution of continuity in the parts which it comes in contact with (*a*). Our viper-catchers are said to prevent the mischiefs otherwise following from the bite, by rubbing oil-olive warm upon the part.

The flesh of the viper is perfectly innocent, and has been greatly commended as a medicine in sundry disorders. It appears to be very nutritious, and hence an useful restorative in some kinds of weaknesses and emaciated habits: but in scrophulous, leprous, and other like distempers, the good effects, which have been ascribed to it, are more uncertain: I have known a viper taken every day for above a month, in disorders of the leprous kind, without any apparent benefit. The form in which they are used to best advantage, is that of broth, that the wines (made commonly by macerating for a week, with a gentle heat, two ounces of

(*a*) See Dr. Mead's *Mechanical account of poisons*, essay i.

the dried flesh in three pints of mountain) have any great virtue, cannot perhaps be affirmed from fair experience.

The fat of the viper is accounted particularly useful in disorders of the eyes; but what advantages it has above other soft fats, is by no means clear: see *Pinguedo*. It was formerly supposed to have some specific power of resisting the poison of the viper's bite, by being rubbed immediately on the part; but experience has now shewn that common oil is in this intention of equal efficacy.

VIRGA AUREA.

VIRGA AUREA angustifolia minus ferrata
C. B. *Herba doria* & *Consolida saracenica quibusdam*. *Solidago Virga aurea* Linn. GOLDEN ROD: a plant with long somewhat oval leaves, pointed at both ends, slightly or not at all indented; and upright spikes, along the stalks, of small yellow flowers, composed of several flosculi set in scaly cups, followed by small seeds winged with down. It is perennial, grows wild in woods and on heaths, and flowers in August.

THE leaves and flowers of golden rod are recommended as corroborants and aperients; in urinary obstructions, nephritic cases, ulcerations of the bladder, cachexies, and beginning dropsies. Their sensible qualities promise considerable medical activity: their taste, which they readily impart both to water and rectified spirit, and which remains entire in the inspissated extracts, is of a subtile penetrating durable kind, not very ungrateful, weak in the herb in substance, strong in the watery extract, and stronger in the spirituous.

VISCUS.

VISCUS QUERNUS *Viscum baccis albis* C. B. *Viscum album* Linn. MISSELTOE: a bushy evergreen plant, with woody branches variously interwoven; firm narrow leaves, narrowest at the bottom, set in pairs; and imperfect white flowers in their bosoms, followed each by a transparent white berry containing a single seed. It grows only on the trunks and branches of trees, and may be propagated by rubbing the glutinous berries on the bark that the seeds may adhere.

THE leaves and branches of misseltoe, formerly recommended as specifics in convulsive and other nervous disorders, and now fallen into general neglect, do not appear to have any considerable medicinal power. Instances have indeed been produced of their seeming to prove beneficial: but as there are, perhaps, no disorders, whose nature is so little understood, whose causes are so various, and whose mitigations and exasperations have less dependence upon sensible things; there are none in which medicines operate more precariously, and in which the observer is more liable to deception.

Half a dram or a dram of the wood or leaves in substance, or an infusion of half an ounce, the doses commonly directed, have no sensible effect. Both the leaves and branches have very little smell, and a very weak taste, of the nauseous kind. In distillation they impregnate water with their faint unpleasant smell, but yield no essential oil. Extracts made from them by water are bitterish, roughish, and subsaline: the spirituous extracts, in quantity smaller than the watery,

watery, are in taste stronger, nauseous, bitterish, and subaustere: the spirituous extract of the wood has the greatest austerity, and that of the leaves the greatest bitterishness. The berries abound with an extremely tenacious, not ungrateful, sweet mucilage.

VITRIOLUM.

VITRIOLUM & Calcanthum Pharm. Paris.

VITRIOL: a saline crystalline concrete, composed of metal united with a certain acid called the vitriolic acid. There are three metals with which this acid is found naturally combined, zinc, copper, and iron: with the first it forms a white, with the second a blue, and with the third a green salt.

I. VITRIOLUM ALBUM *Pharm. Lond. Vitriolum album sive Zinci Pharm. Edinb.* White vitriol, or vitriol of zinc; found in the mines of Goslar, sometimes in transparent pieces, more commonly in white efflorescences; which are dissolved in water, and crystallized into large irregular masses somewhat resembling fine sugar; in taste sweetish, nauseous, and styptic.

The common white vitriol of the shops contains a quantity of ferrugineous matter; of which, in keeping, a part is extricated from the acid, in an ochery form, so as to tinge the mass of a yellow hue. On dissolving the whitest pieces in water, a considerable portion of ochre immediately separates: the filtered solution, transparent and colourless, becomes again turbid and yellow on being made to boil, and deposits a fresh ochery sediment; and a like separation happens, though much more slowly, on standing without heat. Hence, when
the

+ Zinc. vitriol. purif.
Ph. Lond.

the solution is evaporated to the usual pitch, and set to crystallize, the crystals generally prove foul; unless some fresh acid be added (as an ounce of the strong spirit or oil of vitriol to a pound of the salt †) to keep the ferrugineous matter dissolved: this addition both secures the whiteness of the crystals, and prevents their growing soon yellow in the air. White vitriol generally contains also a small portion of copper, distinguishable by the cupreous stain which it communicates to polished iron immersed in solutions of it, or rubbed with it in a moist state. The quantity of this metal is so exceedingly minute, that it is not, perhaps, of any inconvenience in the intentions for which white vitriol is commonly employed: the separation, if it should be thought necessary, may be effected, by boiling the solution for some time, along with bright pieces of iron, which will extricate all the copper: by continued or repeated coction, greatest part of the ferrugineous matter also may be separated.

Aqua vitriolice *Ph. Ed.*

Aqua aluminis comp.
Ph. Lond.

White vitriol is sometimes given, from five or six grains to half a dram and more, as an emetic; and appears to be one of the quickest in operation of those that can be employed with safety. Its chief use is for external purposes, as a cooling restringent and desiccative: a dilute solution of it, as sixteen grains in eight ounces of water, with the addition of sixteen drops of weak vitriolic acid, is an excellent collyrium in defluxions and slight inflammations of the eyes, and, after bleeding and purging, in the more violent ones: a solution of it with alum, in the proportion of two drams of each to a pint of water, is used as a repellent fomentation for some cutaneous eruptions, for cleansing foul ulcers, and as an ejection in the fluor albus

albus and gonorrhœa when not accompanied with virulence. This vitriol is sometimes likewise employed as an errhine, and said to be a very effectual dissolvent of mucous matters; in which intention it is recommended, in the German ephemerides, against obstructions of the nostrils in new-born infants.

2. VITRIOLUM CÆRULEUM *Pharm. Lond.*
Vitriolum cæruleum sive cupri Pharm. Edinb.
 Blue vitriol, or vitriol of copper, commonly called Roman or Cyprian vitriol, or blue-stone. This kind of vitriol is in many places produced from sulphureous ores of copper: the acid of sulphur is no other than the vitriolic; and the inflammable principle of the sulphur being dissipated either by fire or by a spontaneous resolution of the mineral, the acid remains combined with the copper (see *Pyrites*): the vitriol, now formed, is either extracted by the application of water, or washed out by rain or subterraneous waters: hence in some copper mines are found blue waters, which are true vitriolic solutions of copper, and which deposit that metal on the addition of iron or of any other substance which the acid more strongly attracts. The greatest part of the blue vitriol, now met with in the shops, is prepared in England, by artificially combining copper with sulphur or its acid.

The vitriol of copper is of an elegant sapphire blue colour; hard, compact, and semi-transparent; when perfectly crystallized, of a flattish, rhomboidal, decahedral figure; in taste extremely nauseous, styptic, and acrid. Exposed to a gentle heat, it first turns white, and then of a yellowish red or orange colour: on increasing the fire, it parts, difficultly, with its acid

acid, and changes at length to a very dark red calx, reducible, by fusion with inflammable fluxes, into copper.

This salt, like the other preparations of copper, acts, in doses of a few grains, as a most virulent emetic. Its use is chiefly external, as a detergent, escharotic, and for restraining hemorrhagies: for which last intention, a strong styptic liquor is prepared in the shops, by dissolving three ounces of blue vitriol and three of alum in two pounds of water, then adding one ounce and a half of oil of vitriol, and filtering the mixture for use.

Aqua styptica
Ph. Ed.

*Blue vitriol has of late been considerably employed as an emetic by some practitioners; and is said to be by no means an unsafe one, as it operates the instant it reaches the stomach, before it has time to injure by its corrosive quality. The peculiar advantage in using it is represented to be, that it has no tendency to become also purgative, and that its astringent power prevents the tone of the stomach from being impaired after vomiting with it. It is much recommended in the early state of tubercles in the lungs; and the following method of exhibition is directed(*a*). Let the patient first swallow about half a pint of water, and immediately afterwards, the vitriol dissolved in a cup-full of water. The dose may be varied according to age, constitution, &c. from two grains to ten, or even twenty; always taking care to begin with small ones. After the emetic is rejected, another half pint of water is to be drunk, which is likewise speedily thrown up, and this is commonly sufficient to remove the nausea.

(*a*) Simmons, *on the Treatment of Consumptions*, p. 70.

In still smaller doses, the blue vitriol has been much used by some as a tonic in intermittents, and other diseases.

3. VITRIOLUM VIRIDE *Pharm. Lond.* *Vitriolum viride, five ferri Pharm. Edinb.* Green vitriol, or vitriol of iron; commonly called English vitriol or copperas; the Roman vitriol of the Italian writers. This sort of vitriol is produced from sulphureo-ferrugineous pyritæ, as the blue from sulphureo-cupreous ones; and as the ferrugineous minerals are much easier of resolution than the others, the ferrugineous vitriol is much oftener found native. In this native state, neither sort is free from an admixture of the other; the native green vitriols having always more or less of a bluish cast, and the blue of a greenish. The common green vitriol is prepared in large quantity at Deptford and Blackwall near London, and at Newcastle, by boiling iron with the acid liquor, which runs from certain pyritæ after long exposure to the air: this vitriol appears to be purely martial, for if it should receive any cupreous particles from the mineral, the superadded iron would precipitate them. All vitriols may be freed perfectly from copper by adding iron to solutions of them: those, which contain even a small portion of that metal, readily discover it by staining the iron of a copper hue.

Pure vitriol of iron is considerably transparent, of a fine bright, though not very deep, grass green colour; of a nauseous astringent taste accompanied with a kind of sweetishness. Dissolved, and set to crystallize, it shoots into thick rhomboidal masses; a part generally rising at the same time in efflorescences about the sides of the vessel. The solution deposits in standing
a considerable

a considerable quantity, and in boiling a much larger one, of the metallic basis of the vitriol, in form of a rusty calx or ochre: iron seems to be the only metallic body that thus separates spontaneously, in any considerable quantity, from the vitriolic acid. On exposing the vitriol itself to a moist air, a similar resolution happens on its surface; which, sooner or later, according as the acid is more or less saturated with the metal, changes its green to a rusty hue. In a warm dry air, it loses a part of the phlegm or water necessary to its crystalline form, and falls by degrees into a white powder. Exposed to a gentle fire, it liquefies and boils up; but soon changes, on the exhalation of the watery part that rendered it fluid, to a solid, opaque, whitish or grey mass; this, pulverized and urged with a stronger fire, continues to emit fumes, becomes yellow†, afterwards red, and at length, having parted with most of its acid as well as its phlegm, turns to a deep purplish-red calx‡, revivable by inflammable substances into iron.

† Vitriolum
calcinatum
Pb. Ed.

‡ Colcothar
vitrioli *Pb.*

Ed.
Chalcitis fac-
titia *Pb. Paris.*

Pure green vitriol is in no respect different from the artificial *sal martis*. It is one of the most certain of the chalybeate medicines, scarcely ever failing to take effect where the calces and other indissoluble preparations pass inactive through the intestinal tube. It may be conveniently given in a liquid form, largely diluted with aqueous fluids: two or three grains or more, dissolved in a pint or a quart of water (which from this quantity receives no disagreeable taste) may be taken in a day, divided into different doses. This vitriol is used also, especially when calcined, as an external styptic: the styptic of Helvetius, and as is said that of Eaton, is no other than French brandy very slightly impregnated with the calcined vitriol: a
dram

dram of the vitriol is commonly directed to a quart of the spirit, but only a minute portion of the dram dissolves in it. As French brandy has generally an astringent impregnation from the oaken casks in which it has been kept, the vitriol changes it, as it does the watery infusions of vegetable astringents, to a black colour; but makes no such change in spirituous liquors that have not received some astringent tincture.

It is from the green vitriol that the acid called vitriolic has been generally extracted; by distilling the calcined vitriol in earthen long-necks, with a strong fire continued for two days or longer. The distilled spirit appears of a dark blackish colour; and contains a quantity of phlegm, greater or less according as the vitriol has been less or more calcined. On committing it a second time to distillation, in a glass retort placed in a sand-heat, the phlegmatic parts rise first, together with a portion of the acid, and are kept apart under the name of *spirit* or *weak spirit* of vitriol†: at the same time the remaining *strong spirit*, or *oil* as it is called, loses its black colour and becomes clear‡, and this is the usual mark for discontinuing the rectification. The colleges of London and Edinburgh now directs a weak vitriolic acid of more certain strength, made by mixing one part of the strong acid with seven or eight parts of water ||.

The strong acid or oil of vitriol is the most ponderous of unmetallic fluids, and the most fixed of saline ones, yielding no smell in the greatest heat of the atmosphere, and requiring, to make it boil or distil, a heat considerably greater than that in which lead melts. Exposed to the air, it imbibes its humidity, so as to gain by degrees an increase of about twice its own weight.

Tinctura
styptica.

† Spir. vitrioli tenuis.

‡ Acidum vitriolicum Ph. Lond. & Ed.

|| Acidum vitriolicum dilut. Ph. Lond.

Acid. vitriol. tenue, vulgo Spiritus vitrioli tenuis Ph. Ed.

weight. Mixed directly with water, it produces a heat so great as to render the vessel insupportable to the hand: glass vessels are apt to crack from the suddenness of the heat, unless the commixture is very slowly performed. The most ready method of distinguishing it, in a dilute state, or when mixed with other acids, is by adding a solution of some calcareous earth, as chalk, made in any kind of acid liquor: this solution is by a minute portion of the vitriolic acid rendered milky, but suffers no change from any other species of acid; see *Selenites*.

Spir. vitrioli
volat. *Stabl.*

If the long-neck, in the extrication of the acid from vitriol, happens to crack in the fire, the acid that rises after this period is found remarkably changed. It emits in the air suffocating vapours like the fumes of burning brimstone, and rises in distillation with a heat not much greater than that which the hand can bear: to the taste it discovers little corrosiveness or acidity. Combined with alkaline salts, it loses its pungent odour; but on the addition of any other acid, it is disengaged from the alkali, so as to rise again in distillation as volatile and suffocating as before. It destroys or whitens the blue and red colours of the flowers of plants; whereas, in its fixed state, like the other acids, it changes the blue to red, and heightens those which are naturally red. This volatile spirit loses its suffocating odour, and resumes its corrosiveness, fixedness, and other qualities, by exposure to the air, which seems to carry off the inflammable principle whereon its volatility depended.

Aqua sulphurata,
Gas sulphuris *vulgo.*

The fumes of burning brimstone are no other than the vitriolic acid in its volatile state; see *Sulphur*. If a little burning sulphur be suspended over some water in a close vessel till the fumes

fumes subside, and this repeated with fresh portions of sulphur, till about half a pound has been used to a quart of water, the liquor will be found strongly impregnated with the volatile suffocating acid, and in keeping for some time, if the vessel is not closely stopt, it will become exactly similar to water acidulated with the fixt acid. If a very large glass, open at bottom, be hung over the burning sulphur, in a damp place screened from wind, a part of the fumes will condense upon the sides of the glass, and run down in drops, which may be collected by placing a glass dish underneath: the acid thus obtained is called, from the shape of the vessel that has been generally used for condensing the fumes, spirit or oil of sulphur by the *bell*. The quantity of acid collected by this process is very small, greatest part of the fumes escaping: sixteen ounces of sulphur, in the most favourable circumstances, yield scarcely one ounce of phlegmatic spirit; though it is certain, that out of this quantity of sulphur, more than fifteen ounces are pure acid, of such strength, as to require being diluted with above an equal quantity of water to reduce it to the pitch of common spirit of sulphur; so that if sulphur could be burnt without the loss of any of its fumes, we might obtain double its weight of an acid of the ordinary strength. The process has lately been improved, by some particular persons, though not perhaps to this degree, yet so far as to afford at a very low price almost all the acid now sold under the name of oil of vitriol. The improvement consists chiefly in burning the sulphur in very large glass vessels, in the bottoms of which some warm water is placed, whose steam serves to collect and condense the fumes.

Spir. sulph.
per campanam.

THE acid of vitriol or sulphur, largely diluted so as to be supportable or but gratefully tart to the palate, is the most salubrious of all the mineral acids. It is mixed with watery infusions, spirituous tinctures and other liquids, as an antiphlogistic; as a restringent in hemorrhagies; and as a stomachic and corroborant in weaknesses, loss of appetite, and decays of constitution, accompanied with slow febrile symptoms, brought on by irregularities, or succeeding the suppression of intermittents by Peruvian bark. In several cases of this kind, after bitters and aromatics of themselves had availed nothing, a mixture of them with the vitriolic acid has happily taken place: the form commonly made use of is that of a spirituous tincture: six ounces of oil of vitriol are droppt by degrees into a quart of rectified spirit of wine, the mixture digested for three days in a very gentle heat, and afterwards digested for three days longer with an ounce and a half of cinnamon, and an ounce of ginger†; or a pint of an aromatic tincture drawn with proof spirit is mixed with four ounces of the strong acid†: these liquors are given from ten to thirty or forty drops, in any convenient vehicle, at such times as the stomach is most empty. A mixture of oil of vitriol with spirit of wine alone, in the proportion of one part of the former to three of the latter, digested together for some time, is used in France as a restringent in gonorrhœas, female fluors, and spittings of blood.

* This acid, diluted with water, has been given internally with great success in the itch. It was first used for this purpose in the Prussian army in 1756, and has since been much employed in several parts in Germany. The dose recommended

† Elixir vitrioli *Ph. Ed.*

† Elix. vitrioli acidum.

Aqua rabeliana *vulgo*
Eau de Rabel.
Ph. Paris.

recommended is from an eighth to a fourth of a dram of the pure acid twice or thrice a day. It is said to succeed equally in the dry and moist itch; and when given to nurses, to cure both themselves and their children.

When oil of vitriol and rectified spirit of wine are long digested together or distilled, a part of the acid unites with the vinous spirit into a new compound, very volatile and inflammable, of no perceptible acidity, of a strong and very fragrant smell, and an aromatic kind of taste: this dulcified part, more volatile than the rest, separates and rises first in distillation, and may thus be collected by itself.

The college of London directs a pound of oil of vitriol and a pint of rectified spirit of wine to be cautiously and gradually mixed (a great conflict and heat ensuing if they are mixed hastily) and set to distil with a very gentle heat till sulphureous vapours begin to arise: that of Edinburgh orders the same quantity of the oil of vitriol to be dropt into four times as much of the vinous spirit, and the mixture to be digested in a close vessel, for eight days, previously to the distillation, with a view to promote the coalition of the two ingredients. The different proportions of the acid spirit to the vinous, in these prescriptions, make no material variation in the qualities of the product, provided the distillation is duly conducted; for the smallest of the above proportions of acid is much more than the vinous spirit can dulcify, and all the redundant acid remains in either case behind.

The true dulcified spirit rises in thin subtile vapours, which condense upon the sides of the recipient in straight striæ: these are succeeded by white fumes, which form either irregular

*Spiritus ætheris vitriol.
Pb. Lond.*

Ol. vitrioli
dulce Hoffm.

striæ or large round drops like oil; on the first appearance of which, the process is either to be stopt, or the receiver changed. The spirit which these fumes afford, very different from the dulcified one, has a pungent acid smell like the fumes of burning sulphur: on its surface is found a small quantity of oil, of a strong penetrating and very agreeable smell, readily dissoluble in spirit of wine, to a large proportion of which it communicates the smell and taste of the aromatic or dulcified spirit. The college of Edinburgh, in order to secure against any acidity in the dulcified spirit, order it to be rectified, by mixing it with an equal measure of water, in every pint of which a dram of salt of tartar has been dissolved, and drawing off the spirit again by a gentle heat* (a).

Liquor anodyne
mineralis Hoffm.

This spirit, taken from ten to eighty or ninety drops, strengthens the stomach and digestive powers, relieves flatulencies, promotes urine, and in many cases abates spasmodic strictures, and procures rest. It is not essentially different from the celebrated mineral anodyne liquor of Hoffman; to which it is frequently, by the author himself, directed as a substitute. It is evident, from Hoffman's writings, that his anodyne was composed of the dulcified spirit and the aromatic oil which comes over after it, but the particular proportions of the two he has no where specified: the faculty of Paris directs, under the title of his preparation, twelve drops

* (a) The Edinburgh college; in their last pharmacopœia, have manifestly shewn how little they conceive the acid to enter as a constituent part of this preparation, and at the same time have directed an effectual method of preventing its presence in it. They order the *acidum vitriolicum vinosum*, vulgo *spiritus vitrioli dulcis*, to be made by simply mixing one part of vitriolic ether with two of rectified spirit.

of the oil to be dissolved in two ounces of the spirit; the college of Wirtemberg seems to think, that all the oil, and all the spirit, obtained in one operation, were mixed together, without regard to the precise quantities.

* The London college have now given a formula for making this oil, which they call *oleum vini*. A pint each of alcohol and vitriolic acid are gradually mixed, and distilled, with a caution that the black froth which arises do not pass into the receiver. Of the distilled liquor, the oily part is to be separated from the volatile vitriolic acid. A sufficient quantity of caustic alkaline lixivium is to be added to the oily part to correct its sulphureous odour, and then the æther is to be distilled from it by a gentle heat. The *oleum vini* will remain in the retort, swimming above a watery liquor, from which it is to be separated.

In place of Hoffman's anodyne liquor they direct three drams of this oil to be mixed with two pounds of their *spirit of vitriolic æther*, or *dulcified spirit of vitriol*, as it was before called. Spirit. ætheris
vitriol. comp.
Ph. Lond.

The dulcified spirit is sometimes used as a menstruum for certain resinous and bituminous bodies, which are more difficultly and languidly acted upon by pure vinous spirits. It is often mixed with aromatic and stomachic tinctures, in cases where the stomach is too weak to bear the acid elixirs above-mentioned: eight ounces are commonly added to a pint of the officinal aromatic tincture†, in which it does not, like the acid undulcified; occasion any precipitation; or the ingredients of the aromatic tincture are infused in the dulcified acid, instead of common rectified spirit‡. A medicine of this kind was formerly in great esteem under the name of Vigani's volatile elixir of vitriol, the preparation

of which was long kept a secret, and first made public in the *pharmacopœia reformata*: it is prepared by macerating, in some dulcified spirit of vitriol free from acidity, a small quantity of mint leaves curiously dried, till the spirit has acquired a fine green colour: to prevent the necessity of filtration, during which the more volatile parts would exhale, the mint may be suspended in the spirit in a fine linen cloth.

If the dulcified spirit, rectified as above prescribed from a solution of fixt alkaline salt, be shaken with equal its quantity of a like solution, and the mixture suffered to rest; an ethereal fluid rises to the surface, and great part of the dulcified spirit may be recovered again from the remainder by distillation. I am informed by Dr. Hadley, that he has observed the largest proportion of ether to be obtained, by using the strongest vitriolic acid of the shops with equal its quantity by measure of spirit of wine, and distilling immediately by a heat sufficient to make the mixture boil; and that by this management, from three pints of oil of vitriol, and six pints of rectified spirit of wine, he obtained two pints and a half of the ether.

* The following is the method prescribed for making ether, in the last Edinburgh pharmacopœia. To thirty-two ounces of rectified spirit of wine in a glass retort, add at once an equal weight of strong spirit of vitriol. Mix them gradually by gentle agitation, and immediately set them to distil in sand previously heated, so that the mixture may be brought as soon as possible to boil, in which heat it is to be continued till sixteen ounces are come over. The receiver must be cooled by water or snow. To this distilled liquor, two drams of the strong alkaline caustic are to be added, and the distillation

tillation repeated in a very high retort, with a very gentle heat, till ten ounces are come over. To the residuum after the first distillation may be added sixteen ounces of fresh rectified spirit, when more ether will be procured; and this may be several times repeated. The last London pharmacopœia directs ether to be made by mixing two pounds of dulcified spirit of vitriol with one ounce (by measure) of caustic alkaline lixivium, and distilling over with a gentle heat fourteen ounces by measure.

Liquor æthereus vitriolicus *Ph. Ed.*

Æther vitriolic. *Ph. Lond.*

The ether or ethereal spirit is the lightest, most subtile, volatile, and inflammable, of all known liquids: it quickly exhales in the air, diffusing an odour of great fragrance: it does not mingle with water, with acid liquors, with alkaline liquors, or with vinous spirits, at least not in any considerable quantity, only a small portion of the ether being imbibed by them: it unites with oils in all proportions, dissolves balsams, and resins, and extracts the oily and resinous parts of vegetables. It has been hitherto regarded chiefly as a matter of curiosity, nor are its medicinal qualities as yet much known* (*a*). Makouin looks upon it as one of the most perfect tonics, friendly to the nerves, cordial and anodyne; and says he has found it to be a good remedy in rheums, for abating coughs, especially those of the convulsive kind. Its great volatility renders the taking of it very inconvenient: the author above-mentioned orders, as the most convenient form, from three to twelve drops to be dropt on sugar or pow-

* (*a*) It has since come more into use in flatulent and spasmodic complaints, the gout in the stomach, nervous asthma, and the like. Though it will not mix with water, it may be diffused in a sufficient quantity of it so as to be taken without much difficulty.

dered lipuorice, a little warm water or some warm infusion to be immediately added, and the whole swallowed directly. It has been reported to give immediate ease in violent headaches, by being rubbed on the temples.

The vitriolic acid saturates a larger quantity of fixt alkaline salts than any of the other acids, and dislodges therefrom such other acids as have been previously combined with them: of the strong spirit or oil of vitriol, about five parts are sufficient for eight of the common vegetable fixt alkalies. The neutral salt resulting from its coalition with this kind of alkali, is of a bitterish taste, very difficultly soluble in water, and scarcely fusible in the fire: in small doses, as a scruple or half a dram, it is an useful aperient; in larger ones, as four or five drams, a mild cathartic, which does not pass off so hastily as the *sal catharticus*, and seems to perform its office more thoroughly. This salt has been commonly prepared with the alkali obtained from tartar, and is hence called vitriolated tartar: some dilute the oil of vitriol with six times the quantity of warm water, and drop into it a solution of the alkaline salt till a fresh addition occasions no further effervescence: others direct it to be made from the residuum after extracting the nitrous acid from nitre by means of the vitriolic (see *Nitrum*), but in order to get rid of the superfluous acid the matter is first to be exposed to a strong heat, and then dissolved in boiling water, and the salt crystallised.

With the mineral fixt alkali, and the earth called magnesia, this acid forms compound salts of a bitterer taste, somewhat less purgative, and much easier of solution, than that with vegetable alkalies: with volatile alkalies a very pungent ammoniacal salt, whose medicinal effects

are

Sal enixum
& Arcanum
duplicatum
quibusdam.

Alcal. fix.
veget. vitriol.
vulgo tartarum vitriolatum Ph. Ed.

Kali vitriolat. *Ph. Lond.*

are not well known. The strong acid, boiled on argillaceous earths to dryness, corrodes a portion of them, and concretes therewith into an austere styptic salt. Calcareous earths it does not dissolve into a liquid state, but may be combined with them, by precipitation from other acids, into an indissoluble concrete seemingly of no medicinal activity. Among metallic bodies, it dissolves zinc and iron readily; copper, silver, quick-silver, lead, and tin, very difficultly: it is fitted for acting on the two first by dilution with three or four times its quantity of water: the others require the undiluted acid, and a heat sufficient to make it boil; when, the more phlegmatic parts exhaling, so much of the pure acid matter remains combined with the metals, as to render them, in part at least, dissoluble in water; see the respective metals.

The medical qualities of the acid in its volatile state are very little known, and those of the combinations thereof with alkalies not at all, though they should seem to deserve inquiry. The volatile acid of burning brimstone may be commodiously transferred into fixt alkalies, by dipping linen cloths in a strong solution of the alkali and suspending them over the fumes, of which they will quickly imbibe so much as to neutralize the alkali: this neutral salt being rubbed off, the cloths may be again moistened with the alkaline lye, exposed to the acid fumes, and these processes alternately repeated (*a*). The neutral salt thus obtained differs greatly in its taste and other properties, and doubtless also in its medical virtues, from that which is produced by the coalition of the fixt acid with the

(*a*) Vide Stahlü *Experimenta & animadversiones* ccc.

same

same alkali, that is, from vitriolated tartar. It dissolves more easily in water, and shoots, not into octangular crystals, but into small slender ones like short needles. On adding to it the fixt vitriolic acid (or even the weaker acids of nitre or sea-salt) the volatile acid is disengaged from the alkali; and though, in the compound salt, its pungent smell was wholly suppressed, it now rises in distillation as pungent and suffocating as the original fumes of the brimstone. The neutral salt, in a dry form, may be kept unchanged for years: dissolved in water, and exposed for some time to the air, or if roasted with a gentle heat, it becomes the same with vitriolated tartar.

ULMARIA.

ULMARIA sive *Regina prati*. *Barba capræ floribus. compactis* C. B. *Spiræa Ulmaria* Linn.

MEADOWSWEET or QUEEN-OF-THE MEADOWS: a plant with tall, smooth, reddish, brittle stalks; and oval, sharp-pointed, indented leaves, set in pairs along a middle rib, with smaller pieces between, and at the end a larger odd one divided into three sections, wrinkled and green above, white underneath: on the tops come forth large thick clusters of little whitish flowers, followed each by several crooked seeds set in a roundish head. It is perennial, common in moist meadows, and flowers in June.

THE leaves of ulmaria recommended as mild astringents, discover to the taste or smell very little foundation for any medical virtues. The flowers have a strong and pleasant smell, in virtue of which they are supposed to be antispasmodic and diaphoretic, and which in keep-
ing

ing is soon dissipated, leaving in the flowers only an insipid mucilaginous matter. As these flowers are more rarely used in medicine than their fragrant smell might rationally persuade, Linnæus suspects that the neglect of them has arisen from the plant being possessed of some noxious qualities, which it seemed to betray by its being left untouched by cattle: it may be observed, however, that the cattle, which refused the ulmaria, refused also angelica, and other herbs, whose innocence is apparent from daily experience.

U L M U S.

ULMUS Pharm. Lond. & Edinb. Ulmus campestris & theophrasti C. B. Ulmus campestris Linn. Elm: a tall common tree; covered with a rough, chapt, brownish, brittle bark, under which lies a white, smooth, tough, coriaceous one; producing in the spring, before the leaves appear, imperfect flowers, followed by flat roundish capsules, containing each a single seed.

THE inner tough bark of the elm tree, of no manifest smell, discovers, on being chewed, a copious slimy mucilage, of no particular taste: the outer brittle bark is much less slimy, but equally void of smell and taste. It may therefore be presumed, that if elm bark has been found of use in nephritic cases, in which it is recommended by authors; or externally against burns, for which it is applied by the common people; it was of use no otherwise than as a simple emollient. Neither the purgative virtue ascribed to it by some, nor the astringent by others, appear to have any foundation.

* A decoction

* A decoction of the inner bark of elm has been employed in cutaneous diseases in some of our hospitals; and an account of its efficacy has been published by Dr. Lysons in vol. ii. of *Medical Transactions*, and since, in a separate work. In making this decoction, four ounces of the bark fresh from the tree are boiled in two quarts of water to one. It is of a beautiful light purple colour, when the elm is in flower; but browner at other times. Its taste is mildly astringent; and an extract from it is very austere. It has no purgative effects, as some have alledged, but rather the contrary. Where it succeeds, it generally at first increases the efflorescence. Patients are usually directed to drink half a pint twice a day, and to persist in the use of it some months. It is now received into the London pharmacopœia.

Decoct. ul-
mi Ph. Lond.

U R I N A.

URINA Pharm. Paris. URINE: The recent urine of healthy subjects is nauseously bitter, very saline, scarcely manifestly alkaline or acid. As soon as it begins to putrefy, it emits volatile alkaline vapours; and if distilled, when moderately putrefied, by a gentle heat, it yields a concrete volatile alkaline salt: as volatile alkalies have a strong antiseptic power, the vapours of putrefied urine are not observed, like those of cadaverous animal substances, to be productive of putrid diseases. A pungent caustic volatile spirit may likewise be obtained from recent urine, by inspissating, and then distilling it with the addition of quicklime.

If the putrefied urine be slowly inspissated, in glass or stone-ware vessels, to the consistence of a thin syrup, and set for some weeks in a cold

cold place, brown crystals will shoot from it, consisting partly of marine salt, and partly of a salt of a peculiar kind, which shoots before the marine, and which, by repeated solutions, filtrations, and crystallizations, may be purified both from that salt and from the adhering oil.

In this state†, it appears perfectly neutral, and impresses on the tongue a sense of coolness with a slight bitterishness: laid on a red-hot iron, it bubbles, emits volatile alkaline vapours, and runs into a colourless pellucid substance resembling fine glass: this apparent glass is manifestly acid, though but weakly so, dissolves in water, neutralizes alkaline salts, and with volatile alkalies regenerates the original neutral salt. One of its most distinguishing characters is, that a mixture of it with inflammable matters, as soot or powdered charcoal, on being heated to ignition in an open vessel, emits flashes like lightening, and, on being distilled in a retort with a moderately strong fire, yields the highly inflammable concrete called phosphorus.

† Sal microcosmicum, five sal essentielle urinæ.

Urine is sometimes applied externally, boiled with bran, as a resolvent and discutient, in which intentions it is said to be very efficacious. Recent cows urine has been drank in the spring, to the quantity of a pint or more every morning, for several days, as an attenuant and deobstruent in different disorders: the nauseous draught purges plentifully by stool, and sometimes vomits. The peculiar salt of urine is but of late discovery, and its medicinal qualities are as yet unknown.

URTICA.

URTICA Pharm. Lond. & Edinb. Urtica urens maxima C. B. Urtica dioica Linn. COMMON STINGING NETTLE. Infusions and decoctions of this herb, or its expressed juice, are recommended in different disorders as aperients, and said to loosen the belly: the juice, depurated and gently inspissated, discovers a considerable taste, of the subsaline kind.

UVÆ PASSÆ.

RAISINS: rich sweet grapes, dried by the sun's heat in the warmer parts of Europe. Two sorts are directed for medicinal use. 1. *UVÆ PASSÆ MAJORES Pharm. Lond. Passule majores Pharm. Edinb.* Raisins of the sun; the fruit of the *vitis damascena* dried upon the tree; the stem of each cluster, when the grapes are ripe, being cut almost through, so as to prevent the afflux of any fresh juice. 2. *UVÆ PASSÆ MINORES seu CORINTHIACÆ.* Currants; the fruit of the *vitis corinthiaca* picked from the stalks.

THESE fruits are used as agreeable lubricating acescent sweets, in pectoral decoctions, and for obtunding the acrimony of other medicines and rendering them acceptable to the palate and stomach: the first sort inclines most to acidity, the sweetness of the latter being more of the mucilaginous kind. They both give out their sweetness and their pleasant flavour to water and spirit: the stones or seeds are supposed to communicate a disagreeable relish, and hence are generally directed to be taken out; but it did not appear on trial that they give any taste at all to water, proof spirit, or rectified spirit.

UVA

UVA URSI.

UVA URSI: Pharm. Lond. & Edinb. *Vitis idæa foliis carnosiss & veluti punctatis, sive idæa radix dioscoridis* C. B. *Arbutus (Uva Ursi) cauliculis procumbentibus, foliis integerrimis* Linn.

BEARS WHORTLEBERRY: an evergreen trailing shrubby plant; with numerous small oblong oval leaves; monopetalous white flowers with a flesh-coloured edge cut into five sections; and red berries. It greatly resembles the common red whort-bush; from which it may be distinguished, by the leaves being more oblong, and by the flower having ten stamina, and the berry five seeds; whereas the flower of the common whort has only eight stamina, and the berry often twenty seeds. It is found on the snowy hills of Austria and Styria. but more plentifully on the Swedish hills. It is also a native of the highlands of Scotland, and is now cultivated in some of our gardens.

THE leaves of this plant have a bitterish astringent taste; without any remarkable smell, at least in the dry state in which they have been brought to us from Germany. Infusions of them in water strike a deep black colour with solution of chalybeate vitriol, but soon deposite the black matter, and become clear: I do not recollect any other astringent infusion, from which the blackness, produced by vitriol, separate so very speedily.

The leaves of *uva ursi* have of late been greatly celebrated in calculous and nephritic complaints, and other disorders of the urinary organs: the dose is half a dram of the powder of the leaves, every morning, or two or three times

times a day. De Haen relates, after large experience of this medicine in the hospital of Vienna, that suppurations, though obstinate and of long continuance, in the kidneys, ureters, bladder, urethra, scrotum and perinæum, where there was no venereal taint or evident marks of a calculus, were in general completely cured by it: that of those who had a manifest calculus, several found permanent relief, so that long after the medicine had been left off, they continued free from pain or inconvenience in making water, though the catheter shewed that the calculus still remained: that others, who seemed to be cured, relapsed on leaving off the medicine, were again relieved on repeating its use, and this for several times successively; while others obtained from it only temporary and precarious relief, the complaints being often as severe during the continuance of the medicine as when it was not used. It may be observed, that in several cases which he relates, paretics were joined to the uva ursi; and that other mild astringent plants have been recommended for the same intentions; from some of which De Haen himself expects the same good effects. The trials of the uva ursi, made in this country, have by no means answered expectation: in all the cases that have come to my knowledge, it produced great sickness and uneasiness, without any apparent benefit, though continued for a month.

* *WINTERANUS CORTEX.*

WINTERANUS CORTEX, *Cortex magellanica*. WINTER'S BARK. The tree producing the Winter's bark (*Winterana aromatica* Soland.) is one of the largest forest trees on *Terra del Fuego*.

Fuego. Its leaves are ever-green, smooth, oval, and entire. Its flowers consist of seven petals, with from fifteen to thirty stamina, and from three to six germina, terminating in as many stigmata. Each germen becomes a seed-vessel, containing several seeds. The bark of the trunk of the tree is externally grey, and very little wrinkled.

The Winter's bark, which takes its name from Capt. Winter, who discovered it on the coast of Magellan in 1577, is brought to us in pieces of different degrees of thickness, from a quarter to three quarters of an inch. It is of a dark brown cinnamon colour, with an aromatic smell when rubbed, and of a pungent, hot, spicy taste, which is lasting on the palate, though imparted slowly. A watery infusion of it struck a black colour with a solution of green vitriol. From an infusion of two ounces of the bark, coarsely powdered, was obtained on evaporation an extract weighing two drams and twenty-four grains. The same quantity, treated with rectified spirit, yielded two drams of extract. A pound of the bark was infused in a proper quantity of water, and the liquor submitted to distillation. The distilled water was clear, of a pleasant taste, and somewhat of the cinnamon flavour. There was no appearance of essential oil. The residuum afforded six ounces of a soft extract, of a grateful aromatic taste.

A mixture of this bark seemed very effectually to cover and correct the disagreeable taste and smell of certain drugs; a property common to it with the canella alba.

Almost the only use hitherto made of the Winter's bark has been by the crews of ships navigating the streights of Magellan, as a pre-

servative from the scurvy. It has been confounded in the shops with the canella alba, from which it is totally different.

An exact description of the plant, with a figure, is contained in a paper published in the *Medical Obs. and Inq.* vol. v. from whence this account is extracted.

ZEDOARIA.

ZEDOARIA Pharm. Lond. & Edinb. Zedoaria longa & Zedoaria rotunda C. B. ZEDOARY: the root of an Indian plant, (*Amomum scapo nudo, spica laxa truncata, Berg. Mat. Med.*) brought over in oblong pieces, about the thickness of the little finger and two or three inches

† Zerumbeth in length; or in roundish ones† about an inch
Pb. Paris. in diameter; of an ash-colour on the outside, and white within. The long sort is said by some to be the strongest, but the difference, if any, is very inconsiderable, and hence the college allows both to be used indiscriminately.

- THIS root has an agreeable smell, and a bitterish aromatic taste. It impregnates water with its smell, a slight bitterness, a considerable warmth and pungency, and a yellowish brown colour: the reddish-yellow spirituous tincture is in taste stronger, and in smell weaker, than the watery. In distillation with water, it yields a thick ponderous essential oil, smelling strongly of the zedoary, in taste very hot and pungent: the decoction, thus deprived of the aromatic matter, and concentrated by inspissation, proves weakly and disagreeably bitter and subacid. A part of its odorous matter rises also in the inspissation of the spirituous tincture: the remaining extract is a very warm, not fiery, moderately

moderately bitter aromatic, in flavour more grateful than the zedoary in substance.

Zedoary root is a very useful warm stomachic. It was employed by some as a succedaneum to gentian root; at a time when a poisonous article, mixed with the gentian brought from abroad, rendered its use hazardous: but from the above analysis it appears to be not entirely similar to that simple bitter; its warm aromatic part being the prevailing principle, in virtue of which, its spirituous extract (the most elegant preparation of it) is made an ingredient in the cordial confection of the London pharmacopœia.

ZIBETHUM.

CIVETTA. CIVET: a soft unctuous odorous substance, about the consistence of honey or butter; of a whitish, yellowish, or brownish colour, and sometimes blackish; brought from the Brazils, the coast of Guinea, and the East Indies; found in certain bags situated in the lower part of the belly of an animal of the cat kind*(a). The bag has an aperture externally, by which the civet is shed or extracted.

THIS substance has a very fragrant smell, so strong as, when undiluted, to be disagreeable; and an unctuous subacid taste. It is used chiefly in perfumes, rarely or never for medicinal purposes, though the singular effects which musk has been found to produce may serve as an inducement to the trial. It unites with oils, both expressed and distilled, and with animal fats: in watery or spirituous liquors it does not dissolve, but both menstrua may be strongly

*(a) Or rather of the weasel kind.

impregnated with its odoriferous matter, water by distillation, and rectified spirit by digestion : by trituration with mucilages, it becomes soluble in water.

ZINCUM.

ZINCUM Pharm. Lond. & Edinb. ZINC, or TUTENAG: a bluish white metal; crackling, in being bent, like tin, and quickly breaking; about seven times specifically heavier than water; beginning to melt in a moderate red heat, and very slowly calcining on a continuance of the fire; in a moderate white heat flowing thin, burning, fulgurating, with a bright deep green or bluish green flame, and subliming into light white flowers, which concrete about the upper part of the vessel, or on the bodies adjacent, into thin crusts, or soft loose filaments like down or cobwebs. In its metallic form, and in that of a calx or flowers, it dissolves readily in all acids, and precipitates from them almost all the other metallic bodies.

The calces or flowers of zinc are difficultly revived into their metallic form. Though perfectly fixed in the fire so long as they continue in a state of calx; yet, as calces in general require for their revival a greater heat than that in which the metal itself melts, and as a full melting heat is the greatest that zinc can support; the instant they are revived, they burn and calcine again in open vessels, and escape through the pores of close ones. Hence some ores and preparations of this metal have been long kept in the shops, and even chemically examined, without being discovered to be such. The revival may be effected, by using compact vessels of such a structure, that the zinc, in proportion

portion as it is restored to its metallic form by the charcoal powder or other inflammable additions commonly made use of for those purposes, may be suffered to sublime or run off from the heat without being exposed to the outward air; or by adding some other metallic substance to detain it, as copper, which is thus changed into brass,

This metal has but lately been received into the shops in its own form; in which it deserves a place, as affording preparations superior to the ores or productions of it now made use of. A white vitriol made from pure zinc, by dissolution in the diluted vitriolic acid and crystallization†, is doubtless preferable for medicinal use to the common impure white vitriol; and the white flowers, into which it is changed by desflagration‡, to the very impure calamine and tutty. Moderately pure white flowers, sublimed from it in the brass or other furnaces, wherein zinc or its ores are melted with other metals, were formerly kept in the shops, and distinguished by the names of *pompholix* and *nihil album*.

† Vitriolum album *Ph. Ed.*

‡ Calx zinci
vulgo flores zinci Ph. Ed.
Zincum calcinat. *Ph. Lond.*

* The flowers of zinc were first used as an internal medicine by the celebrated chemist Glauber, but were little known in practice till Dr. Gaubius, of Leyden, gave an account of their virtues in his *Adversaria*. They have since been much employed in convulsive and spasmodic diseases, and sometimes with good effects. Even obstinate epilepsies have been rendered much less violent by their use. Like all other medicines, however, in diseases of this class, their good effects are often only temporary, and they often fail altogether. When the flowers are genuine, a grain or two generally at first excites nausea or sickness, but by degrees a

considerable dose may be taken with little or no sensible effect. As they are liable to be adulterated, it may be proper to mention, as tests of their purity, that they make no effervescence with acids; and that, when exposed to a strong heat, they become yellow, but on cooling, turn white again. An application for external use, made by mixing one part of flowers of zinc with six of the simple liniment of wax and oil, is directed in the Edinburgh pharmacopœia.

Unguent. e
calce zinci
Ph. Ed.

ZINGIBER.

ZINGIBER Pharm. Lond. & Edinb. & C. B.
GINGER: the root of a reed-like plant (*Amomum Zingiber Linn.*), growing spontaneously in the East Indies, and cultivated in some part of the West; brought over in knotty branched flattish pieces, freed from the outer bark, of a pale colour and fibrous texture: that which is least fibrous is accounted the best.

THIS warm aromatic root, of common use as a spice in flatulent colics, &c. appears to be much less liable to heat the constitution than might be expected from the penetrating heat and pungency of its taste, and from the fixedness of its active principles. It gives out the whole of its virtue to rectified spirit, and great part of it to water, tinging the former of a deep, the latter of a pale yellow colour: the spirituous tincture, inspissated, yields a fiery extract, smelling moderately of the ginger: the watery infusion, boiled down to a thick consistence, dissolved a fresh in a large quantity of water and strongly boiled down again, retains still the heat and pungency of the root, though little or no-
thing

thing of its smell: there does not seem to be any of the common spices whose pungency is of so fixed a kind. In the shops are kept a syrup made from an infusion of three † or four † ounces of the root in four † or three † pints of boiling water, which is agreeably impregnated with its warmth and flavour; and the candied ginger ‖, ‖ Zingiber brought from abroad, which is likewise moderately aromatic.

Syr. zingib.

† Ph. Ed.

† Ph. Lond.

‖ Zingiber
conditum Ph.
Ed.

A D D E N D A.

ANGUSTURÆ CORTEX.

IN the year 1788 a considerable quantity of a bark, not before known in this country, was imported from the West Indies, but as of African growth. The only account sent with it was, "that it had been found very superior to the Peruvian bark in the cure of fevers." In the succeeding year, two letters were published in the *London Medical Journal* for 1789, part ii. from Dr. J. Ewer, and Dr. Alexander Williams, physicians at Trinidad in South America, containing a description of this bark under the name of Cortex Angusturæ, and giving an account of its medicinal effects. It is there said to come from the Spaniards in Angustura; and this is confirmed by the subsequent importation of parcels of it from Cadiz and the Havanna. No accurate account, however, has yet been obtained of the place of its growth, nor does the name of Angustura seem to belong to a particular district, but rather to be the Spanish term for

for a narrow pass between mountains. The supposition is, that the tree producing it grows on the banks of the river Oronoko. Not the least insight has been gained into the species of vegetable whence this bark is derived; for although Mr. Bruce, who had been cured of a dysentery in Abyssinia by the bark of a shrub called the *Wooginoos*, now cultivated in Kew and other gardens under the name of *Brucea antidysenterica* or *ferruginea*, declared that it appeared to him from recollection to be the same; yet Dr. Duncan, in his *Medical Commentaries* for 1790, asserts, that upon comparison, the two barks seem essentially different. At present, therefore, it must be considered as a drug of unknown origin, though its sensible qualities and medical powers have been well ascertained by the experiments of various persons.

Mr. Brande, apothecary to the queen, who published an account of this bark first in the *London Medical Journal*, and then in a separate pamphlet, thus describes it. "There is a considerable variety in the external appearance of the Angustura bark, owing, however, probably, to its having been taken from trees of different sizes and ages, or from various parts of the same tree, as the taste and other properties perfectly agree. Some parcels which I have examined, consist chiefly of slips, torn from branches, which could not have exceeded the thickness of a finger: these are often smooth, three feet or more in length, and rolled up into small bundles. In others, the pieces have evidently been, for the greater part, taken from the trunk of a large tree, "and

“ and are wrinkled, and nearly flat, with quills
“ of all sizes intermixed.

“ The outer surface of the *Angustura* bark,
“ when good, is in general more or less wrinkled,
“ and covered with a coat of a greyish white,
“ below which it is brown, with a yellow cast:
“ the inner surface is of a dull brownish-yellow
“ colour. It breaks short and resinous. The
“ smell is singular and unpleasant, but not very
“ powerful: the taste intensely bitter, and
“ slightly aromatic; in some degree resembling
“ bitter almonds, but very lasting, and leaving
“ a sense of heat and pungency in the throat.
“ This bark, when powdered, is not unlike the
“ powder of Indian rhubarb. It burns pretty
“ freely, but without any particular smell.”

With respect to its habitude to menstrua, it yields its taste and flavour to water, cold and hot, to rectified and proof spirit, and to wine. The watery extract is large in quantity, bitter, but not acrid. After the action of water, the residuum imparts colour, and great acrimony, with nauseousness, to spirit. The spirituous extract is much less in quantity, and consists of less than a fourth of resin, the rest being partly gum, and partly a greasy matter, in which the acrid taste and unpleasant smell of the subject appear to reside. Water distilled from the *Angustura* bark bruised had a singular flavour, somewhat resembling that of strong parsley water. A small portion of white essential oil swam on the surface, which possessed the full smell of the bark, was acrid, and left a glow in the mouth like camphor. The preparations of this bark are not affected in colour by the addition of vitriol of iron.

Mr. Brande made various experiments to ascertain the comparative antiseptic power of the Angustura bark; from the result of which, it appears to rank very high among the vegetables possessing that quality, not one of the substances with which he compared it seeming to have the advantage of it.

With respect to its medicinal qualities, from the testimony of the gentlemen at Trinidad as well as those who have tried it in these climates, it appears to act as a very powerful tonic, and to be particularly efficacious in fevers of the intermittent kind, dysenteries and diarrhœas. In large doses it is apt to occasion nausea, or to purge; but in smaller ones, it sits easy on the stomach, and is free from that common inconvenience of the Peruvian bark, of causing a sense of weight and fulness. Indeed, the efficacy of moderate doses is a peculiar advantage of the Angustura bark; from ten to twenty grains of the powder, and from one ounce to one and a half of the infusion or decoction with a portion of the tincture, having been found sufficient, a few times repeated, to prevent the paroxysms of an intermittent. In diarrhœas and dysenteries, after the due exhibition of laxatives, its effects are usually very speedy. Mr. Wilkinson of Sunderland (*Lond. Med. Journ.* for 1790, part iv.) who has employed it extensively, found it peculiarly efficacious in low or nervous fevers, and the irregular intermittents of children, usually termed worm-fevers. As a general tonic, Mr. Brande thinks it superior to every other medicine of that class; and this is the light in which Dr. Pearson regards it, who rather compares it to the warm bitters, such as camomile, than to the Peruvian bark.

bark. Dr. Ewer mentions a case in which its external application in a mortification proved very effectual. On the whole, it appears not to be doubted that this bark is a valuable addition to the class of tonics of the higher order, and it is to be hoped that we shall not long be left ignorant of its natural history and botanical character.

BARYTES.

A SUBSTANCE of a sparry appearance found in mines, called *cauk* or *calk*, has by the later chemists been discovered to contain an earth, the properties of which entitle it to form a new genus among earthy bodies. From its remarkable specific gravity, it has obtained the name of *terra ponderosa*, or *barytes*; and is now found to exist in various combinations, particularly, united with the vitriolic, and with the aerial acids. It was first suspected to be of a metallic nature by that eminent chemist Professor Bergman; and Dr. Withering, in some excellent observations and experiments on it published in the *Philos. Transactions* (vol. lxxiv. part ii.) places it between the earths and the metallic calces. Its native combinations exert deleterious effects upon animals; and its artificial ones, though milder, are capable of acting with violence in moderate quantities; a farther presumption of its metallic nature, since no combinations of the simple earths shew any activity of that kind. From the aerated barytes an artificial combination has been made with the
muriatic

muriatic acid, which has been introduced into medicine.

Dr. Crawford, in the year 1789, made several trials in St. Thomas's hospital of the muriated barytes, the result of which was published in the *Medical Communications*, vol. ii. The preparation he used was a saturated solution of the salt in water; but in part of the cases this salt was not the pure muriated barytes, but had a mixture of an eighth of muriated iron; the medical effects, however, of the pure and the compound salt were not found to be sensibly different. The cases in which it was used with the most striking success were scrofula in its different forms and combinations, with swelled glands, foul ulcers, enlarged joints, and general cachexy. Some of these which had resisted the usual remedies, were singularly relieved by the muriated barytes, either given alone, or in conjunction with mercurial and antimonial medicines and bark. The dose varied from two drops to twenty, twice a day; few patients, however, could bear more than from six to ten without nausea; and it did not appear that by habit the stomach was enabled to bear a considerable increase of dose, but rather the contrary. In a few instances this medicine appeared to increase the cuticular secretion; in most it occasioned an unusual flow of urine: and almost universally improved the appetite and general health. Sometimes it produced vertigo, an effect apparently connected with its nauseating quality. It is not to be doubted, Dr. Crawford observes, that if administered injudiciously, it is capable of producing deleterious effects, both by disordering the nervous system, and bringing on violent vomiting and purging. From trials made upon dogs, it
appears

appears that a very large dose would prove fatal.

It may be proper to mention, that the aerated barytes is found in the lead mine of Anglezark, near Chorley in Lancashire, and as far as appears, there only in England. [See a paper by Mr. James Watt, junior, in the third volume of the *Manchester Society's Memoirs*.]

PIPER INDICUM.

A SINGULAR use of this substance is mentioned in two letters from John Collins, Esq. of the island of St. Vincent, inserted in the second volume of the *Medical Communications*. In a peculiar kind of angina maligna prevailing among children in that island, which began with blackness, sloughiness and ulceration of the fauces and tonsils *without fever*, and proved extremely fatal, he was induced, from a letter published by a Mr. Stewart of Grenada, to exhibit the following remedy. “Take two table-spoonfuls
“of small red pepper, or three of the common
“Cayenne pepper, and two tea-spoonfuls of fine
“salt; beat them into a paste, and then add to
“them half a pint of boiling water. Strain off
“the liquor when cold, and add to it half a pint
“of very sharp vinegar. Let a table-spoonful
“of this liquor be taken every half hour as a
“dose for an adult; diminishing it in proportion
“for children.” The extreme acrimony of this preparation rendered it difficult to be exhibited, and its effects were to inflame and excoriate the throat; but by this the sloughs were entirely cleansed away, the ulcers brought to a healing state,

state, and the disease removed. It is to be observed, that success was to be expected chiefly when the medicine was administered in its early stage, before the fever had come on, while the power of swallowing was little impaired, and the affection seemed nearly a local one. Its use is farther confirmed by a letter from Mr. James Stephens of St. Christopher's to Dr. Duncan, printed in the *Med. Comment.* for 1787.

It appears likewise that the capsicum has been given with great success in the intermittents prevalent in Guiana, and for the suppression of vomitings in putrid fevers.

INDEX

NOMINUM ET SYNONYMORUM.

A.

ABELMOSCH, i. 200.

Abies, i. 1.

balsamea, i. 4.

Canadensis, i. 4.

Abiga, i. 326.

Abrotanum femina, i. 6.

mas, i. 5.

Abfinthium, i. 8.

Alpinum, i. 12.

maritimum, i. 11.

minus, i. 12.

Ponticum, i. 12.

Romanum, i. 8.

Seriphium, i. 13.

Valefiacum, i. 13.

Acacia Germanica, ii. 247.

vera, i. 13.

Acajou, i. 79.

Acanthina mastiche, i. 287.

Acanthus, i. 15.

Acer, i. 16.

Acetabulum, i. 82.

Acetosa, i. 17.

Acetofella, ii. 75.

Acetum, i. 19.

Achillea, ii. 108.

Ageratum, i. 192.

Ptarmica, ii. 249.

Aconitum Anthora, i. 93.

Napellus, i. 28.

pardalianches, i. 407.

Acopa, *V.* Trifol. palud. ii. 440.

Acorus adulterinus, ii. 16.

Calamus, i. 251.

verus, i. 251.

vulgaris, ii. 16.

Acte, ii. 325.

Acus moschata, i. 465.

Adeps, ii. 220.

Adiantum Canadense, i. 30.

verum, i. 29.

vulgare, *V.* Tri-

chomanes, ii. 440.

Adipson, i. 469.

Aer fixus, i. 31.

Ærugo, i. 34.

Æther, ii. 145, 322, 471.

Æthiops antimonialis, i. 161.

mineralis, i. 148.

vegetabilis, ii. 259.

Æthusa Meum, ii. 107.

Agallochum, ii. 59.

Agaricus, i. 37.

mineralis, i. 372.

quercinus, i. 39.

Ageratum, i. 192.

I N D E X

- Agnus castus, i. 41.
 Agrimonia, i. 42.
 odorata, i. 43.
 Agrioriganum, ii. 171.
 Agripalma, i. 282.
 Aigeiros, ii. 244.
 Ajuga, i. 326.
 reptans, i. 242.
 Aizoon, ii. 359.
 Alcanna, i. 81.
 Alchimilla, i. 43.
 Alexandrina herba, i. 497.
 Alisma, i. 405.
 Alkekengi, i. 44.
 Alkermes, ii. 26.
 Alkohol, ii. 382.
 Alleluja, ii. 75.
 Alliaria, i. 46.
 Allium, i. 47.
 Alnus, i. 51.
 nigra, i. 440.
 Aloe, i. 51.
 Aloes lignum, ii. 59.
 Alfine, i. 57.
 Altercum, i. 499.
 Althæa, i. 58.
 Alumen, i. 60.
 plumosum, ii. 407.
 antiquorum, i. 60.
 Alypum, ii. 438.
 Amaracus, *V.* Majorana, ii. 82.
 Amaradulcis, ii. 375.
 Amaranthus luteus, *V.* Stœ-
 chas, i. 411.
 Amarella, ii. 243.
 Ambarvalis, ii. 242.
 Ambarum, i. 65.
 citrinum, ii. 394.
 Ambra grisea, i. 65.
 liquida, ii. 72.
 Ambrosia, i. 235.
 Ambrosioides, i. 236.
 Ambutua, ii. 186.
 Amianthus, ii. 407.
 Ammi, i. 68.
 Ammoniacum gummi, i. 69.
 Ammosteus, ii. 172.
 Amomum Germanorum, ii.
 226.
 Amomum verum, i. 72.
 vulgare, i. 73.
 Amygdalæ amaræ, i. 78.
 dulces, i. 75.
 Amylum, i. 445.
 Anacampseros, ii. 414.
 Anacardium, i. 79.
 Anagallis, i. 80.
 aquatica, i. 203.
 Anatron, ii. 128.
 Anchusa, i. 81.
 officinalis, i. 242.
 Andropogon Schœnanthus, ii.
 20.
 Androsace, i. 82.
 Androsæmum, i. 501.
 Anemone Hepatica, i. 493.
 pratensis, ii. 252.
 Anethum, i. 83.
 Fœniculum, i. 436.
 Angelica, i. 85.
 montana, ii. 54.
 pratensis, ii. 348.
 Anguria, i. 379.
 Angusturæ cortex, ii. 488.
 Anime, i. 88.
 Anisum, i. 89.
 stellatum, i. 91.
 Anodynum minerale, i. 101.
 Anodynus liquor mineralis, ii.
 468.
 Anonis, ii. 160.
 Anserina, *herba*, i. 133.
 femen, V. Ornithogloss.
 i. 441.
 Anthelmia, ii. 377.
 Anthemis, i. 324.
 Cotula, i. 325.
 nobilis, i. 321.
 Pyrethrum, ii. 253.
 Anthora, i. 93.
 Anthos, *V.* Rosmarinus, ii. 280.
 Antimonium, i. 94.
 Antirrhinum Elatine, i. 409.
 Linaria, ii. 69.
 Antithora, i. 93.
 Anthophyllus, i. 292.
 Aparine, i. 112.
 Aphronitrum, ii. 128.
 Apiastrum,

NOMINUM ET SYNONYMORUM.

- Apiastrum*, ii. 99.
Apios, ii. 438.
Apis, i. 113.
Apium, i. 113.
 dulce, i. 115.
 hortense, ii. 214.
 Macedonicum, ii. 215.
 petraeum, ii. 215.
 Petrofelinum, ii. 214.
Apollinaris, i. 499.
Aqua fortis. ii. 141.
 regia, ii. 142.
Aquæ communes, i. 116.
Aquæ medicinales, i. 123.
 alkalinæ, i. 123.
 catharticae, i. 124.
 chalybeatae, i. 127.
 cuprææ, i. 131.
 marinæ, i. 125.
 sulphurææ, i. 131.
Aquila alba, i. 160.
Aquilæ lignum, ii. 60.
Aquilegia, i. 132.
Aquileia, i. 132.
Aquilina, i. 132.
Arabicum gummi, i. 479.
Aracus aromaticus, ii. 446.
Aranearum telæ, i. 133.
Arantia, i. 183.
Arbutus Uva Ursi, ii. 479.
Arcanum corallinum, i. 153.
 duplicatum, ii. 472.
 tartari, i. 25.
Archangelica, ii. 40.
Arcium, i. 200.
Arctium Lappa, i. 200.
Ardesia, i. 495.
Aresta bovis, ii. 160.
Argentina, i. 133.
Argentum, i. 134.
 vivum, i. 136.
Argilla alba, i. 342.
Aristolochia, i. 163.
Armoracia, ii. 263.
Arnica, i. 405.
Arfenicum, i. 166.
Artemisia, i. 170.
 Abrotanum, i. 5.
 Abfinthium, i. 8.
Artemisia glacialis, i. 12.
 maritima, i. 11.
 pontica, i. 12.
 Santonicum, ii. 332.
Artemisiæ lanugo, ii. 116.
Arthanita, i. 172.
Arthritica, V. *Chamæpitys*,
 i. 326.
Arum, i. 173.
 Dracunculus, i. 408.
Asa dulcis, i. 206.
 foetida, i. 176.
Asarum, i. 178.
Asbestos, ii. 407.
Asclepias Vincetoxicum, ii.
 449.
Aselli, V. *Millepedes*, ii. 110.
Aspalathus, ii. 60.
Asparagus, i. 180.
Asphaltus, i. 224.
Asplenium, i. 317.
 Scolopendrium, ii. 69.
 Trichomanes, ii. 440.
Assis, i. 271.
Astacus, i. 267.
Aster Atticus, V. *Eryngium*,
 i. 418.
 omnium maximus, i. 412.
Astrantia, ii. 7.
Athamanta, ii. 107.
 cretensis, i. 394.
Athanasia, ii. 409.
Atractylis gummiifera, i. 287.
Atriplex olida, i. 181.
Atropa Belladonna, ii. 372.
Avellana purgatrix, ii. 272.
Avena, i. 445.
Aurantia Carasslavenfia, i. 186.
 Hispalensia, i. 183.
 Sinensia, i. 186.
Aureliana Canadensis, i. 467.
Auricula muris, ii. 217.
Auricularia, ii. 104.
Auripigmentum, i. 170.
Aurum, i. 187.
 fulminans, i. 189.
 musivum, ii. 387.
Axungia, ii. 220.

I N D E X

B.

- Baccæ Bermudenses*, ii. 339.
Badian, i. 91.
Balanus myrepfica, i. 206.
Balaustia, i. 190.
Balsamea, i. 4.
Balsamita femina, i. 192.
 mas, i. 191.
Balsamum, ii. 169.
 Americanum, i. 195.
 Brazilienſe, i. 193.
 Canadenſe, i. 4.
 Copaiba, i. 193.
 Gileadenſe, ii. 169.
 Indicum, i. 195.
 Mexicanum, i. 195.
 Peruvianum, i. 195.
 album, i. 197.
 nigrum, i. 195.
 Tolutanum, i. 198.
Bamia moſchata, i. 200.
Bancia, ii. 189.
Bangue, i. 271.
Banilia, ii. 446.
Baptiſcula, *V. Cyanus*, i. 387.
Barba capræ, ii. 474.
 Jovis, ii. 359.
Bardana, i. 200.
Barilla, ii. 129.
Barytes, ii. 492.
Bafilicum, ii. 156.
Batrachium, i. 465.
Baurach, ii. 128.
Bdellium, i. 202.
Becabungæ, i. 203.
Bechium, ii. 442.
Beladona, ii. 372.
Bellis major, i. 204.
 minor, i. 205.
Ben, i. 206.
Benzoinum, i. 206.
Berberis, i. 210.
Beta, i. 212.
Betonica, i. 213.
 aquatica, ii. 358.
 Pauli, ii. 448.
Betula, i. 215.
Betula Alnus, i. 51.
Bezoar microcoſmicum, i. 220.
 minerales, i. 107.
 occidentales, i. 219.
 orientales, i. 217.
 porcinum, i. 220.
 ſimiæ, i. 220.
Bilis, i. 422.
Bingalle, i. 309.
Biſmuthum, i. 221.
Biſtorta, i. 222.
Bitumen Barbadenſe, ii. 213.
 Judaicum, i. 224.
Blitum fœtidum, i. 181.
Bois de Coiffi, ii. 256.
Boletus igniarius, i. 39.
Bolus Armena & aliæ, i. 225.
Bonus Henricus, i. 228.
Borago, i. 229.
Borax, i. 230.
Botrys, i. 235.
 Mexicana, i. 236.
Boviſta, ii. 77.
Branca leonina, ii. 189.
 urſina, i. 15.
Brassicæ, i. 236.
 Eruca, i. 416.
 Erucaſtrum, i. 416.
 marina, i. 238.
 Napus, ii. 124.
 Rapa, ii. 264.
Britannica, ii. 43.
Brunella, ii. 245.
Brufcus, ii. 283.
Brutua, ii. 186.
Bryonia, i. 239.
Bubon macedonicum, ii. 215.
Bugloſſum, i. 242.
Bugula, i. 242.
Bumelia, *V. Fraxinus*, i. 441.
Bunias, ii. 124.
Buphthalmum, i. 204.
Burſa paſtoris, i. 243.
Butomon, ii. 16.
Butua, ii. 186.
Butyrum antimonii, i. 106.
Buxus, i. 244.

Cabureiba

NOMINUM ET SYNONYMORUM.

C.

- Cabureiba, i. 195.
 Cacao, i. 245.
 Cacara, i. 403.
 Cadmia fossilis, i. 247.
 lapidosa, i. 247.
 metallica, i. 166.
 Cadjust, i. 403.
 Cæruleum Berolinense, i. 424.
 nativum, ii. 50.
 Caffè, i. 354.
 Cajous, i. 79.
 Calambac, ii. 59.
 Calambour, ii. 60.
 Calaminaris, i. 247.
 Calamintha, i. 248.
 magno flore, i. 250.
 montana, i. 250.
 Calamus aromaticus, i. 251.
 Calcanthum, ii. 457.
 Calculus humanus, i. 220.
 Calendula, i. 253.
 Alpina, *V. arnica*, i. 405.
 Callitrichum, ii. 440.
 Calomelas, i. 160.
 Caltha, i. 253.
 Calumba, i. 359.
 Calx viva, i. 254.
 Cambogia Gutta, i. 456.
 Camphora, i. 259.
 Camphorosma, ii. 112.
 Cancrorum chelæ, i. 266.
 oculi, i. 267.
 Candelaria, ii. 446.
 Canella alba, i. 269.
 malavarica, i. 305.
 Cannabina aquatica, *V. Eupa-*
 torium, i. 419.
 Cannabis, i. 270.
 Cantharides, i. 272.
 Caphura, i. 259.
 Caphura baros, i. 348.
 Capillus Veneris, i. 29.
 Capsicum, ii. 227.
 Carabaccium, i. 302.
 Carabe, *V. Succinum*, ii. 394.
 Caranna, i. 277.
 Carcas, ii. 271.
 Cardamantica, ii. 53.
 Cardamine, i. 279.
 Cardamomum majus, i. 281.
 majus Gallorum, i. 471.
 medium, i. 281.
 minus, i. 279.
 Siberiense, i. 91.
 Cardiaca, i. 282.
 Cardopatum, i. 286.
 Carduus benedictus, i. 282.
 pineus, i. 287.
 Caricæ, i. 285.
 Carlina, i. 285.
 gummifera, i. 287.
 Carpathicum oleum, ii. 417.
 Carpentaria, ii. 108.
 Carpobalsamum, i. 287.
 Carthamus, i. 288.
 Carum, i. 289.
 Caruon, i. 289.
 Caryophylla aromatica, i. 291.
 Caryophyllata, i. 294.
 Caryophylloides cortex, i. 301.
 Caryophyllus ruber, i. 295.
 Cascarella, i. 297.
 Casia caryophyllata, i. 301.
 fistularis, i. 302.
 lignea, i. 305.
 Castoreum, i. 306.
 Casumunar, i. 309.
 Cataputia, ii. 438.
 major, ii. 271.
 Cataria, ii. 130.
 Catechu, ii. 420.
 Cauda equina, i. 415.
 porcina, ii. 216.
 Causticum antimoniale, i. 106.
 commune fortius, ii. 301.
 mitius, ii. 301, 336.
 lunare, i. 135.
 Cedrinum lignum, i. 310.
 oleum, i. 349.
 Cedronella, ii. 99.
 Cedrus, i. 310.
 Celeri, i. 115.
 Centaurea benedicta, i. 282.
 Centaureum, i. 312.
 Cyanus, i. 387.

I N D E X

- Centaurea moschata*, i. 388.
Centaurium majus, i. 312.
 minus, i. 311.
Centimorbia, ii. 146.
Centipedes, ii. 110.
Cepa, i. 313.
Cera alba, i. 315.
 di cardo, *V. Carlina*, i. 287.
 cinnamomi, i. 348.
 flava, i. 315.
Cerafa, i. 443.
Cerealia, i. 445.
Cerefolium, i. 318.
Cervispina, ii. 378.
Cerussa, ii. 234.
 antimonii, i. 98.
Ceterach, i. 317.
Cevadilla, i. 318.
Chacarilla, i. 297.
Chærefolium, i. 318.
Chalcitis, ii. 462.
Chalybs, i. 425.
Chamæacte, ii. 327.
Chamæcissus, i. 484.
Chamæclema, i. 484.
Chamæcyparissus, i. 6.
Chamædrys, i. 320.
 maritima, ii. 91.
 palustris, ii. 355.
 spuria, ii. 448.
Chamælæa, ii. 431.
Chamælæagnus, ii. 123.
Chamæleon, i. 285, 287.
Chamælinum, ii. 72.
Chamæmelum, i. 321.
 flore pleno, i. 324.
 foetidum, i. 325.
Chamæpitys, i. 326.
Chamomilla, i. 321.
Cheiranthus Chieri, i. 327.
Cheiri, i. 327.
Chelæ cancerorum, i. 266.
Chelidonium majus, i. 328.
 minus, i. 329.
Chenopodium ambrosioides, i. 236.
 Bonus Henricus, i. 228.
 Botrys, i. 235.
Chenopodium foetidum, i. 181.
Chermes, ii. 25.
Cherva, ii. 271.
Chibou gummi, i. 410.
Chiliophyllon, ii. 108.
China, i. 330.
China china, ii. 194.
Chrysanthemum Leucanthemum, i. 204.
Chrysocome, *V. Elichrysium*, i. 411.
Cichoreum, i. 332.
 Endivia, i. 412.
Cicla, i. 212.
Cicuta, i. 333.
 aquatica, i. 114.
Cimolia alba, i. 342.
 purpurascens, i. 342.
Cinæ semen, ii. 331.
Cinara, i. 342.
Cinchona Carribæa, ii. 209.
 Jamaicensis, ii. 209.
 officinalis, ii. 194.
Cineres clavellati, ii. 297.
 Ruffici, ii. 297.
Cinnabaris antimonii, i. 108.
 factitia, i. 149.
 Græcorum, ii. 328.
 nativa, i. 343.
Cinnamomum, i. 345.
Citrago, ii. 99.
Citraria, ii. 99.
Citrea, i. 349.
Citrullus, i. 379.
Civetta, ii. 483.
Clematis recta, i. 435.
Clinopodium, ii. 92.
Cnicus, i. 282, 288.
Cobaltum, i. 166.
Coccagnidia, ii. 432.
Coccinella, i. 350.
Coccus baphica, ii. 25.
Coccus Cacti, i. 350.
Cochlea, ii. 66.
Cochlearia, i. 351.
 armoracia, ii. 263.
 marina, i. 351.
Codago-pala, i. 361.
Coffea, i. 354.
 Colchicum,

NOMINUM ET SYNONYMORUM.

- Colchicum, i. 355.
 Colcothar, i. 429. ii. 462.
 Colocynthis, i. 357.
 Colophonias, ii. 418.
 Coluber Berus, ii. 454.
 Colubrina, ii. 364.
 Colubrinum lignum, ii. 152.
 Columbinus pes, i. 465.
 Columbo, i. 359.
 Coma aurea, *V.* Elichrysum
 i. 411.
 Coneffi, i. 361.
 Conium maculatum, i. 333.
 Consolida major, i. 362.
 media, i. 204, 242.
 minima, i. 205.
 minor, ii. 245.
 faracénica, ii. 455.
 Contrayerva, i. 363.
 Germanica, ii. 450.
 Convallaria, ii. 65.
 multiflora, ii. 367.
 Copal, i. 260, 364.
 Corallina, i. 366.
 Corallium, i. 366.
 Coriandrum, i. 368.
 Cornu cervi, i. 368.
 Corona terræ, i. 484.
 Cortex cardinalis de Lugo, ii.
 194.
 caryophylloides, i. 301.
 coneffi, i. 361.
 culilawan, i. 302.
 eleutheriæ, i. 297.
 granatorum, i. 473.
 Jesuiticus, ii. 194.
 Magellanicus, ii. 480.
 Peruvianus, ii. 194.
 ruber, ii. 205.
 fimarouba, ii. 367.
 thuris, i. 297. ii. 433.
 thymiamatis, ii. 433.
 Winteranus, ii. 480.
 Cortufa, ii. 91.
 Costus arabicus, i. 370.
 corticofus, i. 269.
 hortorum, i. 191.
 minor, i. 192.
 orientalis, i. 370.
 Cotonea, i. 388.
 Cotula foetida, i. 325.
 Cotyledon marina, i. 83.
 Courbaril, i. 88.
 Crassula, ii. 414.
 Crepitus lupi, ii. 77.
 Crespinus, i. 210.
 Cressio, ii. 126.
 Creta, i. 372.
 Crocus, i. 374.
 antimonii, i. 100.
 Indicus, i. 386.
 martis, i. 105, 429.
 metallorum, i. 100.
 Cryftallus, i. 377.
 mineralis, ii. 140.
 Cubebæ, i. 378.
 Cucullata, ii. 222.
 Cucumis, i. 379.
 agrestis, i. 381.
 Colocynthis, i. 358.
 Cucurbita, i. 380.
 Citrullus, i. 379.
 lagenaria, i. 379.
 Pepo, i. 380.
 Culilawan, i. 302.
 Cuminum, i. 390.
 pratense, i. 289.
 Cunila bubula, ii. 171.
 fativa, ii. 344.
 Cuprum, i. 382.
 Curcuma, i. 386.
 Cursuta, i. 387.
 Cuscuta, i. 414.
 Cyanus, i. 387.
 lapis, ii. 50.
 moschatus, i. 388.
 Cyclamen, i. 172.
 Cydonia, i. 388.
 Cyminum, i. 390.
 Cynocrambe, ii. 107.
 Cynoglossum, i. 390.
 Cynorrhodon, ii. 279.
 Cynosbatus, ii. 279.
 Cynosorchis, ii. 345.
 Cyperus longus, i. 392.
 rotundus, i. 393.
 Cypira, i. 386.

D.

Dactyli, ii. 177.
 Daphne Gnidium, ii. 431.
 Laureola, ii. 431.
 Mezereum, ii. 431.
 Datura Stramonium, ii. 390.
 Daucus Creticus, i. 394.
 silvestris, i. 395.
 Delphinium Staphysagria, ii.
 388.
 Dens leonis, i. 396.
 Dentaria, ii. 253.
 Diagrydium, ii. 349.
 Dianthus Caryophyllus, i. 295.
 Diapensia, ii. 329.
 Dictamnus albus, i. 398.
 Creticus, i. 399.
 Digitalis, i. 401.
 Dodecatheon, ii. 222.
 Dolichos, i. 403.
 Doria herba, ii. 455.
 Doronicum Germanicum, i.
 405.
 Romanum, i. 407.
 Dorstenia, i. 363.
 Draco silvestris, ii. 249.
 Dracocephalum canariense, ii.
 112.
 Dracontium, i. 408.
 Dracunculus pratensis, ii. 249.
 Dragacantha, i. 481.
 Drakena, i. 363.
 Dulcamara, ii. 375.

E.

Ebulus, ii. 327.
 Elaphoboscum, ii. 189.
 Elaterium, i. 381.
 Elatine, i. 409.
 Elæagnus, ii. 123.
 Electrum, ii. 394.
 Elemi gummi, i. 410.
 Elettari, i. 72, 280.
 Eleoselinum, i. 113.
 Eleutheriæ cortex, i. 297.
 Elichrysum, i. 411.
 Elleborum, i. 487.

Endivia, i. 412.
 Enula campana, i. 412.
 Epithymum, i. 414.
 Equisetum, i. 415.
 Erigerum, i. 415.
 Eruca, i. 416.
 Eryngium, i. 418.
 Erysimum, i. 418.
 Alliaria, i. 46.
 Erythrodanum, ii. 282.
 Esula, ii. 438.
 Eupatorium Arabum, i. 419.
 cannabinum, i. 419.
 Mesues, i. 192.
 odoratum, i. 43.
 verum, i. 42.
 Euphorbia Cyparissias, ii. 438.
 Paralias, ii. 437.
 Euphorbium, i. 420.
 Euphrasia, i. 421.

F.

Faba crassa, ii. 414.
 febrifuga, ii. 153.
 Indica, ii. 153.
 purgatrix, ii. 271.
 sancti Ignatii, ii. 153.
 suilla, i. 499.
 Fabaria, ii. 414.
 Farfara, ii. 442.
 Farinacea, i. 445.
 Febrifuga, ii. 94.
 Febrifugum Craanii, i. 102.
 Fel, i. 422.
 Ferrum, i. 424.
 Ficaria, V. Chelidonium mi-
 nus, i. 329.
 Ficus, i. 285.
 Filix, i. 433.
 Flammula, ii. 262.
 Jovis, i. 435.
 Foeniculum, dulce, i. 436.
 erraticum, ii. 348.
 porcinum, ii. 216.
 silvestre, ii. 216.
 Sinense, i. 91.
 tortuosum, ii. 366.
 vulgare, i. 437.
 Fœnum

NOMINUM ET SYNONYMORUM.

Fœnum camelorum, ii. 20.
 Græcum, i. 438.
 Folium Indum, ii. 84.
 orientale, ii. 361.
 Formica, i. 439.
 Fraga, i. 443.
 Frangula, i. 440.
 Fraxinella, i. 398.
 Fraxinus, i. 441.
 Fructus horæi, i. 443.
 Frumenta, i. 445.
 Fucus vesiculofus, ii. 259.
 Fuga dæmonum, i. 501.
 Fuligo, i. 450.
 Fumaria, i. 450.
 Fungus arboreus, i. 39.
 ignarius, i. 39.
 laticis, i. 37.
 petræus marinus, i. 82.
 rotundus orbicularis,
 ii. 77.
 vinosus, i. 41.
 Furfur, i. 445.

G.

Gabianum oleum, ii. 212.
 Galanga, i. 452.
 Galbanum, i. 453.
 Gale, ii. 122.
 Galeopsis, ii. 40.
 Galerita, ii. 210.
 Gallæ, i. 454.
 Gallitrichum, i. 498.
 Gallium, i. 455.
 Aparine, i. 112.
 Gamandra, i. 456.
 Gambogia, i. 456.
 Gamma, i. 456.
 Garosmum, i. 182.
 Garyophyllus, i. 291.
 Genista, i. 458.
 Gentiana, i. 460.
 Centaurium, i. 311.
 Indica, i. 462.
 lutea sylvestris, i. 387.

Geoffræa, i. 462.
 Geranium, i. 464.
 Geum urbanum, i. 294.

VOL. II.

Gingiberi, ii. 486.
 Gingidium, i. 318.
 Ginseng, i. 467.
 Gladiolus luteus, ii. 16.
 Glans unguentaria, i. 206.
 Glechoma hederacea, i. 484.
 Glycypicros, ii. 375.
 Glycyrrhiza, i. 469.
 Gnaphalium Stœchas, i. 411.
 Gramen caninum, i. 471.
 Grana cnidia, ii. 432.
 paradisi, i. 471.
 regia, ii. 271.
 tiglia, ii. 272.
 tinctoria, ii. 25.
 Granata, i. 472.
 Granatus silvestris, i. 190.
 Granum moschi, i. 200.
 Graphoy, i. 407.
 Gratia Dei, i. 465, 473.
 Gratiola, i. 473.
 Guaiacum, i. 475.

Gummi acanthinum, i. 479.
 ammoniacum, i. 69.
 anime, i. 88.
 arabicum, i. 479.
 chibou, i. 410.
 courbaril, i. 88.
 elemi, i. 410.
 Gambienfe, ii. 27.
 guaiaci, i. 475.
 gutta, i. 456.
 hederæ, i. 484.
 juniperinum, ii. 23.
 lacca, ii. 35.
 rubrum astringens, ii.
 27.
 Senegalense, i. 480.
 Thebaicum, i. 479.
 tragacanthæ, i. 481.

Gutta gamba, i. 456.
 Gypsum, ii. 360.

H.

Hæmatites, i. 482.
 Hæmatodes, i. 464.
 Halicacabum, i. 44.
 Hardefia, i. 495.

Hedera

I N D E X

- Hedera arborea*, i. 483.
terrestris, i. 484.
Helenium, i. 412.
Heliochrysum, *V. Stœchas*, i. 411.
Helleboraster, i. 485.
Helleborus albus, i. 487.
fœtidus, i. 485.
niger, i. 489.
Helvetii pulvis, i. 63.
Helxine, *V. Parietaria*, ii. 188.
Hepar antimonii, i. 100.
sulphuris, ii. 402.
Hepatica nobilis, i. 493.
terrestris, i. 492.
Hepatorium, *V. Eupatorium*, i. 419.
Heptaphyllum, ii. 439.
Herba alba, i. 13.
Alexandrina, i. 497.
Apollinaris, i. 499.
basilica, ii. 156.
Britannica, ii. 43.
cephalalgica, ii. 447.
doria, ii. 455.
felis, ii. 130.
sancti Jacobi, ii. 1.
julia, i. 192.
sanctæ Kunigundis, *V. Eupatorium*, i. 419.
militaris, ii. 108.
papillaris, ii. 41.
pedicularis, ii. 388.
pulicaris, ii. 248.
regia, ii. 156.
sacra, ii. 447.
salivaris, ii. 253.
Roberti, i. 465.
trinitatis, i. 493.
Hermodactylus, i. 494.
Hibernicus lapis, i. 495.
Hiera picra, i. 56.
Hieracium Pilosella, ii. 217.
Hierobotane, ii. 447.
Hippocastanum, i. 496.
Hippolapathum, ii. 44.
Hippomarathrum, ii. 348.
Hippofelinum, i. 497.
Hippuris vulgaris, i. 415.
Hirundinaria, ii. 146, 449.
Hoitziloxitl, i. 195.
Holosteus, ii. 172.
Hordeolum, i. 318.
Hordeum, i. 445.
causticum, i. 318.
perlatum, i. 447.
Horminum, i. 498.
Humulus Lupulus, ii. 76.
Hydrargyrus, i. 136.
Hydrolapathum, ii. 43.
Hydropiper, ii. 193.
Hyoscyamus, i. 499.
luteus, ii. 135.
Hypericum, i. 501.
Hypocistis, i. 502.
Hyssopus, i. 503.
Hystricis lapis, i. 220.

I.

Iberis, ii. 53.
Ibiscus, i. 58.
Ichthyocolla, ii. 6.
Igasur, ii. 153.
Illecebra, ii. 7.
Illicium anisatum, i. 92.
Imperatoria, ii. 7.
Inguinalis, *V. Eryngium*, i. 418.
Intybus, i. 412.
Inula Helenium, i. 412.
Ipecacoanha, ii. 8.
Iquetaia, ii. 358.
Iringus, *V. Eryngium*, i. 418.
Irio, i. 418.
Iris Florentina, ii. 15.
nostras purpurea, ii. 14.
palustris lutea, ii. 16.
Iva arthritica, *V. Chamæpitys*, i. 326.
Ixine, i. 287.
Ixion, i. 287.

J.

Jacobæa, ii. 1.
Jalapium, ii. 2.
Jalappa alba, ii. 96.

Japonica

NOMINUM ET SYNONYMORUM.

Japonica terra, ii. 420.
 Jecoraria, i. 492.
 Jemu, i. 456.
 Jesuiticus cortex, ii. 194.
 Juglans, ii. 18.
 Jujuba, ii. 19.
 Julia herba, i. 192.
 Juncus odoratus, ii. 20.
 Juniperus, ii. 21.
 Sabina, ii. 286.
 Jupiter, *V.* Stannum, ii. 385.

K.

Kali, ii. 24, 299.
 Keiri, i. 327.
 Kermes, ii. 25.
 mineralis, i. 103.
 Ketmia, i. 200.
 Kiki, ii. 271.
 Kina kina, ii. 194.
 Kino, ii. 27.
 Kunigundis herba, *V.* Eupator,
 i. 419.

L.

Labdanum, ii. 29.
 Lac, ii. 31.
 lunæ, i. 372.
 fulphuris, ii. 403.
 virginis, i. 209.
 Lacca, ii. 35.
 Lachryma abiegna, ii. 417.
 Lactucæ, ii. 37.
 Ladanum, ii. 29.
 Lamium album, ii. 40.
 Lampfana, ii. 41.
 Lanaria, ii. 446.
 Lapathum acetosum, i. 17.
 acutum, ii. 41.
 aquaticum, ii. 43.
 hortense, ii. 44.
 unctuosum, i. 228.
 Lapidés cancrorum, i. 267.
 Lapis bezoar, i. 216.
 cæruleus, ii. 50.
 calaminaris, i. 247.
 cyanus, ii. 50.

Lapis hæmatites, i. 482.
 Hibernicus, i. 495.
 hystricis, i. 220.
 lazuli, ii. 50.
 Malacensis, i. 220.
 porcinus, i. 220.
 fepticus, ii. 301.
 simiæ, i. 220.
 specularis, ii. 360.
 Lappa, i. 200.
 Lapsana, ii. 41.
 Larix, ii. 416.
 Lafer, i. 176.
 Laserpitium, i. 176.
 Chironium, ii. 190.
 Siler, ii. 365.
 Lathyrus, ii. 438.
 Laudanum, ii. 167.
 Lavendula angustifolia, ii. 45.
 latifolia, ii. 47.
 Stœchas, ii. 389.
 Laver Germanicum, *V.* Beca-
 bunga, i. 203.
 Laureola, ii. 431.
 Laurocerafus, ii. 47.
 Laurus, ii. 49.
 Lazuli lapis, ii. 50.
 Leontodon Taraxacum, i. 396.
 Leonurus Cardiaca, i. 282.
 Lentiscus, ii. 51.
 Lepidium, ii. 53.
 Iberis, ii. 53.
 fativum, ii. 128.
 Leucanthemum Dioscoridis, i.
 324.
 odoratus, i.
 321.
 vulgare, i. 204.
 Leucoium luteum, i. 327.
 Leuconymphæa, ii. 154.
 Leucopiper, ii. 224.
 Levisticum, ii. 54.
 Libanotis, ii. 280.
 Lichen cinereus terrestris, ii. 55.
 islandicus, ii. 57.
 petræus, i. 492.
 Lignum aloes, ii. 59.
 aquilæ, ii. 60.
 calambac, ii. 59.

I N D E X

- Lignum Campechense*, ii. 60.
cedrinum, i. 310.
 spurium, ii. 23.
colubrinum, ii. 152.
guaiacum, i. 475.
Indicum, ii. 60.
juniperinum, ii. 23.
lentiscinum, ii. 52.
Moluccense, ii. 272.
nephriticum, ii. 131.
pavanum, ii. 272.
Quassia, ii. 256.
rhodium, ii. 62.
sanctum, i. 475.
santalum, ii. 329.
sappan, ii. 61.
sassafras, ii. 343.
vitæ, i. 475.
Ligusticum, ii. 54.
Lilium album, ii. 63.
 convallium, ii. 65.
Limaces, ii. 66.
Limones, ii. 67.
Linaria, ii. 69.
 segetum, i. 409.
Lingua avis, i. 441.
 canina, i. 390.
 cervina, ii. 69.
Lini semen, ii. 70.
Linum catharticum, ii. 72.
Liparis, ii. 222.
Liquidambra, ii. 72, 393.
Liquiritia, i. 469.
Lithargyrus, ii. 233.
Lithospermum, ii. 73.
Lixivium causticum, ii. 300.
 saponarium, ii. 300.
 tartari, ii. 297.
Lobelia, ii. 73.
Lopeziana radix, ii. 260.
Lotus silvestris, ii. 98.
Lujula, ii. 75.
Lumbrici terrestres, ii. 76.
Lumbus Veneris, ii. 108.
Luna, i. 134.
Lupulus, ii. 76.
Lycoperdon, ii. 77.
Lysimachia Nummularia, ii. 146.
- M.
- Macerone*, i. 497.
Macis, ii. 78.
Macropiper, ii. 225.
Magellanicus cortex, ii. 480.
Magisterium solubile, ii. 425.
Magistrantia, *V. Imperatoria*,
 ii. 7.
Magnesia alba, ii. 78.
 vitrariorum, ii. 81.
Maianthemum, ii. 65.
Majorana, ii. 82.
 Syriaca, ii. 91.
Malabathri oleum, i. 348.
Malabathrum, ii. 84.
Malicorium, i. 473.
Malva, ii. 85.
Malvaviscus, *V. Althæa*, i. 58.
Maniella kua, i. 386.
Maniguetta, i. 471.
Manna, ii. 86.
 Brigantiaca, ii. 87.
Marathrum, i. 435.
 silvestre, ii. 216.
Marathrophyllum, ii. 216.
Marcasita, i. 221.
Marcassita, ii. 254.
Marchantia polymorpha, i.
 492.
Margaritæ, ii. 88.
Marrubium, ii. 89.
 Cardiaca, i. 282.
Mars, i. 425.
Marum Syriacum, ii. 91.
 vulgare, ii. 92.
Mastiche, ii. 93.
 acanthina, i. 287.
Mastichina, ii. 92.
Materia perlata, i. 98.
Matricaria, ii. 94.
 Chamomilla, i. 324.
Matrifylva, *V. Ulmaria*, ii. 474.
Mechoacanna, ii. 95.
 nigra, ii. 2.
Meconium, ii. 182.
Medica malus, i. 349.
Medulla saxi, i. 372.
Mel, ii. 96.

Melampodium

NOMINUM ET SYNONYMORUM.

- Melampodium, i. 489.
 Melanopiper, ii. 224.
 Meleguetta, i. 471.
 Melilotus, ii. 98.
 Melissa, ii. 99.
 Calamintha, i. 250.
 grandiflora, i. 250.
 Nepeta, i. 249.
 Turcica, ii. 112.
 Melissophyllon, ii. 99.
 Mellifolium, ii. 99.
 Mellitis, ii. 99.
 Meloe vesicatorius, i. 272.
 Mentastrum, ii. 104, 250.
 Mentha aquatica, ii. 104.
 cataria, ii. 130.
 cervina, ii. 250.
 corymbifera, i. 191.
 palustris, ii. 250.
 piperitis, ii. 104.
 Pulegium, ii. 250.
 Saracenica, i. 191.
 vulgaris, ii. 101.
 Menyanthes, ii. 440.
 Mercurialis, ii. 106.
 montana, ii. 107.
 Mercurius, i. 136.
 vitæ, i. 107.
 Metella nux, ii. 150.
 Meum, ii. 107.
 Mezereon, ii. 431.
 Militaris herba, ii. 108.
 Milium folis, ii. 73.
 Millefolium, ii. 108.
 Millemorbia, ii. 357.
 Millepedæ, ii. 110.
 Minium, ii. 233.
 Græcorum, i. 343.
 Mirabilis Peruviana, ii. 6.
 Moldavica, ii. 112.
 Momordica Elaterium, i. 381.
 Mora, i. 443.
 Morfus gallinæ, V. Alfine, i. 57.
 Moschata nux, ii. 146.
 Moschus, ii. 113.
 Moxa, ii. 116.
 Mucus maritimus, i. 366.
 Myacantha, ii. 283.
 Myofotis, ii. 217.
 Myrica Gale, ii. 133.
 Myriophyllon, ii. 108.
 Myristica nux, ii. 146.
 Myrobalani, ii. 117.
 Myrrha, ii. 119.
 Myrtacantha, ii. 283.
 Myrtilli, ii. 122.
 Myrtus, ii. 122.
 Brabantica, ii. 122.
 Myxa, ii. 20.
 Myxaria, ii. 20.
 N.
 Napellus, i. 28.
 Napha, i. 183.
 Naphtha, ii. 211.
 Napium, ii. 41.
 Napus dulcis, ii. 124.
 silvestris, ii. 124.
 Nardus Celtica, ii. 125.
 Indica, ii. 126.
 rustica, i. 178.
 Nasturtium aquaticum, ii. 126.
 hortense, ii. 128.
 pratense, i. 279.
 Natron, ii. 128.
 Nenuphar, ii. 154.
 Nepeta, i. 249, ii. 130.
 Nephriticum lignum, ii. 131.
 Neroli essentia, i. 183.
 Nicotiana, ii. 133.
 minor, ii. 135.
 Nihil, ii. 485.
 Ninzin, i. 468.
 Nitrum, ii. 136.
 ammoniacale, ii. 143.
 antiquorum, ii. 128.
 calcareum, ii. 144.
 hydrologorum,
 ii. 313.
 causticum, i. 105.
 cubicum, ii. 143.
 flammans, ii. 143.
 vitriolatum, ii. 140.
 volatile, ii. 143.
 Nucista, ii. 146.
 Nuculæ saponariæ, ii. 339.
 Nummularia, ii. 146.
 Nux Barbadiensis, ii. 271.
 Nux

- Nux ben, i. 206.
 Juglans, ii. 18.
 metella, ii. 150.
 moschata, ii. 146.
 pistacia, ii. 149.
 purgans, ii. 272.
 vomica, ii. 150.
 Nymphæa, ii. 154.

 O.

 Ochra, ii. 155.
 Ocularia, *V.* Euphrasia, i. 421.
 Oculi cancrorum, i. 267.
 Oculus bovis, i. 204.
 Ocimum, ii. 156.
 Oenanthe, ii. 157.
 Offa alba, ii. 308.
 Olea, ii. 158.
 Oleum abietinum, ii. 417.
 animale, ii. 303.
 Carpathicum, ii. 417.
 Cedrinum, i. 349.
 Gabianum, ii. 212.
 laurinum, ii. 49.
 macis, ii. 149.
 malabathri, i. 348.
 Neroli, i. 183.
 olivarum, ii. 159.
 palmæ, ii. 177.
 petræ, ii. 211.
 suisinum, ii. 64.
 Syriæ, ii. 113.
 templinum, i. 3.
 terræ, ii. 211.
 vini, ii. 469.
 vitrioli, ii. 463.
 Olibanum, ii. 159.
 Olivæ, ii. 159.
 Olusatrum, i. 497.
 Onisci, ii. 110.
 Onitis, ii. 171.
 Ononis, ii. 160.
 Opium, ii. 161.
 Opobalsamum, ii. 169.
 Opopanax, ii. 170.
 Orchis, ii. 345.
 Origanum, ii. 171.
 Creticum, i. 399.
 Origanum Dictamnus, i. 399.
 Majorana, ii. 82.
 Syriacum, ii. 91.
 Ornithogalum, ii. 351.
 Ornithoglossum, i. 441.
 Oryza, i. 445.
 Ossifragus, ii. 172.
 Osteites, ii. 172.
 Osteocolla, ii. 172.
 Osteolithos, ii. 172.
 Ostreum, ii. 173.
 Ostrutium, ii. 7.
 Ofyris, ii. 69.
 Ovum, ii. 174.
 Oxalis, i. 17.
 Acetofella, ii. 75.
 Oxyacantha, i. 210.
 Oxylapathum, ii. 41.
 Oxmyrsine, ii. 283.
 Oxyphœnicon, ii. 408.
 Oxys, ii. 75.
 Oxytriphylon, ii. 75.

 P.

 Pæonia, ii. 175.
 Palea de Mecha, ii. 20.
 Palimpissa, ii. 231.
 Palma, ii. 177.
 Palma Christi, ii. 271.
 Palum sanctum, *V.* Guaiacum,
 i. 475.
 Panava, ii. 273.
 Panax, ii. 190.
 quinquefolium, i. 467.
 Panis cuculi, ii. 75.
 porcinus, *V.* Arthanita,
 i. 172.
 Papaver, ii. 161, 179.
 erraticum, ii. 183.
 Papillaris, ii. 41.
 Paradisi grana, i. 471.
 Paralyfis, ii. 185.
 Pareira brava, ii. 186.
 Parietaria, ii. 188.
 Parthenium, ii. 94.
 mas, ii. 409.
 Passerina, *V.* Ornithoglossum,
 i. 441.
 Passulæ,

NOMINUM ET SYNONYMORUM.

- Passulæ*, ii. 478.
Pastinaca, i. 395, ii. 189.
Patientia, ii. 44.
Patrum pulvis, ii. 194.
Pavana, ii. 273.
Pedicularia, ii. 388.
Pedro del perco, i. 220.
Pentaphylloides, i. 133.
Pentaphyllum, ii. 191.
Peplus, ii. 438.
Pepo, i. 380.
Perforata, i. 501.
Peristerium, ii. 447.
Perlæ, ii. 88.
Perfica, ii. 192.
Perficaria, ii. 192.
Personata, i. 200.
Peruvianus cortex, ii. 194.
 cortex ruber, ii. 205.
Pes alexandrinus, ii. 253.
 columbinus, i. 465.
 leonis, i. 43.
Petasites, ii. 210.
Petrapium, ii. 215.
Petroleum, ii. 211.
 Barbadense, ii. 213.
Petroselinum, ii. 214.
 Macedonicum, ii. 215.
Petum, ii. 133.
Peucedanum, ii. 216.
 Silaus, i. 348.
Philanthropus, i. 112.
Phu, *V. Valeriana*, ii. 443.
Phyllitis, ii. 69.
Physalis Alkekengi, i. 44.
Picea, i. 1.
Pilosella, ii. 217.
Pimenta, ii. 226.
Pimpinella, ii. 217.
Pinafellum, ii. 216.
Pineus purgans, ii. 271.
Pinguedo, ii. 220.
Pinguicula, ii. 222.
Pinhones Indici, ii. 271.
Pinus Abies, i. 1.
 balsamea, i. 4.
 Cedrus, i. 310.
 Larix, ii. 416.
Pinus Picea, i. 1.
 sylvestris, ii. 417.
Piper album, ii. 224.
 caudatum, i. 378.
 Hispanicum, ii. 227.
 Jamaicense, ii. 226.
 Indicum, ii. 227, 494.
 longum, ii. 225.
 Lusitanicum, ii. 227.
 murale, ii. 7.
 nigrum, ii. 224.
Piperitis, ii. 53.
Pistaspphaltum, ii. 211.
Pisselæum, ii. 211.
 Indicum, ii. 213.
Pistacia, ii. 149.
Pistolochia, i. 163.
Pityusa, ii. 438.
Pix Burgundica, ii. 418.
 liquida, ii. 229.
 ficca, ii. 231.
Plantago, ii. 231.
 Psyllium, ii. 248.
Plumbago, ii. 193.
Plumbum, ii. 232.
 candidum, *V. Stannum*, ii. 385.
Polium montanum, ii. 239.
Polygala, ii. 240.
Polygonatum, ii. 367.
Polygonum Bistorta, i. 222.
 Hydropiper, ii. 193.
 Perficaria, ii. 193.
Polypodium, ii. 243.
 Filix mas, i. 433.
Polytrichum, ii. 440.
Pompholyx, ii. 485.
Populus, ii. 244.
 balsamifera, ii. 245, 406.
Potentilla, i. 133.
 reptans, ii. 191.
Priapeia, ii. 135.
Primula veris, ii. 185.
Pruna, ii. 246.
Prunella, ii. 245.
 Germanorum, i. 242.
Prunus Laurocerasus, ii. 47.
 Prupus

I N D E X

- Prunus silvestris*, ii. 247.
Pseudoacorus, ii. 16.
Pseudocostus, ii. 190.
Pseudoiris, ii. 16.
Pseudonardus, ii. 45, 47.
Pseudopyrethrum, ii. 249.
Psychotria emetica, ii. 8.
Psidium, i. 473.
Psyllium, ii. 248.
Ptarmica, ii. 249.
Pulegium, ii. 250.
Pulicaris, ii. 248.
Pulmonaria maculosa, ii. 251.
Pulsatilla, ii. 252.
Punica, i. 190, 472.
Pyrethrum, ii. 253.
 silvestre, ii. 249.
Pyrites. ii. 254.
- Q.
- Quassia*, ii. 256.
Quercula, *V. Chamædrys*, i. 320.
Quercus, ii. 258.
 marina, ii. 259.
Quinquefolium, ii. 191.
Quinquina, ii. 194.
- R.
- Radix Brasiliensis*, ii. 8.
 dulcis, *V. Glycyrrhiza*, i. 469.
 indica Lopeziana, ii. 260.
 rosea, ii. 415.
 rubra, ii. 282.
 ursina, ii. 107.
Rais di Juan Lopez, ii. 260.
 di Mosambique, ii. 359.
Ranunculus, ii. 262.
 Ficaria, i. 329.
Raphanus rusticanus, ii. 263.
 silvestris, ii. 53.
Rapum, ii. 264.
Rapunculus virginianus, ii. 73.
Realgar, i. 170.
Regina prati, ii. 474.
- Regulus antimonii*, i. 97.
 martialis, i. 105.
 stellatus, i. 105.
Remora aratri, ii. 160.
Refina flava, alba, & nigra, ii. 418.
Restia bovis, ii. 160.
Rhabarbarum, ii. 265.
 album, ii. 96.
 antiquorum, ii. 269.
 monachorum, ii. 44.
Rhamnus catharticus, ii. 378.
 Frangula, i. 440.
 Zizyphus, ii. 19.
Rhaponticum, ii. 269.
 vulgare, i. 312.
Rheum, ii. 265.
Rhodia radix, ii. 415.
Rhodiola, ii. 415.
Rhodium lignum, ii. 62.
Rhododendron, ii. 270.
Rhus, ii. 405.
 belgica, ii. 122.
Ribesia, i. 443.
Ricinus, ii. 271.
Risagon, i. 309.
Risigal, i. 170.
Ros Calabrinus, ii. 86.
Rosæ, ii. 275.
Rosa silvestris, ii. 279.
Rosea radix, ii. 415.
Rosmarinus, ii. 280.
Rubia, ii. 282.
Rubrica, ii. 155.
Rubi Idæi fructus, i. 443.
Rumex, i. 17.
 acutus, ii. 41.
 aquaticus, ii. 43.
 Patientia, ii. 44.
Ruscus, ii. 283.
Ruta, ii. 284.
- S.
- Sabadilla*, i. 318.
- Sabina,

NOMINUM ET SYNONYMORUM.

- Sabina, ii. 286.
 Saccharum, ii. 287.
 Canadense, i. 16.
 lactis, ii. 34.
 Saturni, ii. 235.
 Sagapenum, ii. 290.
 Sago, ii. 178.
 Sal alkalinus fixus, ii. 292.
 fossilis, ii. 24,
 128.
 volatilis, ii. 301.
 Sal ammoniacus, ii. 310.
 fixus, ii. 320.
 catharticus amarus, ii. 313.
 Glauberi, ii. 314.
 communis, ii. 315.
 diureticus, i. 25.
 enixus, ii. 472.
 gemmae, ii. 315.
 marinus, ii. 316.
 microcosmicus, ii. 477.
 mirabilis, ii. 314.
 muriaticus calcareus, ii.
 320.
 petrae, ii. 136.
 prunellae, ii. 140.
 polychrestus, ii. 140.
 Rupellenfis, ii. 25, 413.
 sedativus, i. 233.
 vegetabilis, ii. 412.
 Salep, ii. 346.
 Salivaris herba, ii. 253.
 Saliunca, ii. 125.
 Salix, ii. 322.
 amerina, i. 41.
 Salsola Kali, ii. 24.
 Salvia, ii. 323.
 Sclarea, i. 498.
 Sambucus, ii. 325.
 Sampfuchus, ii. 92.
 Sandaracha Arabum, ii. 23.
 Graecorum, i. 170.
 Sanguis draconis, ii. 328.
 Sanicula, ii. 329.
 Eboracensis, ii. 222.
 Santalum lignum, ii. 329.
 Santolina, i. 6.
 Santonicum, ii. 331.
 Sapo, ii. 332.
 Sapo volatilis, ii. 336.
 Saponaria, ii. 338.
 nucula, ii. 339.
 terra, *V.* Cimolia, i.
 342.
 Sappan lignum, ii. 61.
 Sarcocolla, ii. 340.
 Sarsaparilla, ii. 341.
 Sassafras, ii. 343.
 Satureia, ii. 344.
 Saturnus, ii. 232.
 Satyrion, ii. 345.
 Savina, ii. 286.
 Saxifraga alba, ii. 347.
 vulgaris, ii. 348.
 Scammonium, ii. 348.
 Scandix Chærefolium, i. 318.
 Scariola, *V.* Endivia, i. 412.
 Gallorum, ii. 38.
 Schœnanthus, ii. 20.
 Scilla, ii. 351.
 Scincus, ii. 355.
 Sclarea, i. 498.
 Scolopendria, i. 317.
 Scolopendrium, ii. 69.
 Scolymus, i. 343.
 Scopa regia, ii. 283.
 Scordium, ii. 355.
 Scoria reguli antimonii succi-
 nea, i. 105.
 Scorzonera, ii. 356.
 Scrophularia, ii. 357.
 minor, *V.* Chelid.
 min. i. 329.
 Sebadilla, i. 318.
 Sebesten, ii. 20.
 Sedum, ii. 359.
 acre, ii. 7.
 Telephium, ii. 415.
 Selenites, ii. 360.
 Semen contra, ii. 331.
 sanctum, ii. 331.
 Sementina, ii. 331.
 Sempervivum, ii. 359.
 acre, ii. 7.
 Sena, ii. 361.
 Senecio, i. 415.
 Jacobæa, ii. 1.
 Seneca, ii. 240.
 Serapias,

I N D E X

- Serapias*, ii. 346.
Serapinum, ii. 290.
Seriola, *V. Endivia*, i. 412.
Seriphium, i. 13.
Seris, *V. Endivia*, i. 412.
Serpentaria Gallorum, i. 408.
 Hispanica, ii. 356.
 Virginiana, ii. 364.
Serpyllum, ii. 435.
 citratum, ii. 435.
Seseli, ii. 365.
 Massiliense, ii. 366.
 pratense, ii. 348.
 tortuosum, ii. 366.
Sevum, ii. 220.
Sicula, i. 212.
Sidium, i. 473.
Sigillum Salomonis, ii. 367.
Sil, ii. 155.
Silaus, ii. 348.
Siler montanum, *V. Seseli*, ii. 365.
Siliquastrum, ii. 227.
Simarouba, ii. 367.
Simiæ lapis, i. 220.
Sinapi, ii. 369.
Sisfarum montanum, i. 468.
Sifon, i. 73.
 Ammi, i. 68.
Sisymbrium, ii. 104.
 aquaticum, ii. 126.
Sium, ii. 371.
 aromaticum, *V. Amomum*, i. 73.
 foliis ferratis, i. 468.
Smectis, *V. Cimolia purpurascens*, i. 342.
Smyrnion, ii. 7.
Smyrnum Olusatrum, i. 497.
Soda, ii. 24, 129.
Sol, i. 187.
Solanum, ii. 372.
 foetidum, ii. 390.
 lignosum, ii. 375.
 nigrum, ii. 372.
 vesicarium, i. 44.
Soldanella, i. 238.
Solidago Virga aurea, ii. 455.
Spartium scoparium, i. 458.
Specularis lapis, 360.
Sperma ceti, ii. 376.
Spica, ii. 45, 47.
 Celtica, ii. 125.
 nardi, ii. 126.
Spigelia, ii. 377.
Spina acida, i. 210.
 cervina, ii. 378.
 infectoria, ii. 378.
Spiræa Ulmaria, ii. 474.
Spiritus mindereri, i. 26.
 vinosus rectificatus, ii. 379.
 tenuior, ii. 381.
Spongia, ii. 384.
Squilla, ii. 351.
Squinanthus, ii. 20.
Stalactitæ, i. 372.
Stannum, ii. 385.
Staphisagria, ii. 388.
Staphylinus, i. 395.
Stellaria, *V. Alchimilla*, i. 43.
Stelochites, ii. 172.
Sternutamentoria, ii. 249.
Stibium, i. 94.
Stizolobium, i. 403.
Stœchas, ii. 389.
 citrina, i. 411.
Stramonium, ii. 390.
Stratiotes, ii. 108.
Struthium, ii. 7.
Styrax alba, i. 197.
 calamita, ii. 391.
 liquida, ii. 393.
Succinum, ii. 394.
 cinereum, i. 65.
 griseum, i. 65.
Sulphur, ii. 397.
Sumach, ii. 405.
Supercilium Veneris, ii. 108.
Susinum oleum, ii. 64.
Sylphium, i. 176.
Symphytum, i. 362.
 maculosum, ii. 251.
 minus, ii. 245.
Syriæ oleum, ii. 113.

T.

Tabacum, ii. 133.
 Tacamahaca,

NOMINUM ET SYNONYMORUM.

- Tacamahaca, ii. 406.
 Talcum, ii. 407.
 Tamalapatra, ii. 84.
 Tamarindus, ii. 408.
 Tanacetum, ii. 409.
 Balsamita, i. 191.
 hortense, i. 191.
 Tanasia, ii. 409.
 Tapfus barbatus, ii. 446.
 Taraxacum, i. 396.
 Tarchon silvestris, ii. 249.
 Tartarum, ii. 410.
 emeticum, i. 108.
 regeneratum, i. 25.
 solubile, ii. 412.
 Tegula Hibernica, i. 495.
 Telephium, ii. 414.
 Templinum oleum, i. 3.
 Terebinthinæ, ii. 415.
 Terra foliata tartari, i. 25.
 Japonica, ii. 420.
 merita, i. 386.
 ponderosa, ii. 492.
 faponaria, *V.* Cimolia
 purp. i. 342.
 figillata, i. 226.
 Terræ oleum, ii. 211.
 Terrea absorbentia, ii. 423.
 Testiculus caninus, ii. 345.
 Teucrium, ii. 448.
 capitatum, ii. 239.
 Chamædrys, i. 320.
 Chamæpitys, i. 326.
 creticum, ii. 239.
 Scordium, ii. 355.
 Thea, ii. 427.
 Germanica, ii. 448.
 Theriaca rusticorum, i. 49.
 Thermæ, i. 131.
 Thlaspi, ii. 429.
 Burfa pastoris, i. 243.
 Thuris cortex, i. 297, ii. 433.
 Thus, ii. 430.
 Judæorum, i. 297,
 ii. 433.
 masculum, *V.* Oliba-
 num, ii. 159.
 Thymbra, ii. 344.
 Hispanica, ii. 92.
 Thymelæa, ii. 430.
 Thymiama, i. 297, ii. 433.
 Thymus, ii. 434.
 citratus, ii. 435.
 mastichina, ii. 92.
 Serpillum, ii. 435.
 Tiglia grana, ii. 272.
 Tilia, ii. 436.
 Tincal, i. 231.
 Tithymali, ii. 437.
 Tormentilla, ii. 439.
 Tobacco anglicum, ii. 135.
 Tota bona, i. 228.
 Tragacantha, i. 481.
 Tragofelinum, ii. 218.
 Trichomanes, ii. 440.
 Trifolium acetosum, ii. 75.
 aquaticum, ii. 440.
 hepaticum, i. 493.
 Melilotus, ii. 98.
 odoratum, ii. 98.
 paludosum, ii. 440.
 Trigonella Fœnum-græcum,
 i. 438.
 Trinitatis herba, i. 493.
 Trissago, *V.* Chamædrys, i.
 320.
 palustris, ii. 355.
 Triticum, i. 445.
 repens, i. 471.
 Turpethum, ii. 441.
 minerale, i. 154.
 Tussilago, ii. 442.
 Petasites, ii. 210.
 Tutia, ii. 442.
 U.
 Ulmaria, ii. 474.
 Ulmus, ii. 475.
 Umbilicus marinus, i. 83.
 Ungula caballina, ii. 442.
 Uniones, ii. 88.
 Urina, ii. 476.
 Urinaria, ii. 69.
 Ursina radix, ii. 107.
 Urtica, ii. 478.
 mortua, ii. 40.
 Uvæ passæ, ii. 478.
 Uva ursi, ii. 479.
 Veleriana,

I N D E X

V.

Valeriana, ii. 443.
 Celtica, ii. 125.
 Vanilla, ii. 446.
 Venus, i. 382.
 Veratrum album, i. 487.
 nigrum, i. 489.
 Verbasculum, ii. 185.
 Verbascum, ii. 446.
 Verþena, ii. 447.
 femina, *V. Erysimum*,
 i. 418.
 Vermicularis, ii. 7.
 Vermis terrestris, ii. 76.
 Vernix, ii. 23.
 Veronica, ii. 447.
 aquatica, i. 203.
 Becabunga, i. 203.
 femina, *V. Elatine*,
 i. 409.
 Teucrium, ii. 448.
 Vetonica, i. 213.
 Vincetoxicum, ii. 449.
 Vinum, ii. 450.
 Viola, ii. 452.
 lutea, i. 327.
 palustris, ii. 222.
 tricolor, ii. 453.
 Violaria, ii. 452.
 Vipera, ii. 454.
 Viperaria, ii. 356.
 Viperina, ii. 364.
 Virga aurea, ii. 455.
 Viride æris, i. 34.

Viscus, ii. 456.
 Vitex Agnus castus, i. 41.
 Vitis alba, i. 239.
 Vitriolum album, ii. 457, 485.
 cæruleum, ii. 459.
 Romanum, ii. 459.
 viride, ii. 461.
 Vitrum antimonii, i. 99.
 ceratum, i.
 111.
 Vomica nux, ii. 150.
 Vulgago, i. 178.
 Vulvaria, i. 181.

W.

Wanhom, i. 452.
 Winteranus cortex, ii. 480.

X.

Xyloaloes, ii. 59.

Z.

Zagarilla, *V. Eleutheria*, i.
 297.
 Zarza, ii. 341.
 Zedoaria, ii. 482.
 Zerumbeth, ii. 482.
 Zibethum, ii. 483.
 Zincum, ii. 484.
 Zingi, i. 91.
 Zingiber, ii. 486.
 Zizyphus, ii. 19.

I N D E X

OF ENGLISH NAMES.

A.

ABSORBENT earths, ii.

425.

Acacia, i. 13.

German, ii. 247.

Aconite, i. 28, 93.

Acorus, *bastard*, ii. 17.

Adder, ii. 455.

Agallochum, ii. 59.

Agaric, i. 37.

of the oak, i. 39.

Agnus-castus, i. 41.

Agrimony, i. 42.

Hemp, i. 419.

sweet-scented, i. 43.

Water, i. 419.

Air, *fixed*, i. 31.

Alder, i. 51.

black, i. 449.

Alecock, i. 191.

Alehoof, i. 484.

Alexanders, i. 497.

Alkanet, i. 81.

Allheal, ii. 190.

Allspice, ii. 226.

Almonds, i. 74.

Aloes, i. 51.

Aloes-wood, ii. 59.

Alum, i. 60.

plumous, ii. 407.

Amber, ii. 394.

Ambergris, i. 65.

Amethyst, i. 377.

Amianthus, ii. 407.

Ammoniac salt, ii. 310.

Ammoniacum gum, i. 69.

Amomum, i. 72.

common, i. 73.

Anacardium, i. 79.

Anemone, ii. 252.

Angelica, i. 85.

Angustura bark, ii. 488.

Anime, i. 88.

Anise, i. 89.

starry-headed, i. 91.

Anodyne liquor of Hoffman,
ii. 468.

Antimony, i. 94.

Ants, i. 439.

Aqua-fortis, ii. 141.

Aqua-regis, ii. 142.

Arabic gum, i. 479.

Archangel, ii. 40.

Armenian bole, i. 225.

Arrach, *stinking*, i. 182.

Arsenic, i. 166.

Arsmart, ii. 192.

biting, ii. 193.

Artichoke, i. 343.

Asafetida, i. 176.

Asarabacca, i. 178.

Ash-tree, i. 441.

Ashes, *Russia* ii. 297.

Ashes of vegetables, ii. 79.

Asparagus, i. 180.

Avens, i. 294.

B.

Bacher's pills, i. 491.

Balaustines, i. 190.

Baldmoney, *V. Gentian*, i.
460.

Balm, ii. 99.

of Gilead, herb, ii. 112.
fir, i. 4.

Turkey ii. 112.

Balsam

I N D E X

- Balsam of Canada, i. 4.
 of Copaiba, i. 193.
 of Gilead, ii. 169.
 of Peru, i. 195.
 white of Peru, i. 197.
 of Tolu, i. 198.
 Barbadoes nut, ii. 271.
 tar, ii. 213.
 Barberry, i. 210.
 Bark, *Carribæan*, ii. 209.
 Jamaica, ii. 209.
 Peruvian, ii. 194.
 red ii. 205.
 Barley, i. 445.
 caustic, i. 318.
 Basil, ii. 156.
 Bauldmony, ii. 107.
 Bay, ii. 49.
 Cherry, ii. 47.
 Bdellium, i. 202.
 Bean, *Malaca*, i. 79.
 St. Ignatius's, ii. 153.
 Bears-breech, i. 15.
 Bears-foot, i. 485.
 Bears-whortleberry, ii. 479.
 Bedstraw, *Ladies*, i. 456.
 Beech, *Sea-side* ii. 209.
 Bees, i. 113.
 Beets, i. 212.
 Ben nuts, i. 206.
 Benit herb, i. 294.
 Benzoin, i. 206.
 Bermudas berries, ii. 340.
 Betony, i. 213.
 Paul's, ii. 447.
 Water, ii. 358.
 Bezoar microcosmic, i. 220.
 mineral, i. 107.
 occidental, i. 219.
 oriental, i. 217.
 of the ape, i. 220.
 of the porcupine, i. 221.
 Bile, i. 422.
 Birch, i. 215.
 Birdsnest, i. 395.
 Birdstongue, i. 441.
 Birthworts, i. 163.
 Bishopsweed, i. 68.
 Bismuth, i. 221.
 Bistort, i. 222.
 Bittergourd, *V. Colocynth*, i.
 357.
 Bittersweet, ii. 375.
 Blisters, i. 273.
 Bloodstone, i. 482.
 Blue-stone, ii. 459.
 Bluebottle, i. 387.
 Blue, *Prussian*, i. 424.
 Bois de Coiffi, ii. 256.
 Bolar earths, i. 225.
 Bones, i. 370.
 Bonebinder, ii. 172.
 Borage, i. 229.
 Borax, i. 230.
 Box tree, i. 244.
 Bran, i. 448.
 Brankursine, i. 15.
 Brass, i. 385.
 Bread, i. 445.
 Briar, *wild* ii. 279.
 Brignole plum, i. 246.
 Brimstone, ii. 397.
 Brooklime, i. 203.
 Broom, i. 458.
 Bruisewort, ii. 338.
 Bryony, i. 239.
 Buckbean, ii. 440.
 Buckthorn, ii. 378.
 Bugle, i. 242.
 Bugloss, i. 242.
 Bulgewater tree, 462.
 Bullshit, *V. Bovista*, ii. 77.
 Burdock, i. 200.
 Burgundy pitch, ii. 418.
 Burnet-saxifrage, ii. 217.
 Butchersbroom, ii. 283.
 Butter of antimony, i. 106.
 Butterbur, ii. 210.
 Butterflower, ii. 262.
 Butterwort, ii. 222.

C.

- Cabbages, i. 236.
 Cabbage bark, i. 462.
 Cacao nut, i. 245.
 Calamine, i. 247.
 Calamints, i. 248.
 Calambac

NOMINUM ET SYNONYMORUM.

- Calambac, ii. 59.
 Calamus, i. 251.
 Calamy, i. 247.
 Calomel, i. 160.
 Camels-hay, ii. 26.
 Cammock, *V.* Ononis, ii. 161.
 Camomile, i. 320.
 stinking, i. 325.
 Campeachy wood, ii. 61.
 Camphor, i. 259.
 of cinnamon, i. 348.
 of peppermint, ii.
 105.
 Canella, i. 269.
 Cantharides, i. 272.
 Capficum, ii. 227, 494.
 Caranna, i. 277.
 Caraway, i. 289.
 Cardamom seeds, i. 279.
 greater, i. 281, 472.
 Cardinal-flower, *blue*, ii. 73.
 Carduus, i. 282.
 Carline thistle, i. 286.
 Carpobalsam, i. 287.
 Carrot of Candy, i. 394.
 wild, i. 395.
 Cascarilla, i. 297.
 Cathew nut, i. 79.
 Casia fistula, i. 302.
 lignea, i. 305.
 Cassidony, *V.* Stœchas, i. 411.
 Castor, i. 306.
 Castor oil, ii. 273.
 Casumunar, i. 309.
 Catmint, ii. 130.
 Cauliflower, i. 236.
 Caustic alkalies, ii. 300.
 barley, i. 318.
 Antimonial, i. 106.
 Lunar, i. 135.
 Cayenne pepper, ii. 228.
 Cedar, i. 310.
 Celandine, i. 328.
 Celeri, i. 115.
 Centaury, i. 311.
 greater, i. 312.
 Cerusse, ii. 234.
 of antimony, i. 98.
 Ceterach, i. 317.
 Chalk, i. 372.
 Chamemel, i. 320.
 Chaste-tree, i. 41.
 Cheeserennet, i. 456.
 Cherries, i. 443.
 Winter, i. 44.
 Cherry-bay, ii. 47.
 Chervil, i. 318.
 Chibou Gum, i. 410.
 Chickweed, i. 57.
 China root, i. 330.
 Chocolate, i. 245.
 Christmas-flower, *V.* Black.
 Helleb. i. 489.
 Cichory, i. 332.
 Cinnabar of antimony, i. 108.
 factitious, i. 149.
 native, i. 343.
 Cinnamon, i. 345.
 Cinquefoil, ii. 191.
 Citrons, i. 349.
 Citrul, i. 379.
 Civet, ii. 483.
 Clary, i. 498.
 Clay, i. 342.
 Cleavers, i. 112.
 Clotbur, i. 200.
 Clove bark, i. 301.
 Clove gilliflower, i. 296.
 Clove spice, i. 291.
 Cobalt, i. 166.
 Cobweb, i. 133.
 Cochineal, i. 350.
 Coffee, i. 354.
 Colcothar, i. 429, ii. 462.
 Cold seeds, i. 380.
 Coleworts, i. 236.
 Sea, V. Soldanella,
 i. 238.
 Colophony, ii. 418.
 Coloquintida, i. 357.
 Coltsfoot, ii. 442.
 Columbine, i. 132.
 Columbo, i. 359.
 Comfry, i. 362.
 Coneffi bark, i. 361.
 Confound, *greater, V.* Com-
 fry, i. 362.
 middle, i. 242.
 Confound,

I N D E X

- Confound, small, ii. 245.
 Saracens, ii. 455.
 Contrayerva root, i. 363.
 Copaiba balsam, i. 193.
 Copal gum, i. 364.
 Copper, i. 382.
 Copper waters, i. 131.
 Copperas, ii. 461.
 Coral, i. 366.
 Coralline, i. 366.
 Coriander, i. 368.
 Cornelian, i. 377.
 Cornflower, *V. Cyanus*, i. 387.
 Cornrose, ii. 183.
 Costmary, i. 191.
 Costus root, i. 370.
 Couch-grafs, i. 471.
 Couhage, i. 403.
 Counterpoison, *V. Contray-*
 erva, i. 363.
 Monkshood, V. An-
 thora, i. 93.
 Cowitch, i. 403.
 Cowslips, ii. 185.
 of Jerusalem, ii. 251.
 Crabs-claws, i. 266.
 Crabs-eyes, i. 267.
 Cranesbill, i. 464.
 Creme of tartar, ii. 410.
 Cresses, ii. 128.
 Bank, V. Erysimum,
 i. 418.
 Dock, ii. 41.
 Sciatica, ii. 53.
 Water, ii. 126.
 Crowfoot, ii. 262.
 Cryſtal, i. 377.
 Cryſtal mineral, ii. 140.
 Cubebs, i. 378.
 Cuckow-flower, i. 279.
 Cuckowpint, i. 173.
 Cucumber, i. 379.
 wild i. 381.
 Cummin, i. 390.
 Curaffoa apples, i. 186.
 Currants, i. 443, ii. 478.
 Cutch, ii. 421.
 Cyperus root, i. 392.
- D.
- Daify, i. 205.
 Ox-eye, i. 204.
 Damsons, ii. 246.
 Dandelion, i. 396.
 Danewort, ii. 327.
 Dates, ii. 177.
 Devils-dung, *V. Afafetida*, i.
 176.
 Dill, i. 83.
 Dittander, ii. 53.
 Dittany of Crete, i. 399.
 white i. 398.
 Dock, ii. 41.
 four, i. 17.
 Water, ii. 43.
 Dock-creſſes, ii. 41.
 Dodder, i. 414.
 Dog-rose, ii. 279.
 Dogs-grafs, i. 471.
 Dogs-mercury, ii. 107.
 Dogſtones, *V. Orchis*, ii. 345.
 Dovesfoot, i. 465.
 Dragant gum, i. 481.
 Dragons, i. 408.
 Dragons blood, ii. 328.
 Dropwort *Hemlock*, ii. 157.
 Dwale, ii. 372.
- E.
- Earths, i. 117.
 abſorbent, ii. 425.
 aluminous, i. 60.
 animal calcareous, i.
 266.
 not calcareous,
 i. 370.
 argillaceous, i. 225,
 342.
 bolar, i. 225.
 mineral calcareous, i.
 372.
 vegetable, i. 79.
 Earth *Fullers*, i. 342.
 Heavy, ii. 492.
 Japan, ii. 420.
 Earths *ſealed*, i. 226.
 Earthworms, ii. 76.
- Earwort,

OF ENGLISH NAMES.

Earwort, ii. 104.
 Eatons styptic, ii. 462.
 Eau de luce, ii. 309.
 Eau de Rabel, ii. 466.
 Eggs, ii. 174.
 Elaterium, i. 381.
 Elder, ii. 325.
 Dwarf, ii. 327.
 Elecampane, i. 412.
 Elemi Gum, i. 410.
 Eleutheria bark, i. 297.
 Elm, ii. 475.
 Emerald, i. 377.
 Emulsions, i. 76.
 Endive, i. 412.
 Epfom salt, i. 313.
 Eryngo, i. 418.
 Eternal-flower, *V. Stoechas*, i.
 411.
 Ether, ii. 471.
 nitrous, ii. 145.
 marine, ii. 322.
 Ethiops antimonial, i. 161.
 mineral, i. 148.
 vegetable, ii. 259.
 Euphorbium, i. 420.
 Eyebright, i. 421.

F.

Fats, ii. 220.
 Felwort, *V. Gentian*, i. 460.
 Fennel, i. 435.
 Hogs, ii. 216.
 Fenugreek, i. 438.
 Fern, *male*, i. 433.
 Feverfew, ii. 94.
 Figs, i. 285.
 Figwort, ii. 357.
 Finckle, i. 437.
 Fir tree, i. 1.
 Balm-of-Gilead, i. 4.
 Canada, i. 4.
 Fishglue, ii. 6.
 Fistick-nut, *V. Pistacia*, ii. 149.
 Five-leaved grass, ii. 191.
 Flag, *sweet*, i. 251.
 Flax, *purging*, ii. 72.
 Fleawort, ii. 248.

VOL. II.

Flies, *Spanish*, i. 272.
 Flower-de-luce, ii. 14.
 Fluellin, i. 409.
 Foxglove, i. 401.
 Frankincense, ii. 430.
 Fruits, *Summer*, i. 443.
 Fumitory, i. 450.
 Fullers earth, i. 342.
 Furze, *Ground*, *V. Ononis*, ii.
 161.

G.

Galangal, i. 452.
 English, i. 392.
 Galbanum, i. 453.
 Gall of animals, i. 422.
 Gall-stones, i. 221.
 Galls, i. 454.
 Gamboge, i. 456.
 Garlic, i. 47.
 Garnet-stone, i. 378.
 Gas, *fixed*, i. 31.
 Gaule, ii. 123.
 Gelly of fruits, i. 389, 444.
 horns, i. 369.
 Gentian, i. 460.
 Indian, i. 462.
 Germander, i. 320.
 Water, ii. 355.
 Gill - go - by - ground, *V.*
 Groundivy, i. 484.
 Gilliflower, i. 296.
 Ginger, ii. 486.
 Ginseng root, i. 467.
 Glas of antimony, i. 99.
 cerated, i.
 111.
 Glasswort, ii. 24.
 Glaubers salt, ii. 314.
 Gold, i. 187.
 Mosaic, ii. 387.
 Goldcup, ii. 262.
 Golden rod, ii. 455.
 Goldilocks, i. 411.
 Goosegrafs, i. 112.
 Gourd, i. 379.
 bitter, *V. Colocynth*,
 i. 357.

N n

Grains

I N D E X

- Grains of paradise, *it* 472.
 Grana-tilia, *ii*. 272.
 Grass, *Dogs*, *i*. 471.
 Gromwell, *ii*. 73.
 Groundivy, *i*. 484.
 Groundpine, *i*. 326.
 Groundsel, *i*. 415.
 Guaiacum, *i*. 475.
 Gum ammoniacum, *i*. 69.
 anime, *i*. 88.
 arabic, *i*. 479.
 elemi, *i*. 410.
 gambia, *ii*. 27.
 guaiacum, *i*. 475.
 hederæ, *i*. 484.
 juniper, *ii*. 23.
 lac, *ii*. 35.
 red astringent, *ii*. 27.
 fenica, *i*. 480.
 tragacanth, *i*. 481.
 Gypsum, *ii*. 360.

 H.

 Hartshorn, *i*. 368.
 Hartstongue, *ii*. 69.
 Hartwort, *ii*. 365.
 of Marfeilles, *ii*. 366.
 Hay *Camels*, *ii*. 20.
 Heartsease, *ii*. 453.
 Hedgehyssop, *i*. 473.
 Hedgemustard, *i*. 418.
 Hellebore *black*, *i*. 489.
 white, *i*. 487.
 Hellweed, *i*. 414.
 Helmet-flower, *i*. 93.
 Helvetius's powder, *i*. 63.
 styptic, *ii*. 462.
 Hemlock, *i*. 333.
 Dropwort, *ii*. 157.
 Water, *i*. 114.
 Hemp, *i*. 270.
 Water, *i*. 419.
 Hemp-Agrimony, *i*. 419.
 Henbane, *i*. 499.
 Hepatica, *i*. 493.
 Herb-benit, *i*. 294.
 Herb-of-Grace, *V. Gratiola*,
 i. 473.
 Herb-mastich, *ii*. 92.
 Syrian, *ii*. 91.
 Herb-Robert, *i*. 465.
 Herb-trinity, *i*. 493.
 Hercules's allheal, *ii*. 190.
 Hermodactyl, *i*. 494.
 Hipps, *ii*. 279.
 Hogs-fennel, *ii*. 216.
 Holly *Sea*, *i*. 418.
 Holy Thistle, *i*. 282.
 Honey, *ii*. 97.
 Hops, *ii*. 76.
 Horehound, *ii*. 89.
 Horestrong, *ii*. 216.
 Horns, *i*. 368.
 Horsechestnut, *i*. 496.
 Horseradish, *ii*. 263.
 Horsetail, *i*. 415.
 Houndstongue, *i*. 391.
 Houseleek, *ii*. 359.
 Hurtfickle, *V. Cyanus*, *i*. 387.
 Hyacinth stone, *i*. 378.
 Hypocistis, *i*. 502.
 Hyssop, *i*. 503.

 I.

 Jack-by-the-hedge, *i*. 46.
 Jalap, *ii*. 2.
 Jamaica bark, *ii*. 209.
 pepper, *ii*. 226.
 James's wort, *St. V. Ragwort*,
 ii. 1.
 Japan-earth, *ii*. 420.
 Jerusalem cowslips, *ii*. 251.
 oak, *i*. 235.
 sage, *ii*. 251.
 Jesuits bark, *ii*. 194.
 Jews-pitch, *i*. 224.
 Ignatius's bean, *ii*. 153.
 Ilathera bark, *i*. 297.
 Indian-leaf, *ii*. 84.
 pink, *ii*. 377.
 John's wort, *St. i*. 501.
 Ipecacoanha, *ii*. 9.
 Irish slate, *i*. 495.
 Iron, *i*. 424.
 Isinglass, *ii*. 6.
 mineral, *ii*. 360.
 Jujubes,

OF ENGLISH NAMES.

Jujubes, ii. 19.
 July flowers, i. 296.
 Juniper, ii. 21.
 Ivy, i. 483.

K.

Kelp, ii. 24.
 Kermes, ii. 25.
 mineral, i. 103.
 Kernels of fruits, i. 444.
 Kernelwort, ii. 358.
 Keyser's pills, i. 161.
 Kino, ii. 27.
 Kneeholly, ii. 283.

L.

Labdanum, ii. 29.
 Lac Gum, ii. 35.
 Ladies bedstraw, i. 456.
 mantle, i. 43.
 smock, i. 279.
 Lakeweed, ii. 193.
 Larch tree, ii. 416.
 Lard, ii. 221.
 Laudanum, ii. 167.
 Lavender, ii. 44.
 French, ii. 389.
 Lavender Cotton, i. 6.
 Laurel, ii. 47.
 Spurge, ii. 431.
 Lazule-stone, ii. 50.
 Lead, ii. 232.
 Leaf, *Indian*, ii. 84.
 Lemnian Earth, i. 226.
 Lemons, ii. 67.
 Lemon-thyme, ii. 435.
 Lentisk wood, ii. 52.
 Leopards bane, i. 405.
 Lettuces, ii. 37.
 Lignaloos, ii. 59.
 Lily of the valley, ii. 65.
 May, ii. 65.
 Water, ii. 154.
 white, ii. 63.
 Lime, i. 254.
 Lime stone, i. 372.
 Lime tree, ii. 436.

Linden tree, ii. 436.
 Linseed, ii. 70.
 Liquidambar, ii. 72.
 Liquid-shell, ii. 321.
 Liquorice, i. 469.
 Litharge, ii. 233.
 Liverwort, i. 492.
 Ground, ii. 55.
 Iceland, ii. 57.
 noble, i. 493.

Logwood, ii. 61.
 Lopez root, ii. 260.
 Lovage, ii. 54.
 Lunar caustic, i. 135.
 pills, i. 136.
 Lungwort, ii. 251.
 Lye of tartar, ii. 297.
 Lyes, *Soap*, ii. 300.

M.

Mace, ii. 78.
 Oil of, ii. 149.
 Madder, ii. 282.
 Magnesia, ii. 78.
 Maidenhair, i. 29.
 Canada, i. 30.
 English, ii. 440.
 Malaca-bean, i. 79.
 Mallow, ii. 85.
 Manganese, ii. 81.
 Manna, ii. 86.
 of Briançon, ii. 86.
 Maple, i. 16.
 Marble, i. 372.
 Marcasite, ii. 254.
 Marigold, i. 253.
 Marjoram, ii. 82.
 wild, ii. 171.
 Marle, i. 372.
 Marshmallow, i. 58.
 Marshtrefoil or buckbean, ii. 440.
 Marvel of Peru, ii. 6.
 Marum, ii. 91.
 Masterwort, ii. 8.
 Mastich, ii. 93.
 Mastich-wood, ii. 52.
 Herb, ii. 92.

Mastich

I N D E X

- Maltich *Syrian Herb*, ii. 91.
 Maudlin, i. 192.
 May lily, ii. 65.
 Mayweed, i. 325.
 Meadow-saffron, i. 355.
 Meadowsweet, ii. 474.
 Mechoacan, ii. 96.
 Melilot, ii. 98.
 Mercury, i. 136.
 Dogs, ii. 107.
 English Herb, i. 228.
 French Herb, ii. 106.
 Mexico-feed, ii. 271.
 Mexico tea, i. 236.
 Mezereon, ii. 431.
 Microcosmic bezoar, i. 220.
 salt, ii. 477.
 Milfoil, ii. 108.
 Milk, ii. 31. 4.
 Milkwort, ii. 240.
 Millepedes, ii. 110.
 Millmountain, ii. 72.
 Miltwaste, i. 317.
 Mindererus's spirit, i. 26.
 Mineral anodyne liquor, ii. 468.
 Mineral waters, i. 123.
 Mint, ii. 101.
 Pepper, ii. 105.
 Water, ii. 104.
 Mistletoe, ii. 456.
 Mithridate-mustard, ii. 429.
 Mollipuff, *V. Lycoperdon*, ii.
 77.
 Monkhood, *V. Anthora*, i. 93.
 Monk's rhubarb, ii. 44.
 Moneywort, ii. 146.
 Mosaic gold, ii. 387.
 Mother-of-thyme, ii. 435.
 Motherwort, i. 282.
 Mousear, ii. 217.
 Moxa, ii. 116.
 Mugwort, i. 171.
 Mulberries, i. 443.
 Mullein, ii. 446.
 Muscovy-glass, ii. 360.
 Mushroom, *duffy, V. Lycoperdon*, ii. 77.
 Musk, ii. 113.
 Musk-cranesbill, i. 465.
 Musk-cyanus, i. 388.
 Muskfeed, i. 200.
 Mustard, ii. 369.
 Hedge, i. 418.
 Mithridate, ii. 429.
 Treacle, ii. 429.
 Myrobalans, ii. 117.
 Myrrh, ii. 119.
 Myrtle, ii. 122.
 Dutch, ii. 123.

N.

 Nard, *Celtic*, ii. 125.
 Indian, ii. 126.
 Natron, ii. 128.
 Navew, ii. 123.
 wild, ii. 124.
 Nep, ii. 130.
 Nephritic wood, ii. 131.
 Nettle, ii. 478.
 dead, ii. 40.
 Nightshade, ii. 372.
 deadly, ii. 372.
 Garden, ii. 372.
 Woody, ii. 375.
 Ninzin, i. 468.
 Nipplewort, ii. 41.
 Nitre, ii. 136.
 ammoniacal, ii. 143.
 calcareous, ii. 144.
 falsely so call-
 ed, ii. 313.
 cubical, ii. 143.
 fixt or alkalized, ii. 136.
 volatile, ii. 143.
 Nitrous acid, ii. 141.
 dulcified, ii. 145.
 Nitrous ether, ii. 145.
 Nutmeg, ii. 146.
 Nut, *Barbadoes*, ii. 271.
 Pistachio, ii. 149.
 purging, ii. 272.
 Vomic, ii. 150.

O.

 Oak, ii. 258.
 of Jerusalem, i. 235.
 Oak.

OF ENGLISH NAMES.

Oak, *Sea*, ii. 259.
 Oats, i. 445.
 Ochre, ii. 155.
 Oil animal, ii. 303.
 of bays, ii. 49.
 of mace, ii. 149.
 olive, ii. 159.
 British, ii. 213.
 Castor, ii. 273.
 Palm, ii. 177.
 Rock, ii. 211.
 Olibanum, ii. 159.
 Olives, ii. 158.
 Olive, *Spurge*, ii. 431.
 Onion, i. 313.
 Sea, ii. 351.
 Opium, ii. 161.
 Opobalsamum, ii. 169.
 Opopanax, ii. 171.
 Oppodeldoch, ii. 336.
 Orache, *stinking*, i. 182.
 Orange, *Seville*, i. 183.
 sweet, i. 186.
 Orchis, ii. 345.
 Origany, ii. 171.
 Orpiment, i. 170.
 Orpine, ii. 415.
 Orris, ii. 14.
 Osteocolla, ii. 172.
 Ox-eye daisy, i. 204.
 Oyster-shells, ii. 173.

P.

Paigil, ii. 185.
 Palmachristi, ii. 271.
 Palm oil, ii. 177.
 Panfies, ii. 453.
 Pareira brava, ii. 186.
 Parsley, ii. 214.
 Macedonian, ii. 215.
 Parsnep, ii. 189.
 water, ii. 371.
 Pasque flower, ii. 252.
 Patience, ii. 44.
 Paul's betony, ii. 447.
 Peach, ii. 192.
 Peagle, ii. 185.
 Pearl, ii. 88.

Pearl-asbes, ii. 298.
 Pearl-barley, i. 447.
 Pedro del porco, i. 221.
 Pellitory of Spain, ii. 253.
 of the wall, ii. 180.
 bastard, ii. 249.
 Pennyroyal, ii. 250.
 Peony, ii. 175.
 Pepper, ii. 223.
 Guinea, ii. 227, 494.
 Jamaica, ii. 226.
 long, ii. 225.
 Poor man's, ii. 53.
 Wall, ii. 7.
 Water, ii. 193.
 white, ii. 224.
 Peppermint, ii. 105.
 Pepperwort, ii. 53.
 Peruvian bark, ii. 194.
 red, ii. 205.
 Pestilentwort, ii. 210.
 Petrefactions, i. 372.
 Petroleum, ii. 211,
 Petty-whin, *V. Ononis*, ii. 161.
 Pilewort, i. 329.
 Pimento, ii. 226.
 Pimpernel, i. 80.
 Water, i. 203.
 Pine tree, ii. 417.
 Pine-thistle, i. 287.
 Pink, *Indian*, ii. 377.
 Piony, ii. 175.
 Pismire, i. 439.
 Pissabed, *V. Dandelion*, i. 396.
 Pistachio nut, ii. 149.
 Pitch, ii. 231.
 Burgundy, ii. 418.
 Jews, i. 224.
 tree, i. 1.
 Plantain, ii. 281.
 Plaster-of-Paris, ii. 360.
 Plums, ii. 245.
 Poley-mountain, ii. 239.
 Polypody, ii. 243.
 Pomegranate, i. 472.
 Poor-man's pepper, ii. 53.
 Poplar, ii. 244.
 Poppy, ii. 161, 179.
 wild, ii. 183.

Potash

I N D E X

Potash, ii. 297.
 Primrose, ii. 185.
 Prunelloes, ii. 246.
 Prunes, ii. 246.
 Prussian blue, i. 424.
 Puffball, ii. 77.
 Pumpkin, i. 380.
 Purging-flax, ii. 72.
 nuts, ii. 272.
 salt, ii. 312.
 waters, i. 124.
 Pyrites, ii. 254.

Q.

Quassiy, ii. 256.
 Queen of the meadows, ii. 474.
 Quickgrafs, i. 471.
 Quicklime, i. 254.
 Quicksilver, i. 136.
 Quince, i. 389.

R.

Ragwort, ii. 1.
 Raisins, ii. 478.
 Rape, ii. 124.
 Raspberries, i. 443.
 Rattlesnake root, ii. 240.
 Realgar, i. 170.
 Reddle, ii. 155.
 Regulus of antimony, i. 97.
 martial,
 i. 105.
 stellated,
 i. 105.
 Refin, ii. 418.
 Restharrow, ii. 161.
 Rhapontic, ii. 269.
 Rhodium wood, ii. 62.
 Rhubarb, ii. 265.
 Monks, ii. 44.
 Ribwort, ii. 232.
 Rice, i. 445.
 Rifigal, i. 170.
 Rochelle salt, ii. 413.
 Rocket, i. 416.
 Rock-oil, ii. 211.
 Rose, *Damask*, ii. 275.

Rose, *Dog*, ii. 277.
 red, ii. 277.
 Rosemary, ii. 280.
 Roseroot, ii. 415.
 Rosewood, ii. 62.
 Rosewort, ii. 415.
 Rosin, ii. 418.
 Ruddle, ii. 155.
 Rue, ii. 284.
 Rush, *sweet*, ii. 20.
 Russia ashes, ii. 297.

S.

Safflower, i. 288.
 Saffron, i. 374.
 bastard, *V.* Safflower,
 i. 288.
 Meadow, i. 355.
 Sagapenum, ii. 290.
 Sage, ii. 323.
 of Bethlehem, ii. 251.
 of Jerusalem, ii. 251.
 of virtue, ii. 324.
 Sago, ii. 178.
 St. James's wort, ii. 1.
 St. Ignatius's bean, ii. 153.
 St. John's wort, i. 501.
 Salep, ii. 346.
 Sal-ammoniac, ii. 310.
 Sal-gem, ii. 315.
 Sal-volatile, ii. 308.
 Salts in water, i. 118.
 alkaline fixt, ii. 292.
 mineral, ii. 128.
 vegetable, ii.
 292.
 caustic, ii. 300.
 alkaline volatile, ii. 301.
 caustic, ii. 306.
 ammoniacal, ii. 310.
 cathartic, ii. 312.
 common, ii. 315.
 diuretic, i. 25.
 microcosmic, ii. 477.
 muriatic calcareous, ii. 320.
 Rochelle, ii. 413.
 sea, ii. 316.
 sedative, i. 233.

Salts,

OF ENGLISH NAMES.

- Salts, Seignette's, ii. 413.
 Saltpetre, ii. 136.
 Saltwort, ii. 24.
 Sandarach of the Arabians, ii. 23.
 of the Greeks, i. 170.
 Sanicle, ii. 329.
 Yorkshire, ii. 222.
 Sapphire, i. 377.
 Saracens confound, ii. 455.
 Sarcocol, ii. 340.
 Sarfaparilla, ii. 341.
 Sassafras, ii. 343.
 Satyrion, ii. 345.
 Sauce-alone, i. 46.
 Savin, ii. 286.
 Savoury, ii. 344.
 Savoy, i. 236.
 Saunders woods, ii. 329.
 Saxifrage, *Burnet*, ii. 217.
 English, ii. 348.
 Meadow, ii. 348.
 white, ii. 347.
 Scammony, ii. 348.
 Sciatica-creffes, ii. 53.
 Scordium, ii. 355.
 Scorzonera, ii. 356.
 Scurvygrafs, i. 351.
 Scotch, *V. Solda-*
 nella i. 238.
 Sea-holly, i. 418.
 Sea-mofs, i. 366.
 Sea-oak, ii. 259.
 Sea-onion, ii. 351.
 Sea-water, i. 125.
 Sea-wrack, ii. 259.
 Sealed earths, i. 226.
 Sebestens, ii. 20.
 Sedative salt, i. 233.
 Sedge, ii. 17.
 Seggrum, *V. Jacobæa* ii. 1.
 Sel de Seignette, ii. 413.
 Selenite, ii. 360.
 Self heal, ii. 245.
 Sena, ii. 361.
 Seneca gum, i. 480.
 Senegaw rattlesnake root, ii. 240.
 Sengreen, ii. 359.
 Septfoil, ii. 439.
 Sermountain, ii. 365.
 Setterwort, i. 485.
 Shepherd's purse, i. 243.
 Silesian earth, i. 226.
 Silver, i. 134.
 Silverweed, i. 133.
 Simaruba bark, ii. 367.
 Skink, ii. 355.
 Slate, *Irisb*, i. 495.
 Slaters, *V. Millepedes*, ii. 110.
 Sloes, ii. 247.
 Smallage, i. 113.
 Snails, ii. 66.
 Snakeroot, ii. 364.
 Snakeweed, i. 222.
 Snakewood, ii. 152.
 Sneezewort, ii. 249.
 Soap, ii. 333.
 Soaps, *Volatile*, ii. 336.
 Soap-lyes, ii. 300.
 Soap-berries, ii. 339.
 Soap-wort, ii. 338.
 Soldanella, i. 238.
 Solomon's-seal, ii. 367.
 Soot, i. 450.
 Sorrel, i. 17.
 Wood, ii. 75.
 Soude, ii. 24.
 Soude blanche, ii. 128.
 Sour-dock, i. 17.
 Southernwood, i. 5.
 Sowbread, i. 172.
 Spanish flies, i. 272.
 Spar, i. 372.
 Spearmint, ii. 101.
 Spearwort, ii. 262.
 Speedwell, *Female*, i. 409.
 Male, ii. 448.
 Mountain, ii. 448.
 Spermaceti, ii. 376.
 Spignel, ii. 107.
 Spike, ii. 47.
 Spikenard, ii. 126.
 Spirits, *Vinous*, ii. 379.
 Volatile, ii. 308.
 Spleenwort, i. 317.
 Sponge, ii. 384.
 Spunk,

I N D E X

- Spunk, i. 39.
 Spurges, ii. 437.
 Spurge-flax, ii. 431.
 Spurge-laurel, ii. 431.
 Spurge-olive, ii. 431.
 Squill, ii. 351.
 Squinanth, ii. 20.
 Starch, i. 445.
 Stavefacre, ii. 388.
 Stechas, ii. 389.
 yellow i. 411.
 Steel, i. 425.
 Stonecrop, ii. 7.
 Stone-parsley, *bastard*, i. 73.
 Stones, *precious*, i. 377.
 Storax, ii. 391.
 Liquid, ii. 393.
 white, i. 197.
 Strawberries, i. 443.
 Sublimate corrosive, i. 156.
 Succory, i. 332.
 Suet, ii. 221.
 Sugar, ii. 287.
 of milk, ii. 34.
 of lead, ii. 235.
 Maple, i. 16.
 Sulphur, ii. 397.
 Sulphurwort, ii. 216.
 Sultan-flower, i. 388.
 Sumach, ii. 405.
 Swallowwort, ii. 449.
 Sweet-rush, ii. 20.
 Sweet-sultan, i. 388.
 Sweet willow, ii. 123.
 Sycamore, i. 16.
 Tartar regenerated, i. 25.
 soluble, ii. 412.
 vitriolated, ii. 472.
 Tea, ii. 427.
 German, ii. 448.
 Mexico, i. 236.
 Thistle, *Carline*, i. 286.
 holy, i. 282.
 pine, i. 287.
 Thorn-apple, ii. 390.
 black, ii. 247.
 Thyme, ii. 434.
 Lemon, ii. 435.
 Mother of, ii. 435.
 Tin, ii. 385.
 Tincal, i. 231.
 Tinglafs, i. 221.
 Toadflax, ii. 69.
 Tobacco, ii. 133.
 Tobacco-pipe clay, i. 342.
 Tormentil, ii. 439.
 Touchwood, i. 39.
 Tragacanth, i. 481.
 Treacle-mustard, ii. 429.
 Trefoil, *Marsh*, ii. 440.
 Trinity-herb, i. 493.
 Tunhoof, *V. Ground-ivy*, i. 484.
 Turbith mineral, i. 154.
 Turbith root, ii. 441.
 Turmerick, i. 386.
 Turnep, ii. 264.
 Turpentine, ii. 415.
 Tutenag, ii. 484.
 Tutty, ii. 442.

T.

- Tacamahaca, ii. 406.
 Talc, ii. 407.
 English, ii. 360.
 Tamarind, ii. 408.
 Tamepoison, ii. 449.
 Tanfy, ii. 409.
 wild, i. 133.
 Tar, ii. 229.
 Barbadoes, ii. 213.
 Tartar, ii. 410.
 emetic, i. 108.

V.

- Valerian, ii. 444.
 Vanelloes, ii. 446.
 Verdegris, i. 35.
 Vermilion, i. 149.
 Vervain, ii. 447.
 Vine, *wild*, i. 239.
 Vinegar, i. 19.
 Violets, ii. 452.
 Viper, ii. 455.
 Viper-grafs, ii. 356.
 Virgins-bower, *upright*, i. 435.
 Virgins-

OF ENGLISH NAMES.

- Virgins-milk, i. 209.
 Vitriol, *blue*, ii. 459.
 green, ii. 461.
 Roman, ii. 459.
 white, ii. 457, 485.
 Vitriolic acid, ii. 463.
 volatile, ii. 464.
 dulcified, ii. 467.
 Vitriolated salts, ii. 472.
 Vomic nut, ii. 150.

 Urine, ii. 476.

 W.

 Wakerobin, i. 173.
 Wallflower, i. 327.
 Wallpepper, ii. 7.
 Walnut, ii. 18.
 Waters, *common*, i. 116.
 Mineral, i. 123.
 alkaline, i. 123.
 chalybeate, i. 127.
 cupreous, i. 131.
 purgings, i. 124.
 sea, i. 125.
 sulphureous, i. 131.
 Water-creffes, ii. 126.
 Water-germander, ii. 355.
 Water-flag, ii. 16.
 Water-hemp, i. 419.
 Water-lily, ii. 154.
 Water-parfnep, ii. 371.
 Water-pepper, ii. 193.
 Wax, i. 314.
 Wheat, i. 445.
 Whey, ii. 33.

 Whin, *Petty*, *V. Ononis*, ii. 161.
 Whortleberry, *Bears*, ii. 479.
 Widow-wail, ii. 431.
 Willow, ii. 322.
 sweet, ii. 123.
 Wine, ii. 450.
 Winter-cherries, i. 44.
 Winter's bark, ii. 480.
 Wolfsbane, i. 28.
 blue, i. 28.
 Woodlice, ii. 110.
 Wood-forrel, ii. 75.
 Wormbark, i. 462.
 Wormfeed, ii. 331.
 white, *V. Coralline*,
 i. 366.
 Wormwood, i. 8.
 Mountain, i. 12.
 of Valais,
 i. 13.
 Roman, i. 12.
 Sea, i. 11.
 Wort, i. 448.
 Woundwort, ii. 190.
 Wrack, *Sea*, ii. 259.

 Y.

 Yarrow, ii. 108.

 Z.

 Zarnich, i. 170.
 Zedoary, ii. 482.
 Zerumbeth, ii. 482.
 Zinc, ii. 484.

THE END.







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