

chronic ophthalmia, when accompanied with morbidly increased sensibility.

Opium may be exhibited,

1. In substance, made up in the form of a pill, lozenge, or electuary. Its most efficient form.
2. Dissolved in diluted alcohol, or white wine.
3. Dissolved in water, or watery fluids. Very perishable.
4. Dried and reduced to powder.

It is often given in combination with aromatics, astringents, emetics, bitters, camphor, soap, distilled waters, mucilage, syrups, acids, carbonate of ammonia, ether, acetate of lead, tartrate of antimony and potass, and unctuous substances. Some of these are certainly unchemical mixtures, for I find by experiment that the solutions of opium are copiously precipitated by astringents, the alkaline carbonates, and all the metallic salts.

PASTINACA OPOPONAX. *Lond.*

Willd. g. 558, sp. 3. Pentandria Digynia.—Nat. ord. *Umbellatæ.*

Opoponax.

Off.—A gum-resin.

OPOPONACIS GUMMI RESINA. *Lond.*

This plant is perennial, and grows wild in the south of Europe; but the gum-resin, which is said to be obtained by wounding the stalk or root, is brought from the Levant and East Indies, sometimes in round drops or tears, but more commonly in irregular lumps, of a reddish-yellow colour on the outside, with specks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar strong smell, and a bitter, acrid, somewhat nauseous taste.

Neumann got from 480 parts, 166 alcoholic, and afterwards 180 watery extract; and inversely, 226 watery, and 60 alcoholic. Both the water and alcohol distilled from it were impregnated with its flavour. It forms a milky solution with water, and yields a little essential oil on distillation. It is supposed to be an emmenagogue, but is rarely used.

PHASIANUS GALLUS. *Lond.*

Cl. Aves.—Ord. *Gallina.*

The dung-hill fowl.

Off.—The egg.

OVUM. *Lond.*

FROM what country this useful bird originally came, is not ascertained. It is now domesticated almost every where, and furnishes one of the most wholesome and delicate articles of food.

The egg only is officinal. The shell consists principally of carbonate of lime, with a small quantity of phosphate of lime and animal matter. When burnt, the animal matter and carbonic acid are destroyed, and we obtain a lime, mixed with a little phosphate of lime.

The contents of the egg consist of two substances, the white and the yolk. The white is albumen combined with a little soda and sulphur. The yolk is also albuminous, but contains moreover a bland oil, and some colouring matter. The yolk is sometimes used in pharmacy for suspending oily and resinous substances in water. The white is used for clarification.

PHYSETER MACROCEPHALUS. *Ed. Lond. Dub.*

Cl. Mammalia.—*Ord. Cetacea.*

Spermaceti-whale.

Off.—Spermaceti, a substance found in the skull.

SPERMACETI; materia in cranio reperta. *Ed.*

CETACEUM; concretum sui generis. *Lond.*

SPERMA CETI; sebum. *Dub.*

THE spermaceti whale is characterized by his enormous head, great part of which is occupied by a triangular cavity of bone, covered only by the common integuments. In the living animal, this cavity is filled with a white, fluid, oily substance, amounting sometimes to many tons in weight. On the death of the whale, it congeals into a white unctuous mass, from which a considerable quantity of very pure whale oil is obtained by expression. The residuum, afterwards freed from impurities, by washing with water, melting, straining, expression through linen bags, and, lastly, washing in a weak ley of potass, is the peculiar substance well known by the name of *Spermaceti*, for which, probably on account of its conveying an incorrect idea of the nature of the substance, the London college has substituted *Cetaceum*. It is also contained in solution in the common whale and other fish-oils; for it is often found deposited, by crystallization, in the reservoirs containing them.

The chemical properties of spermaceti have been already noticed. As a medicine, for internal use, it agrees with the fixed vegetable oils; and in the composition of ointments,

&c. its place may be very well supplied by a mixture of oil and wax.

PIMPINELLA ANISUM. *Ed. Lond. Dub.*

Willd. g. 562, sp. 8. Pentandria Digynia.—Nat. ord.

Umbellatae.

Anise.

Off.—The seeds.

SEMINA PIMPINELLÆ ANISI. *Ed.*

SEMINA ANISI. *Dub. Lond.*

ANISE is an annual umbelliferous plant, growing wild in Crete, Syria, and other places of the East. It is cultivated in some parts of France, Germany, and Spain, and may be raised also in England; the seeds brought from Spain, which are smaller than the others, are preferred.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness. Water extracts very little of their flavour; rectified spirit the whole.

PINUS.

Willd. g. 1711. Smith, g. 408. Monœcia Adelfhia.—Nat. ord. *Coniferae.*

Sp. 1. Smith, Willd. PINUS SYLVESTRIS. Ed. Lond. Dub.

Scotch fir.

Off.—Common Turpentine. Oil of Turpentine. Rosin. Tar. Black pitch.

a) TEREBINTHINA VULGARIS, resina liquida. *Lond.*

TEREBINTHINA VULGARIS, resina. *Dub.*

b) TEREBINTHINÆ OLEUM; Oleum e Terebinthina distillatum. *Lond.*

c) RESINA FLAVA; Residuum postquam oleum terebinthinæ distillatum est. *Lond.*

RESINA ALBA. *Dub.*

RESINA PINI: Resina ex variis pinis oleo volatili privata. *Ed.*

d) PIX LIQUIDA, resina empyreumatica pini sylvestris. *Ed.*

PIX LIQUIDA. *Dub.*

PIX LIQUIDA; resina præparata liquida. *Lond.*

e) RESINA NIGRA. *Lond.* Resina præparata solida.

Sp. 7. Willd. PINUS LARIX. Ed. Lond. Dub.

The Larch.

Off.—Venice Turpentine; Oil of Turpentine.

a) RESINA LIQUIDA PINI LARICIS; Vulgo Terebinthina Veneta. *Ed.*

TEREBINTHINA VENETA; resina. *Dub.*

b) OLEUM VOLATILE PINI LARICIS; vulgo Oleum Terebinthinæ. *Ed.*

Sp. 27. *Willd.* PINUS BALSAMEA. *Ed. Lond. Dub.*

The Hemlock fir,

Off.—Balsam of Canada; Canadian Turpentine.

RESINA LIQUIDA PINI BALSAMEÆ; vulgo Balsamum Canadense. *Ed.*

TEREBINTHINA CANADENSIS; resina liquida. *Lond.*

BALSAMUM CANADENSE. *Dub.*

Sp. 32. *Willd.* PINUS ABIES. *Ed. Lond. Dub.*

The Spruce-fir.

Off.—Common Frankincense. Burgundy Pitch.

a) ABIETIS RESINA; resina concreta. *Lond.*

b) RESINA SPONTE CONCRETA PINI ABIETIS, vulgo Pix Burgundica. *Ed.*

PIX ARIDA; Resina præparata. *Lond.*

PIX BURGUNDICA. *Dub.*

THESE different species of fir are all natives of sandy situations. The first only grows wild in this country. They all abound in every part with resinous juice, which possesses the same general qualities, but presents some varieties, according to the nature of the species and mode of preparation.

We may arrange the products,

1. Into those which exude spontaneously;
2. Into those procured by wounding the tree;
3. Into those procured by decoction; and,
4. Into those which are procured by the action of fire.

By exudation.

The pinus larix exudes a species of manna, called Briançon Manna, but it is not used; as, besides the saccharine matter, it evidently contains turpentine.

From the pinus abies, and also from the pinus sylvestris, in warm seasons and climates, a resinous juice exudes spontaneously, which hardens into tears by exposure to the air. It is the common frankincense, or *Thus* of the former editions of

the London Pharmacopœia, but no longer officinal. It is a solid brittle resin, brought to us in tears, or masses, of a brownish or yellowish colour on the outside; internally whitish, or variegated with whitish specks, of a bitterish, acrid, not agreeable taste, with little smell.

Real burgundy pitch is collected, according to Tingry, from the *Pinus picea*, or spruce fir-tree. The resinous juice which exudes from this species is less fluid and less transparent than the proper turpentine. It is collected by the peasants, strained through cloths, and put into barrels. If its consistence be too thick, it is mixed over the fire with a little turpentine and oil of turpentine.

By incision.

To obtain the products of the second kind, a series of wounds is made through the bark into the wood, beginning at the bottom, and rising gradually upwards, until a stripe of the bark, about nine feet high, be removed, which is commonly effected in about four years. The same operation is then repeated on the opposite side. The operation is then recommenced close to the edge of the former wound, which by this time is nearly closed. A tree worked in this manner will survive, and furnish turpentine for near a century. The juice, or turpentine, which flows from these wounds, during summer, is collected in a small cavity formed in the earth, at the bottom of the incisions, from which it is occasionally removed into proper reservoirs previous to its purification.

As the trees exude very little juice during cold weather, no new incisions are made in winter; but the old ones get covered with a soft resinous crust (called *barras*, when it is impure, and mixed with bits of bark, dust, and sand; *gallipot*, when collected with more care; or *white incense*, when it is allowed to remain so long exposed that it becomes resinified), which is scraped off, and also collected for subsequent purification. All these products are purified by liquefaction and filtration. They consist almost entirely of essential oil and a resin, and differ only in the proportions, the turpentine containing the largest proportion of oil, and the gallipot of resin. Although gallipot contains essential oil, the quantity is so small, that it is never subjected to distillation, but is purified by melting it with a very gentle fire, and filtrating it. By this process it still contains essential oil, and is often sold by the name of Burgundy pitch. If boiling water be added to it after it is strained, but while it is still fluid, and they be agitated together till the mass cools, we have a yellow resin, which, from still containing some essential oil, is preferred to that prepared,

by a similar process, from the residuum of the distillation of turpentine. A simple mixture of gallipot and barras, made without heat, is often sold under the name of Burgundy pitch; but the mass resulting from this combination soon becomes friable. It has neither the unctuousity, visciduity, tenacity, nor smell which distinguish the real kind.

Turpentine.

Turpentine, or fluid resinous juices obtained by incision, have different appellations, chiefly according to the country from which they are procured.

Balsam of Canada, from the *Pinus balsamea* and *Pinus Canadensis*.

RESINA LIQUIDA PINI BALSAMEÆ. Ed.

TEREBINTHINA CANADENSIS. Lond.

BALSAMUM CANADENSE. Dub.

Cyprian turpentine, from the *Pistacia terebinthus*.

TEREBINTHINA CHIA. Lond.

Strasburgh turpentine, from the *Pinus picea*.

Venice turpentine, from the *Pinus larix*.

RESINA LIQUIDA PINI LARICIS. Ed.

TEREBINTHINA VENETA. Dub.

Common turpentine, from the *Pinus sylvestris*.

TEREBINTHINA VULGARIS. Lond. Dub.

Hungarian balsam, from the *Pinus sylvestris*, var. *Mughos*.

Carpatian balsam, from the *Pinus cembra*.

None of these are properly balsams; which term is now confined by chemists to those resinous substances which contain benzoic acid. The Edinburgh college have denominated them liquid resins, which is rather a description than a name. Perhaps the London college have done better in retaining Turpentine as a proper generic name for these resinous juices.

All these species of turpentine possess the same general properties. They are more or less fluid, with different degrees of transparency: of a whitish or yellowish colour; a penetrating smell, and a warm, pungent, bitterish taste. They are entirely soluble in alcohol, combine with fixed oil, and impart their flavour to water, but are not soluble in it. They are decomposed by a moderate heat, being separated into an essential oil and a resin, and are exceedingly inflammable, burning with a large white flame, and much smoke.

Each species has some peculiarities. The Canadian is reckoned the best, and next to it the Chian. They are more

transparent, and have a more agreeable flavour than the other kinds. The common turpentine, as being the most offensive, is rarely given internally; its principal use is in plasters and ointments among farriers, and for the distillation of the essential oil.

Medical use.—Taken internally, they are active stimulants, open the bowels, and increase the secretion of urine, to which they give the smell of violets, even though applied only externally. In all cases accompanied with inflammation, they ought to be abstained from, as this symptom is increased, and not unfrequently occasioned by them. They are principally recommended in gleans, fluor albus, and the like. Their dose is from a scruple to a drachm and a half. They are most commodiously taken in the form of a bolus, or blended with watery liquors, by the mediation of the yolk of an egg, or mucilage. They also may be given in the form of electuary, mixed with twice their weight of honey, and in the dose of a drachm of the compound twice or thrice a-day; or of clyster, half an ounce being well triturated with the yolk of an egg, and mixed with half a pound of gruel, or decoction of chamomile.

By distillation turpentine is analysed into two products, a solid resin and a volatile oil.

Oil of Turpentine is officinal in the Edinburgh and London Pharmacopœias; by the Dublin college directions are given for its preparation. At Queensferry, in this neighbourhood, there is a considerable turpentine work: the turpentine used comes from America, and therefore it is not a product of any of the officinal species of pine.

Oil of turpentine is lighter than water, transparent, limpid, and volatile. It has a hot pungent taste, and a penetrating smell; is highly inflammable, and possesses all the other properties of essential oils.

It is remarkably difficult of solution in alcohol, although turpentine itself dissolves easily. One part of the volatile oil is indeed apparently taken up by seven of alcohol; but on standing, the greatest part of the oil falls to the bottom, a much larger quantity of alcohol being necessary to retain it in solution.

Med. use.—As a medicine, it is highly stimulating and penetrating. Internally it acts as a diuretic or sudorific in very small doses. It has also been given in large doses, mixed with honey, principally in those modifications of chronic rheumatism which are styled *sciatica* and *lumbago*. But it has not been often successful, and sometimes has had the effect of inducing bloody urine.

Lately, however, its use in very large doses has been renewed, and with almost invariable success, in one of the most obstinate complaints to which the human body is subject, the tape worm. For this valuable discovery we are indebted to Dr Fenwick of Durham; although its use both in worms and epilepsy seems to have been previously known to Dr Latham, P. L. C. P.; and cases of its efficacy have been published by Drs Bateman and Laird. It has been given even to the extent of four ounces in one dose, without any perceptible bad effects, and scarcely more inconvenience than would follow from an equal quantity of gin. In large doses it is not apt to produce strangury, but only an approach to intoxication, and it generally acts as a speedy purgative, and discharges the worm, in all cases, *dead*.

Dr Percival of Dublin has also lately given it in epilepsy, and with some success. ζ ii. ζ iv. or ζ i. were mixed by means of syrup, with \mathfrak{ss} j. of mint water; and of this emulsion, one or two table spoonfuls were given every four hours. In this form, and given to the extent of several drachms in the course of the day, it produced no distressing symptoms of the urinary organs, stomach, or bowels. It generally procured immediate and decided relief, but it was not always lasting. Dr Latham suggests, that a large dose should at first be given, and then small doses, so as to keep up the affection of head peculiar to its use.

Externally it often produces excellent effects as a discutient in indolent tumours; as a stimulus in paralysis of the extremities, and in bruises; as an antispasmodic; and as a styptic, when applied on compresses to the bleeding mouths of the vessels, as hot as the patient can bear it.

Resins.

The residuum of the distillation gets different names, according to some peculiarities in its treatment. When the distillation is performed without addition, and continued until the whole essential oil be driven off, and there appear some traces of empyreuma, the residuum is Fiddlers rosin, or Colophony; but if, while the mass is still fluid, a quantity of water be added, and thoroughly blended with the resin by long and constant agitation, it is then called Yellow rosin.

The under part of the cake of the residuum of the distillation resembles fiddlers rosin, the action of the fire having entirely expelled the water and volatile oil, and rendered it slightly empyreumatic and transparent, while the upper part, from retaining some water, is opaque and yellow.

By decoction.

A fluid extract, prepared by decoction from the twigs of the *pinus sylvestris*, is the well-known essence of spruce, which, fermented with molasses and water, forms the fashionable and wholesome beverage of spruce beer.

By fire.

The last kind of products from the different species of fir is obtained by the action of fire. With this view, a conical cavity is dug out in the earth, communicating at the bottom with a reservoir. Billets or thin laths of wood are then placed, so as not only to fill the cavity, but to form a conical pile over it, which is covered with turf, and kindled at the top. The admission of air is so regulated, that it burns from above downwards, with a slow and smothered combustion. The wood itself is reduced to charcoal, and the smoke and vapours formed are obliged to descend into the excavation in the ground, where they are condensed, and pass along with the matters liquefied into the receiver. This mixture is denominated Tar, *PIX LIQUIDA*. *Ed. Lond. Dub.* By long boiling, tar is deprived of its volatile ingredients, and converted into Pitch, *RESINA NIGRA*. *Lond.*

Tar is a mixture of resin, empyreumatic oil, charcoal, and acetic acid. Its colour is derived from the charcoal; and the other properties in which it differs from a common resin depend on the presence of acetic acid and empyreumatic oil.—The acid itself is not only soluble in water, but also renders the empyreumatic oil more soluble.

Medical use.—Tar-water is a heating diuretic and sudorific remedy; but by no means so powerful, or so generally admissible, as it was represented by Bishop Berkeley. Tar is applied externally in tinea capitis and some other cutaneous diseases.

Dr Bateman has seen good effects in ichthyosis from pitch given internally. It occasioned the rough cuticle to crack and fall off, without the aid of external means, and left a sound skin underneath. This medicine, made into pills with flour, or any farinaceous powder, may be taken to a great extent, $\text{ʒ} \text{ iij}$ or $\text{ʒ} \text{ ss}$ daily, not only without injury, but with advantage to the general health; and affords one of the most effectual means of controlling the languid circulation, and the inert and arid condition of the skin.

PIPER.

Willd. g. 74. *Diandria Trigynia*.—Nat. ord. *Piperitæ*.

Sp. 1. PIPER NIGRUM. *Lond. Ed. Dub.*

Black pepper.

Off.—The berry.

FRUCTUS PIPERIS NIGRI. *Ed.*

PIPER NIGRUM. *Dub.*

PIPERIS NIGRI BACCÆ. *Lond.*

THE black pepper is the fruit of a shrubby creeping plant, which grows wild in the East Indies, and is cultivated, with much advantage to the fruit, in Java and Malabar. The berries are gathered before they are ripe, and are dried in the sun. They become black and corrugated on the surface; their taste is hot and fiery, and their smell slightly aromatic.

Neumann got from 7680 parts 4800 watery, and afterwards 180 alcoholic extract; and inversely, 1080 alcoholic, and 3640 watery. The principle on which the pungency depends, was soluble both in water and in alcohol, and was not volatile, for 7680 grains furnished about 150 of a very bland volatile oil. From this analysis Dr Thomson's differs remarkably. By macerating pepper in alcohol, and distilling the tincture, he got a green volatile oil, having the whole flavour and pungency of the pepper. Besides this essential principle, he found to contain an extractive and starch.

White pepper is the fruit of the same plant, gathered after it is fully ripe, and freed of its external coat by maceration in water. It is smooth on the surface, and less pungent than the black pepper.

It is singular, that the Sumatrans, who eat such vast quantities of Cayenne pepper, never mix black pepper with their food. They esteem the latter heating, and ascribe a contrary effect to the former; and Mr Marsden, from experience, agrees with them.

Sp. 12. PIPER LONGUM. *Lond. Ed. Dub.*

Long pepper.

Off.—The fruit.

PIPERIS LONGI FRUCTUS. *Ed. Lond.*

PIPER LONGUM. *Dub.*

THE plant which bears the long pepper is also a sarmentaceous climber. The berries are small round grains, disposed spirally in a long cylindrical head. They are gathered before they are ripe, and dried, and are the hottest of all the peppers.

The warmth and pungency of these spices are said to reside entirely in a resin; their aromatic odour in an essential oil. In medicine, they are sometimes employed as acrid stimulants; but their chief use is in cookery, as condiments.

PISTACIA.

Willd. g. 1782, Dioecia Pentandria.—Nat. ord. *Amentacea*.
Sp. 4. PISTACIA TEREBINTHUS. Lond.

Off.—Chian turpentine.

TEREBINTHINA CHIA. *Lond.*

THE shrub which yields this turpentine grows in India, the north of Africa, and south of Europe; but the turpentine is principally collected in the islands of Chios and Cyprus, by wounding the tree. It does not differ from the other turpentines in any thing material except in its price.—See PINUS.

Sp. 6. PISTACEA LENTISCUS. Ed. Lond.

Off.—The resin.

RESINA PISTACIÆ LENTISCI. *Ed.*

MASTICHE. *Lond.*

THIS species is a native of the same countries with the former. The resin is obtained principally in the island of Chios, by making transverse incisions into the tree, and allowing the juice to harden. It is brought to us in small, yellowish, semi-transparent, brittle grains; of a smooth and shining fracture, softening when chewed, fusible, burning with a pleasant smell, insoluble in water, and partially soluble in alcohol and fixed oils. Neumann found, that during digestion with alcohol, a portion separates, insoluble in alcohol, though in appearance resinous, amounting to one-tenth of the mastiche, and analogous to caoutchouc. La Grange and Vogel say it contains free acetic acid.

Its flavour is communicated to water. It is therefore a resin, combined with a little essential oil. It is principally used by the Turkish women as a masticatory, to preserve the teeth, and to give a pleasant smell to the breath.

PLUMBUM. *Ed. Lond.*

Lead.

THE general properties of lead have been already enumerated.

Lead is found,

I. Oxidized:

1. Lead ochre of different colours.

- II. Oxidized and combined with acids.
2. Carbonated lead. White lead spar.
 3. Murio-carbonated.
 4. Phosphated lead. Green lead ore.
 5. Arseniated lead.
 6. Arsenio-phosphated lead.
 7. Molybdated lead.
 8. Sulphated lead.
- III. Sulphuretted :
9. Sulphuretted lead. Galena.
 10. Sulphuretted oxide of lead.

Lead is obtained by various processes from these ores. In its metallic form it is scarcely an officinal article, as its different oxides are purchased from the manufacturers, and never prepared by the apothecary.

States of oxidation of lead.

	Thomson.		Davy.	
	Lead.	Oxygen.	Lead.	Oxygen.
1. Yellow,	91.5	8.5		
2. Yellow, Massicot,	90.5	9.5	398	30
3. Red, Red lead,	88.	12.	398	45
4. Brown,	80.	20.	398	60

Medical use.—Its effects on the body are emaciation, violent colics, paralysis, tremors, and contractions of the limbs; and as they generally come on gradually, the cause is sometimes overlooked till it be too late. Poisoning from lead is never intentional, but only accidental, either from liquors becoming impregnated with lead, by being improperly kept in vessels lined or glazed with lead, or by having lead criminally added to them, to correct their acidity; or among manufacturers who work much with lead, as painters and plumbers, and who are not sufficiently attentive to avoid swallowing it.

The presence of lead in any suspected liquor is detected by the hydro-sulphuret of potass, which forms with it a brown precipitate, not soluble in diluted muriatic acid; and still more certainly, by evaporating a portion of the liquor to dryness, and exposing the extract to a heat sufficient to reduce the lead.

OXIDUM PLUMBI SEMIVITREUM. *Ed. Lond.*

LITHARGYRUM. *Dub.*

Semi-vitrified oxide of lead. Litharge.

If oxidized lead be melted with a quick fire, it gets the appearance of oil, and on cooling concretes into litharge. Great-

est part of the litharge met with in the shops, is produced in the purification of silver from lead, and the refining of gold and silver by means of this metal. According to the degree of fire and other circumstances, it has a pale or deep colour; the first has been commonly called Litharge of silver, the other Litharge of gold. Litharge is a sub-carbonate of lead. It contains 96 yellow oxide, and 4 carbonic acid. It also frequently contains a little oxide of antimony.

The oxides of lead dissolve in heat by expressed oils; these mixtures are the bases of several officinal plasters and ointments.

Lead and its oxides, when undissolved, have no considerable effects as medicines. Dissolved in oils, they are supposed to be (when externally applied) anti-inflammatory and desiccative. Combined with vegetable acids, they are remarkably so; and taken internally, prove powerful, though dangerous *styptics*.

OXIDUM PLUMBI ALBUM, v. s. Cerussa. Carbonas plumbi. *Ed.*

PLUMBI SUB-CARBONAS, s. s. Sub-carbonas plumbi. *Lond.*

CERUSSA, s. s. Subacetas plumbi. *Dub.*

White oxide of lead. Ceruse. White lead. Subacetate of lead. Carbonate of lead. Subcarbonate of lead.

THIS substance is prepared by exposing lead to the vapour of vinegar. To accelerate the oxidizement, the lead is cast in thin plates, which are rolled up spirally. A number of these are placed perpendicularly on a support, over a flat vessel containing vinegar, which is converted into vapour by a gentle heat, such as that of dung. The plates become slowly covered with a white crust, which is in due time removed; and the remains of the plates are again exposed to the vapour of vinegar, until they be entirely corroded. Van Mons says, that if lead ashes be dissolved in nitric acid, and precipitated by chalk in impalpable powder, the precipitate, when washed and dried, will be ceruse in its purest state.

White oxide of lead has a scaly or foliated texture, is brittle, friable, heavy, of a snowy whiteness, and a sweet taste. It is often adulterated with earthy substances, which may be discovered by mixing it with oil, and reducing the lead in a crucible. Although very friable, the coarser particles cannot be separated by means of a sieve, because its interstices soon get filled up. It can only be obtained in the state of a fine powder, by rubbing a loaf of ceruse on a sieve placed over a sheet of paper. It consists of 84 yellow oxide of lead, and 14 carbonic acid.

In pharmacy the white oxide of lead is used in the composition of ointments and plasters.

OXIDUM PLUMBI RUBRUM, v. s. Minium. *Ed.*
Red oxide of lead. Red lead.

THE preparation of red lead is so troublesome and tedious, that the preparation of it forms a distinct branch of business. The manufacturers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpose, and so contrived, that the flame acts upon a large surface of the metal, which is continually changed by means of iron rakes drawn backwards and forwards, till the fluidity of the lead is destroyed; after which, the oxide is only now and then turned.

The red oxide of lead is obtained in the form of a very heavy powder, consisting of minute shining scales, of a bright scarlet, verging towards yellow, especially if triturated. It is sometimes adulterated with red oxide of iron, red bole, or powdered brick. These frauds are detected by the inferiority of colour, by mixing it with oil, and subjecting it to the test of reduction; and by its forming a black precipitate with tincture of galls, when dissolved in nitrous acid.

POLYGALA SENEGA. *Ed. Lond. Dub.*
Willd. g. 1313, sp. 67. Diadelphia Octandria.—*Nat. ord.*
Lomentaceæ.

Seneka, or Rattlesnake Root.

Off.—The root.

RADIX POLYGALÆ SENEGÆ. *Ed.*

SENEGÆ RADIX. *Lond.*

SENEKÆ RADIX. *Dub.*

SENEKA is a perennial plant which grows wild in North America, particularly Virginia and Pennsylvania. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is supposed to resemble the tail of the animal whose name it bears; a kind of membranous margin runs on each side the whole length of the root.

The bark is the active part of the root. Its taste is at first acrid, afterwards very hot and pungent. It has no smell.

Its acrimony resides in a resin; for it is entirely extracted by alcohol; is precipitated by water; does not rise in distillation; and is not destroyed by keeping.

Medical use.—It is an active stimulus, and increases the

force of the circulation, especially of the pulmonary vessels. It has, therefore, been found useful in typhoid inflammations of the lungs; but it is apt to disorder the stomach, and to induce diarrhœa. Dr Brandreth of Liverpool has derived great benefit in some cases of lethargy from an extract of seneka combined with carbonate of ammonia.

Some have likewise employed this root in hydropic cases, and not without success. There are examples of its occasioning a plentiful evacuation by stool, urine, and perspiration; and by this means removing the disease, after the common diuretics and hydragogues had failed.

The Senegaro Indians are said to prevent the fatal effects of the bite of the rattlesnake, by giving it internally, and by applying it externally to the wound.

The usual dose of the powder is 30 grains or more.

Externally, it has been advantageously used as a stimulating gargle in croup.

POLYGONUM BISTORTA. *Ed. Lond. Dub.*

Willd. g. 785, sp. 3. Smith, g. 196, sp. 6. Octandria Trigynia.—*Nat. ord. Oleraceæ.*

Great bistort, or snakeweed.

Off.—The root.

RADIX POLYGONI BISTORTÆ. *Ed.*

BISTORTÆ RADIX. *Lond. Dub.*

BISTORT is perennial, and grows wild in moist meadows in several parts of Britain. It flowers in June. The root is about the thickness of the little finger, of a blackish-brown colour on the outside, and reddish within; it is writhed or bent vermicularly (whence the name of the plant), with a joint at each bending, and full of bushy fibres; the root of the species here mentioned has, for the most part, only one or two bendings, others have three or more. All the parts of bistort have a rough austere taste, particularly the root, which is one of the strongest of the vegetable astringents.

Medical use.—It is employed in hæmorrhagies and other fluxes, both internally and externally, where astringency is the only indication. To the sudorific, antipestilential, and antiseptic virtues attributed to it, it has no other claim than what it derives from its astringency.

POLYPODIUM FILIX MAS. *Ed. Dub.*

ASPIDIUM FILIX MAS. *Lond. Willd. g. 1962, sp. 94. Smith, g. 429, sp. 4.*

Male fern. Male shield fern.

Off.—The root.

RADIX POLYPODII FILICIS MARIS. *Ed.*

FILICIS MARIS RADIX. *Dub.*

FILICIS RADIX. *Lond.*

THIS fern is perennial, flowers in June and July, and is found in great abundance in our woods. The root consists of many egg-shaped knots, closely compressed together, forming a crooked mass of a blackish colour, and covered with brown scales.

When chewed, its taste is somewhat mucilaginous and sweet, and afterwards slightly astringent and bitter. Its smell is also weak.

Medical use.—This root was used as an anthelmintic in the days of Dioscorides. It gradually became neglected; but its use was again revived at different times by Madame Nuffer, Herrenschand, and others, who frequently succeeded in killing and expelling the tænia, both lata and cucurbitina, by the exhibition of secret remedies, of which the fern-powder was, or rather was supposed to be, the principal ingredient; for there is much reason to believe, that the active purgatives with which it was always combined, were really the remedies which effected the cure.

The same, or nearly a similar secret, has been bought by different potentates, and published for the benefit of those suffering under this obstinate disease.

The internal solid part of the root only is to be powdered, and the powder should have a reddish colour; and as the dose and exhibition of the remedy must be regulated according to the age, sex, and constitution of the patient, it should always be given under the direction of an experienced practitioner.

PRUNUS DOMESTICA. *Ed. Lond. Dub.*

Willd. g. 982, sp. 29. Icosandria Monogynia.—Nat. ord. Pomaceæ.

Plum-tree.

Off.—The dried fruit, called French prunes.

FRUCTUS PRUNI DOMESTICÆ. *Ed.*

PRUNA; Drupa siccata Pruni Domesticæ. *Dub.*

FRUCTUS PRUNI GALLICÆ. *Lond.*

THIS tree is found wild in hedges in England, but has probably originated from the stones of the cultivated kinds being dropt there by accident. It flowers in April. Great quanti-

ties of the dried fruit are imported from the continent, of which the French prunes are reckoned the best.

Medical use.—They contain much mucilaginous and saccharine matter, and their medical effects are, to abate heat and gently loosen the belly, which they perform by lubricating the passages, and softening the excrement. They are of considerable service in costiveness, accompanied with heat or irritation, which the more stimulating cathartics would tend to aggravate: where prunes are not of themselves sufficient, their action may be promoted by joining with them a little rhu-barb, or the like, to which may be added some carminative ingredient, to prevent their occasioning flatulency.

PTEROCARPUS.

Willd. g. 1318. Diadelphia Decandria.—Nat. ord. *Papilionaceæ.*

Sp. 6. PTEROCARPUS SANTALINUS. Ed. Lond. Dub.

Off.—Red Saunders-wood.

LIGNUM PTEROCARPI SANTALINI. *Ed.*

PTEROCARPI LIGNUM. *Lond.*

SANTALI RUBRI LIGNUM. *Dub.*

THIS tree grows in the East Indies, and acquires a very large size. The wood is brought in large billets, of a compact texture, a dull red, almost blackish colour on the outside, and a deep brighter red within. It has no manifest smell, and little or no taste. It communicates a deep red to alcohol, but gives no tinge to aqueous liquors: a small quantity of the resin, extracted by means of spirit, tinges a large quantity of fresh spirit, of an elegant blood red. Neumann got from 960 grains, 210 alcoholic, and afterwards 20 of watery extract; and inversely, 126 tough watery extract, and 120 alcoholic; according to the same chemist, it gives out its colouring matter to volatile oil of lavender, but not to volatile oil of turpentine. Is this difference to be ascribed to the camphor contained in the former?

Sp. 1. PTEROCARPUS DRACO. Ed.

Off.—The resin called Dragon's blood.

RESINA PTEROCARPI DRACONIS.

THIS is also a very large tree. It is a native of South America, and the resin which exudes from incisions made in its bark used to be frequently sent from Carthage to Spain. It is, however, doubtful if the dragon's blood of the shops be

produced from this tree, as many others furnish a red juice concreting into a similar resin. For example, the *Dracœna draco*, *Dalbergia monetaria*, and especially the *Calamus draco*, which probably furnishes all that is brought from the East Indies.

The best dragon's blood is not in cakes, but is brought in small masses, of the size of a nutmeg, wrapt up in the dried leaves of some kind of reed, breaks smooth, free from any visible impurities, of a dark red colour, which changes, upon being powdered, into an elegant bright crimson. This drug, in substance, has no sensible smell or taste; when dissolved, it discovers some degree of warmth and pungency. It is fusible and inflammable, and totally soluble in alcohol, tinging a large quantity of the menstruum of a deep red colour. It is likewise soluble in expressed oils, and gives them a red hue, less beautiful than that communicated by *Anchusa*. It is not acted upon by water, but precipitated by it from its alcoholic solution. I find that it is soluble in nitrous acid and alkalies, and that it neither precipitates gelatine, nor affects the colour of the salts of iron. It therefore appears to be a pure resin, without any astringency. I have been more particular in proving that this resin is not astringent, because Mr Proust's account of it has been generally adopted. But the substance examined by Mr Proust could not be the resin known in this country by the name of Dragon's blood, as it was as soluble in water as in alcohol. Dr Fothergill, who first described kino, received it as the finest dragon's blood. Mr Proust must have been misled by some similar misinformation, as the characters of his *sang dracon* correspond with those of kino.

PUNICA GRANATUM. Ed. Lond. Dub.

Willd. g. 980, *sp.* 1. *Icosandria Monogynia.*—Nat. ord. *Pomaceæ.*

Pomegranate tree.

Off.—Pomegranate bark. The double flowers, called *Balaustine*.

a) *PUNICÆ GRANATI FRUCTUS CORTEX.* Ed.

GRANATI CORTEX. Lond.

PUNICÆ GRANATI PERICARPII CORTEX. Dub.

b) *PUNICÆ GRANATI FLOS PLENUS, vulgo Balaustium.* Ed.

FLORES GRANATI. Dub.

The pomegranate is a low tree, or rather shrub, growing wild in Italy and other countries in the south of Europe. It is sometimes met with in our gardens; but the fruit, for

which it is chiefly valued, rarely comes to perfection. This fruit has the general qualities of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. The rind is a strong astringent, striking a permanent blue with sulphate of iron, and as such is occasionally made use of. It has been lately given by Dr Buchanan with success in the East Indies for the cure of taenia. I also made some trials of it and of catechu in this country, on the supposition that it was the astringent principle which acted chemically on the gelatinous body of the worm, and the result was promising; but the introduction of the oil of turpentine prevented me from prosecuting the experiment. The flowers are of an elegant red colour, in appearance resembling a dried red rose. Their taste is bitterish and astringent. They are recommended in diarrhoeas, dysenteries, and other cases where astringent medicines are proper.

PYRUS CYDONIA. *Lond.*

Willd. g. 992, sp. 17. Icosandria Pentagynia.—Nat. ord. Pomaceæ.

Off.—Quince seeds.

CYDONIÆ SEMINA. *Lond.*

THE quince is originally a native of Crete, but ripens its fruit perfectly in England.

Quinces have a very austere acid taste: taken in small quantity, they are supposed to restrain vomiting and alvine fluxes; and more liberally, to loosen the belly. The seeds abound with a mucilaginous substance, of no particular taste, which they readily impart to watery liquors; an ounce will render three pints of water thick and ropy, like the white of an egg. They will not, however, supply the place of gum-arabic, because their mucilage spoils very quickly, and is precipitated by acids.

QUASSIA.

Willd. g. 849. Decandria Monogynia.—Nat. ord. *Gruinales*.

Sp. 2. QUASSIA SIMARUBA. Ed. Lond. Dub.

Mountain or bitter damson.

Officinal.—The bark and wood.

a) CORTEX QUASSIÆ SIMARUBÆ. *Ed.*

SIMAROUBÆ CORTEX. *Lond. Dub.*

b) SIMAROUBÆ LIGNUM. *Dub.*

THIS tree grows in Guiana and in Jamaica. The simarouba of the shops is the bark of the root. It is brought to